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Background Study for Operation Development

Case Kuljetus Eklöf Oy

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Description

The thesis was done for Kuljetus Eklöf Oy (and its daughter company, the Hungary based Transport Eklöf Kft), to find out whether an implemented quality management system would increase the competitiveness of the company. Further research was carried out in the field of human resources, focusing on motivation of workers and education of professional truck drivers, and how those research areas can be connected to provide quality work that meets customers' requirements.

During the research processes both quantitative and qualitative methods have been used. The research was based on literature review in the fields of total quality management and human resources; surveys carried out among main customers to find out their expectations towards the company and surveys for drivers of the company to see their opinion about quality and motivation. The author was a participant observer throughout the whole writing process.

The results of the thesis include explanations on the requirements, advantages and disadvantages of implementing quality management system, leadership, motivation, employee performance, rewarding and development, labour turnover and driver shortage. After research process has been done suggestions were given for operation improvements to overcome problems a company might face in the competitive transportation business, from quality and human resources point of view.

Keywords (subjects)
Total quality, total quality management, ISO quality management system, motivation, leadership, human resources, HR development, trucking, education of professional drivers

Miscellanous

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1 Introduction

The competitive environment for any business has been dramatically changed in the past decades. Changes fell upon supply chains and logistic activities as well. Martin (2011, 15-22) describes four characteristics of those changes which have been the most significant. First of all he explains that the competitive environment changed in such a way, that organisations cannot act anymore as if they were isolated and alone in the market, but the whole supply chain with all organisations included has to be watched as a whole entity. Today's competition is not between organisations, but rather between supply chains. Also he expresses, that the competition shifted away from being product-based towards service-based. This means that customers' value is not focused only on the product itself but rather on the services that come with it. Secondly, globalisation has had a great effect on supply chains. With increased production off-shore in search for lower labour and production costs came longer lead-times, and in order to stay competitive, the complexity of those supply chains has to be managed excellently. Thirdly, expertise, learning and experience played a big role in price reduction. The deregulations and the globalisation opened the doors for many new entries to the market, with lower prices and increased competition. And last, the increased importance and role of customers in the global market has put an emphasis not only on the quality of the products, but also a great demand on quality of service. According to Martin the service excellence comes from well-thought strategy for services, the development of systems involved and total commitment from every person in an organisation.

Freight transport by road has been deregulated in the European Union since 1st July 1998. This had an enormous impact on the companies affected. The various laws, tax and labour regulations of the member states brought not only problems itself, but free competition as well. The allowance of free movements of goods, people and services was predicted to bring reduced costs due to competition. However one of the biggest problems is in the trucking business the high turnover of labour. (Hilal, 2008, 19-20) The amount of freight carried on road in the EU plays a significant role in transportation: in 2001 45% of all freight carried inside EU has been transported by road (followed by 40,4% by sea, 7,8% by rail, 4% by inland waterways and 2,8% by pipelines). Excluding the transportation by sea, road transport was accounted for 75,5% of total freight transport within the EU member states. (Lafontaine and Valeri, 2009, 21)

In order to maintain competitive advantage some companies have decided to offer decreased prices for hauling services. This has been achieved for example by employing cheaper labour from Eastern European countries. (Hilal, 2008, 19) However reducing labour costs is not the only way to be able to stay in the market in this fierce competition. Martin (2011, 23-24) explains the importance of responsiveness, reliability, resilience and relationships throughout the supply chains.

1.1 Introduction of Kuljetus Eklöf Oy and Transport Eklöf Kft

Kuljetus Eklöf Oy is a full service trailer hauling company that was established in 1991. The transportation services are managed with 23 own trucks and 21 trucks that belong to the Hungarian daughter company, Transport Eklöf Kft. The company owns only the trucks; all the pulled trailers are owned by the customers. The activity area of the company is mostly the area of the EU (Germany, France, Spain, Italy, The Netherlands and Belgium) and Switzerland.

All vehicles used for transportation are changed in every 3-4 years, so that they meet the newest environmental requirements as much as possible. At the moment the vehicles used for transportation are EURO5 or EURO6 class.

Seventeen of the trucks are equipped with an adjustable fifth wheel that makes possible to pull both traditional trailers and the so called mega-trailers as well.

Each truck is equipped with "Sunit" on-board computer, where the work tasks are sent for the drivers, and is also used for communication between the office and drivers. Drivers use it for sending loading and unloading information data that is forwarded to the customers.

The Hungary-based daughter company, Transport Eklöf Kft has been established in 2009, when company turned towards the country for cost-saving reasons: Hungarian workforce traditionally has been cheaper, than employing drivers from Finland or Estonia. The company serves as a sub-contractor, but under the same management as Kuljetus Eklöf Oy.

1.2 Logistics operations in the company

The transportation process usually starts by picking up the trailer by the driver. The trailer arrives to port of Travemünde in Germany by ship from Finland. Most of the

trailers hauled by the company continue by rail to Ludwigshafen (Germany) or Karls-ruhe railway terminal. After picking up the trailer according to the waybill and/or the instructions in the on-board computer (Sunit – the instructions are sent there with the help of the used ERP system and GPS satellites), the driver takes it to the unloading place(s). The customers start to "fill up" the same trailer on the way back to port of Travemünde or the railway terminals. The back loading instructions come later on as the customers know them.

In the office with the help of the satellite system and the day-and-night online connection between the used IT system and the trucks' on-board computers guarantee the continuous real-time information about deliveries, loadings, timetables, drivers' driving and resting times etc.

1.3   Main customers for Kuljetus Eklöf Oy

Kuljetus Eklöf Oy has three main customers are at the moment, whose names are classified (see Appendix A: Main customers of Kuljetus Eklöf Oy). However the weekly amount of trailers pulled, regarding each customer can be seen in Table 1.

Table 1: Main customers and the amount of trailer pulled (weekly average)

Source: Kuljetus Eklöf Oy (April 2015)

Customer	Trailer(s) pulled/week (average)
Customer 1 – Division A	0-2
Customer 1 – Division B	3
Customer 1 – Division C	130-160
Customer 2	5-6
Customer 3	0-1

2   Research methods

2.1   Research methods in general

The reason for carrying out a research is to provide knowledge. A research is therefore a procedure during which data is collected and analysed in order to provide an answer for a particular research question. Requirements for research should be based on empirical data and previous researches, should be objective, valid, reliable and making generalisations possible. (Dahlberg & McCaig, 2010, 14) However the researcher has to be critical and impartial towards the whole research process. Being critical means that one should keep in mind, that there might be more than one "truth", depending on individuals and groups. Being impartial means, that the research findings are not presented as one possible "truth" that point towards one irreversible solution. Often research releases issues that were not publicly know inside the organisation and this can lead to anxiety and tension. It is important to acknowledge the different roles: who are the commissioner, the service providers and the service users. (Dahlberg & McCaig, 2010, 4).

According to Denscombe (2003, 231) there are two main research methods to be carried out: qualitative and quantitative research. He also claims, that researches usually cannot be stated being only one or the other one. In his opinion good research should be done by using both methods and the assumptions made with the use of the two methods usually overlap.

However there are main differences as well between those two methods. The target of quantitative method is to translate the received information into numbers, so that they can be processed with statistical procedures (usually with the use of computer and software). On the other hand, qualitative method turns received information, research results into form of words. It has to be noted, that the source of information might not be different regarding the two methods, only the transformation of the information: into words or numbers. When talking about quantitative data, it is easy to see, since they are the result of statistical programs, they are most easy to analyse, compare with each other, however the use of qualitative data is most suitable to descriptions. Since quantitative data is dealing with numbers, the scale of those researches tends to involve a lot of samples that can be easily handled with software and computer. The na-

ture of qualitative data however only allows a smaller, limited sample size. It is important to see, that however most people might think that because of the bigger sample size, quantitative data might be more reliable, than qualitative, that cannot be stated so simply. Research focus in the case of quantitative method usually is narrow, focusing on specific issues and specific factors. On the other hand qualitative method tends to have a wider focus, and tries to see things in their context, how things are connected to each other. It is easy to anticipate, that quantitative research is designed well before the research actually takes place, and qualitative research tends to shape during the research process itself. Another difference is, that quantitative data (and dealing with numbers) tends to be more impersonal, and the researcher might not be involved "emotionally" in the research, that allows him or her to be more objective (only of course, if the research method's validity and reliability has been tested and proved), on the other hand, qualitative research involves the researcher on greater interest/engagement. (Denscombe, 2003, 232-235) The summary of differences between those two can be seen in Table 2.

Table 2: Qualitative vs. quantitative research.
Adapted from: Denscombe (2003)

	Qualitative research	Quantitative research
Basic unit for analysis	Words	Numbers
Researcher's interpretation	Descriptive	Analytic
Scale of research	Rather small-scale	Rather large-scale
Focus of research	Holistic approach	Specific focus
Connection with researcher	Researcher involvement	Researcher detachment
Research design	Emergent	Predetermined

2.2   Data collection methods

For collecting sufficient amount of data for research several methods are available and in use. The method used depends on the type of research and the data needed for the research results. Robson (2007, 73-87) introduces the main techniques which will be described in the following section. Usually in a research the observer is not using only one method, but the combination of the below mentioned techniques, as said using the most suitable one(s) for the research.

Interview is one of the most common methods for data collection. Depending on the structure of it, the interview can vary on wide range from totally unstructured to fully structured scale. Depending on the amount of people taking part in it, it can be a one-to-one or a group interview. The advantages of interview are the possibility of face-to-face communication, which usually helps to break down any resistance barriers in the interviewee; it is easier to determine whether the responder is taking seriously the interview and considering the answers; possible evaluation and recognition of non-verbal communication's elements; by observing the interviewee, more flexibility to make changes if the interviewee starts to feel uncomfortable by the questions. Disadvantages of interviews are that they are usually time consuming, especially if travelling is involved to meet the interviewee; usually they need to be taped for later analysis; interviewer needs good social skills, interview-experience and much preparation; for some who are really sociable it might be hard to keep focused on the subject.

Questionnaires are widely used also, since they are straightforward, if biases and double meanings are avoided. They are several open-ended or closed questions together, which is easy to turn into numbers. Questionnaires have to be carefully designed before mailing them out, and researches should note that they are better for collecting quantitative data. The advantages of questionnaires are that they can be sent out to a large sample for answering; do not require from the researcher too much communication skills; by avoiding face-to-face interaction researchers are not affected by the responders reactions. However using questionnaires has some drawbacks as well. While during an interview the responders usually do not say "no" for questioning, researchers have zero effect on responders when survey is mailed out: either they send their answers back or not. Since face-to-face interaction is missing, researcher has hard time to evaluate whether responders have taken the questionnaires seriously when answering. In good questionnaires researchers should avoid complex questions

which give little chance to go deeper into a topic. They need to be carefully designed and preferable tested before sending it out to a large number of prospective responders. When analysing the data, researchers have to be careful: large number of quantitative data does not necessarily mean that the results are valid and reliable.

Observation can be used also for collecting data. In this case researcher takes part in the situation he/she is looking into. Structured participation is when researcher as an outsider watches the situation, what people actually do and how they do it. In participant observation the researcher him/herself takes part actively in the activities he/she is supposed to observe. Both have advantages and disadvantages, though both of them can be used in wide range of situations to be observed and can result in huge amount of collected quantitative and qualitative data. Analysing those however is very time-consuming. Participant observation can be emotionally very demanding, and being involved actively in the observed project might take away the neutrality of the observer.

Documents and other secondary sources are also very popular to collect data about a subject from previous researches and publications. Though earlier this technique meant simply a library research, with the appearance of the Internet, the sources got wider. Newspapers, publications, research papers are easily available and accessible for anyone, even from home. However credibility or reliability of those sources should be carefully evaluated, and examined if their findings and data is relevant to the researcher's subject.

2.3   The scope of the thesis/research questions

The main research question was raised up by the CEO of Kuljetus Eklöf Oy:

- **Would it be an advantage from the company's competitiveness' point of view to implement a quality management system?**

As transportation is a business where actually a lot depends on human resources, further research will be carried out in this field. The secondary research questions will be:

- **Are there any differences between the qualities of work of drivers from different nationalities?**
- **If there are, how could those differences being eliminated in order to create a reliable workforce that is capable of doing high-quality work?**

The aim of this thesis is to give an overview of the problematic areas which cause damages to quality of service provided by the company, and with the help of theoretical background to suggest a solution on how the company could act on those. Part of the thesis will be – if the research results in a positive answer – documentation required for the implementation of a quality system ready for auditing whenever the company decides so.

The company has developed a work manual/handbook for the drivers, which is given them on their first working day. The manual was written in 2007 in A4 format, and has not been updated yet. Inside pressure was to write a more useful, smaller sized manual, with only those instructions and necessary information the drivers use on daily basis. The new, updated manual in English language can be found as Appendix E: Drivers' handbook. The manual will be a three-language (English/Finnish/Hungarian), A5 sized, laminated book, which will not be personal for each driver, but will be placed in each truck. The content of the manual is based on the interview with the Traffic Manager, the Traffic Operator of Kuljetus Eklöf Oy and the drivers' Team Leader.

2.4   Research design

To answer the main question, the theoretical background will be researched for small and medium sized (transportation) companies, their relationships with quality system, with an overview of Kuljetus Eklöf Oy. The main research area will be the definition of quality, requirements of implementing a quality system and an overview how an implemented system would change the company's current way of doing business from the viewpoint of service users. Questionnaire for customers can give an overview if they would require an implemented quality system, and what their expectations would be for an improved, good quality service.

To answer the second and third research questions, on one hand quantitative research will be carried out provided by the company about workforce (for example labour turnover). Also data will be collected about the education method for truck drivers between the three main nationalities, and being compared and analysed. A questionnaire for drivers will be carried out, in order to find out their motivation and opinions about quality.

One of the main research methods by the author of the thesis was participant observation by actively working for the company and taking part every day in the logistics traffic planning operations.

2.5 Limitations

The thesis is a case study type research, with a possible implementation of quality management system and the human resources of Kuljetus Eklöf Oy in the focal point. This means that making generalisations from the research findings and results might be difficult to be applied by any other company in the transportation field, without further evaluation and analysis.

The research area about quality and quality systems will put an emphasis only on the introduction of total quality and total quality management, the total quality management tools and techniques, later focusing on ISO quality management system, the possible advantages and disadvantages of implementation of a quality system. The Environmental quality system will be left out from the thesis, and can be handled in another research if the company needs so.

Human resources management contains a very wide range of sub-fields, which cannot be covered totally in the thesis. The focus will be only on labour motivation, employee performance and development, and finding out the main problems that can result in poor service quality. Leaders in an organisation should inspire and motivate their workers, thus as a corresponding topic, leadership will be researched as well. As high labour turnover causes decrease in quality, the possible causes for it will be discussed, and the situation researched at Kuljetus Eklöf Oy.

Multiculturalism is a deep and serious issue for the company, connected to the topic of human resources; however it will not be part of this work. Vertamo in 2014 has written a thesis for Kuljetus Eklöf Oy about cross-cultural management. His work will be though referred in some research areas.

3 Quality

3.1 Quality and total quality definition

Companies have to fulfil a lot of requirements stated by their customers in order to be able to survive, or being able to sell their products or services. The three main factors that have the biggest impact on a product's or service's saleability are price, quality and delivery. Price is affected by costs, profit margin and market competition. Delivery depends mainly on the company's capability of meeting the requested time by customer. Quality of a product or service depends on how well their features meet the requirements of the customer. (Hoyle, 2007, 10)

The Oxford Dictionary describes quality as "*the standard of something as measured against other things of a similar kind; the degree of excellence of something*".

According to Hoyle (2007, 10) the definition of quality is:

"The degree to which a set of inherent characteristics fulfils a need or expectation that is stated, general implied or obligatory."

In other words, this means satisfying the requirements of customers or stakeholders. Hoyle also states, that not only the product or service has to meet certain requirements, but all techniques, methods, principles have to follow a direction: getting as close to the stated requirements as possible. He lists characteristics of quality of products and services, that customer might require. Product quality characteristics might be for example: availability, consumption, functionality, odour, reliability, size, strength, toxicity, transportability, weight. Service characteristics could be accuracy, credibility, effectiveness, flexibility, responsiveness, reliability, security. When these values are quantified with numbers, they become product or service requirements. Quantifying is important, because quality is subjective: one might be satisfied with meeting the needs by a certain degree and say, the product or service is of good/high quality, while other individual might consider the very same product or service of poor/low quality. (Hoyle, 2007, 15-20)

What makes meeting the quality requirements more difficult is that the criteria which define good quality change over time. A service, product or process can be of good quality one day, and be of poor quality the next. Quality does not only mean that the products and services provided have to have good quality, but the whole organisation

behind the concept, including people and the environment has to be of good quality. (Goetsch and Davis, 2013, 4)

Providing excellent value to customers has three aspects: not only excellent quality, but also excellent cost and excellent service. This concept is called total quality, where all these three aspects are equally important and continuously improved within an organisation. Total quality is achieved by focusing on both internal and external customers, decisions are made and problems solved using scientific approach, long-term commitment, teamwork, training, employee involvement and empowerment, obsession with quality (everyone in the organisation), improving processes continuously. (Goetsch and Davis, 2013, 5-6)

3.2   History of Total Quality and Total Quality Management (TQM)

The history of total quality goes back to the 1920s, when Frederick Tayler did studies concerning the automotive industry. The original practise was that one skilled person performed all the tasks needed to produce a quality product. This was changed by separating planning and production jobs and creating an individual quality department. However this was not enough as the volume of production started to grow, and the term quality engineering was born, which meant that quality was controlled by statistical methods, for example control charts. Later in the 1950s quality engineering developed into reliability engineering, which meant that quality was not checked only after a product was produced, but quality was inserted throughout the whole process. World War II had a great impact on quality: US companies for the sake of meeting urgent deadlines turned away from quality; Japanese companies on the other hand in order to be able to compete with other parts of the world had to put more emphasis on producing quality products. (Goetsch and Davis, 2013, 6-7)

Japanese companies after WWII had to enter international markets, and in order to do that they recognised the need of high-quality products. To improve quality, Japanese leaders invited W. Edwards Deming to introduce his views, techniques and philosophy on quality for Japanese companies. Deming was an American engineer, who also studied mathematics and physics, and though he helped with his statistical methods on several American companies, the country did not appreciate him too well. In Japan on the other hand his thoughts were well received and implemented, and this resulted in the success of those companies in international markets. Deming's work is one of

those most significant included in total quality approaches. He is mostly known for his "Deming Cycle", "Fourteen Points" and "Seven Deadly Diseases". The Fourteen Points outline those actions a company should make in order to transform from ordinary to quality business. The Seven Deadly Diseases list those actions which could prevent the transformation. (Goetsch and Davis, 2013, 10-12)

The Deming Cycle (shown on FIGURE 1) introduces the continuous improvement cycle, which is often also called the PDCA cycle, where the letters stand for Plan (the changes should be planned and result predicted ahead), Do (executing the plan step-by-step), Check (studying the results) and Act (taking actions to improve or standardise processes). (isixsigma, 2015)

FIGURE 1: The Deming Cycle
Source: First Principles Management (2015)

Joseph M. Juran was another major contributor to TQM principles. He holds degrees in law and engineering, and is well-known for his role played in Japanese quality improvements and for encouraging friendship between Japan and the United States. His most known works are the "Three Basic Steps to Progress" (actions companies should take to achieve superior quality), "Ten Steps to Quality Improvement", "The Pareto Principle" (known also as the 80-20 principle, according to Juran, most of the problems that occur in organisations lead back to only a few sources, that should be improved or eliminated) and the "Juran Trilogy". (Goetsch and Davis, 2013, 11-4)

The Juran Trilogy (shown on FIGURE 2), contains three steps: quality planning, quality control and quality improvement. During the quality planning phase an organisation has to define who the customers are, and what are their needs and expectations, developing products, system and processes that will result in products or services of which features meet the required expectations and quality objectives and executing plans to all levels inside the organisation. The quality control phase includes data collection of quality performance, evaluation of data in comparison with the expected results, acting on differences between results and goals. And finally, quality improvement stands for the improvement of the processes by determining the areas that should be improved and implementing improvement projects. (Goetsch and Davis, 2013, 14; Quality Assurance, 2015)

FIGURE 2: Juran Trilogy
Adapted from: Management Science and Innovation (2015)

More contributors have added their own thoughts to quality theory, for example: Kaoru Ishikawa (Japan), Armand Feigenbaum (USA), Philip Crosby (USA), Genichi Tagusi (USA), Robert C. Camp (USA), Stephen R. Covey (USA), Tom Peters (USA), Michael Hammer (USA) and James Champy (USA). Their philosophies' common points have been altered by Foster into one diagram, which can be seen on FIGURE 3. Those variables which occur most often can be found in the middle of the figure, these are the core variables for quality management. The so-called outer ring lists the variables which occur the least often, and have the least effect on QM. Between those two

is found the inner-ring with those variables less often, than the core variables. (Foster, 2010, 71-81)
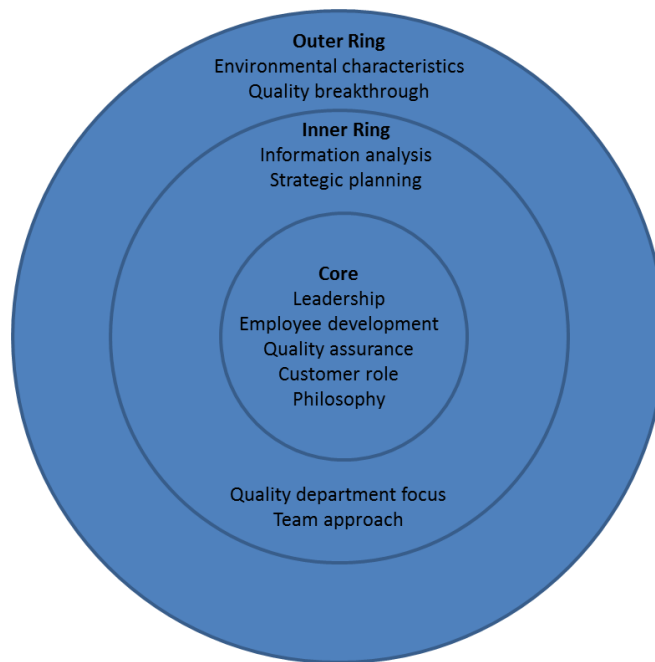
FIGURE 3: Categorization of QM content variables
Adapted from: Foster (2010)

3.3 Total Quality Management in service industry

Many opinions state, that service industry companies are only tertiary firms, including for example wholesale, retail, transportation, communication, finance, insurance companies and public services. (Kano, 1996, 96-97) Question arises if these companies are really in need for implemented quality management system? According to Kano (1996, 110-112) the answer on this question mostly depends on how a company sees itself and its success to meet customer requirements and achieve the highest possible level of customer satisfaction. Another factor which companies should take into account is the current market situation. If customer-requirements are met and market is in favour for the company, they might think it is possible to manage without a QMS. However business environment is never static and can change just in a very short period of time, when poor performance and unsatisfied customers due to high competition might risk the survival of a firm.

When talking about service and quality of providing service, first the product has to be defined. In contrast to for instance manufacturing, construction or agricultural businesses, a service provider's products are usually not physical or tangible; the product

is human resources' work. Services as products often cannot be stored and usually "the product" disappears after the transaction has been completed. For that fact, it is hard to collect relevant data for analysis, however with the help of always developing IT systems it is more and more possible these days. Service products are never constant, as they tend to vary under different circumstances, so it is difficult to measure their quality, or to set exact quality requirements that have to be met. It has to be defined also, who are the customers, and through interviews and questionnaires collect data and complaints about the factors that result in customer satisfaction. (Kano, 1996, 114-119)

Kano (1996, 127-129) states that one of the biggest problems is in service providing businesses, that developing quality characteristics from customer needs is usually very difficult. Even if it is possible on some degree, it is difficult to quantify those characteristics, which could be then easily analysed and evaluated from customer satisfaction's point of view. One of the most suitable methods is simply conducting customer surveys to find out, what they find most important requirements and then quality levels can be set up for those requirements. To reach those established quality levels, according to Kano (1996, 132) three factors are needed: hardware (facilities, equipment), software (organisation and structures) and humanware (employees who provide the service) of them each has to meet their own quality requirement in order to achieve total quality.

Greasley (2013, 400-401) cites Parasuraman, Zeithaml and Berry for defining service quality characteristics, that customer use to measure their satisfactory level. These are: reliability (when service is delivered on time at every occasion without errors), responsiveness (the willingness to help customers and providing a proper service for them), assurance (the ability of employees to deliver the required service with competence, respect and effective communication), empathy (the ability of employees to provide caring and individualised service) and tangibles (the psychical aspects of service, for example cleanliness, tidiness).

3.4 Improving quality: Total Quality Management tools and techniques for improvement

For enhancing quality managers and company owners can use several tools or techniques. Griffin (2013, 304-6) introduces a few of them, which are described in the following section.

Value-added analysis is a process during which companies can evaluate their material flow, paperwork and all activities if those really provide added value for the customers. After analysis, company can eliminate those which are proven to be unnecessary or wasteful. However they should be careful that during eliminating items customer service's quality level stays the same.

Benchmarking is a process during which a company analyses its competitors critically how they can manage better quality. Companies can learn from their rivals on those matters, where competitors are doing better than them, for example about employee trainings, product features or recruitments.

Outsourcing occurs, when a company subcontracts some of its services or operations to another company, who might have better expertise on the field in question, or who can do it cheaper for a better quality. Outsourcing however might carry higher risk of delays in production or deliveries if the subcontractor faces problems to meet deadlines.

Reducing cycle times might result in improved quality as well. Companies for this aim should: start from the base; minimise the approvals needed to approve changes, working in teams; developing and cling to schedules; distributing products or services; and push organizational culture towards the understanding of the importance of speed.

Statistical quality control has two main types: acceptance sampling and in-process sampling. While acceptance sampling means to evaluate a certain percentage of finished products in order to check if they meet the required quality standards, in-process sampling is evaluating the quality of products during productions, so that necessary changes in production processes can be made to improve and meet quality requirements.

Six sigma as a quality tool can be used both by production companies and service providers. It is a tool that is used to terminate mistakes. Sigma refers to standard deviation, the term originally used in mathematics and probability, and is used to describe the allowed defects per million. (See FIGURE 4) One sigma would allow 690 000 defect/million, 2 sigma 308 000 defect/million, 3 sigma 66 800 defect/million, 4 sigma 6 210 defects/million, 5 sigma 230 defects/million, and last 6 sigma would only allow the very challenging 3.4 defect/million.

Areas Under the Normal Curve
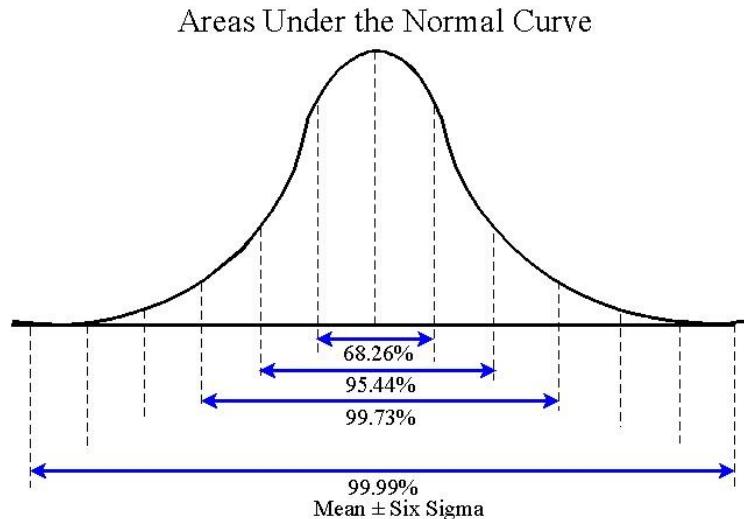
FIGURE 4: Standard deviation percentages
Adapted from: http://maaw.info/SixSigmaSummary.htm

ISO quality management system is also frequently used by firms and companies to improve quality of products and services. Since the main focus of the thesis is ISO quality management system, in the next chapter (Chapter 3.5) this quality tool will be introduces in more details.

3.5   ISO quality management system

3.5.1   Quality management system

Quality management system is a way of planning, doing, controlling, documenting and correcting all activities in an organisation, that need to meet the customers' requirements, and also to increase the quality of products and services offered. (ISO, 2015).

ISO 9001 is one of those most well-known quality management systems, and is used in over 170 countries all over the world. They emphasise, that the size, type, owner-ship of the organisation does not matter at all; the system has been developed in a way that it can be implemented by any company. (ISO, 2015).

By having a quality management system the organisation's performance and produc-tivity improves, the objectives of the company get a greater focus as well as meeting the customers' requirements, improved quality of products and services offered for customers, increased customer satisfaction. The quality management system can prove for the current and future customers what an organisation is able and willing to offer for them, and means better competitiveness in the market. (ISO, 2015)

The following FIGURE 5 shows the meaning of process-based quality management system, illustrating the necessary steps of continuous improvement, and how and which stage is inevitable to cooperate with customers.
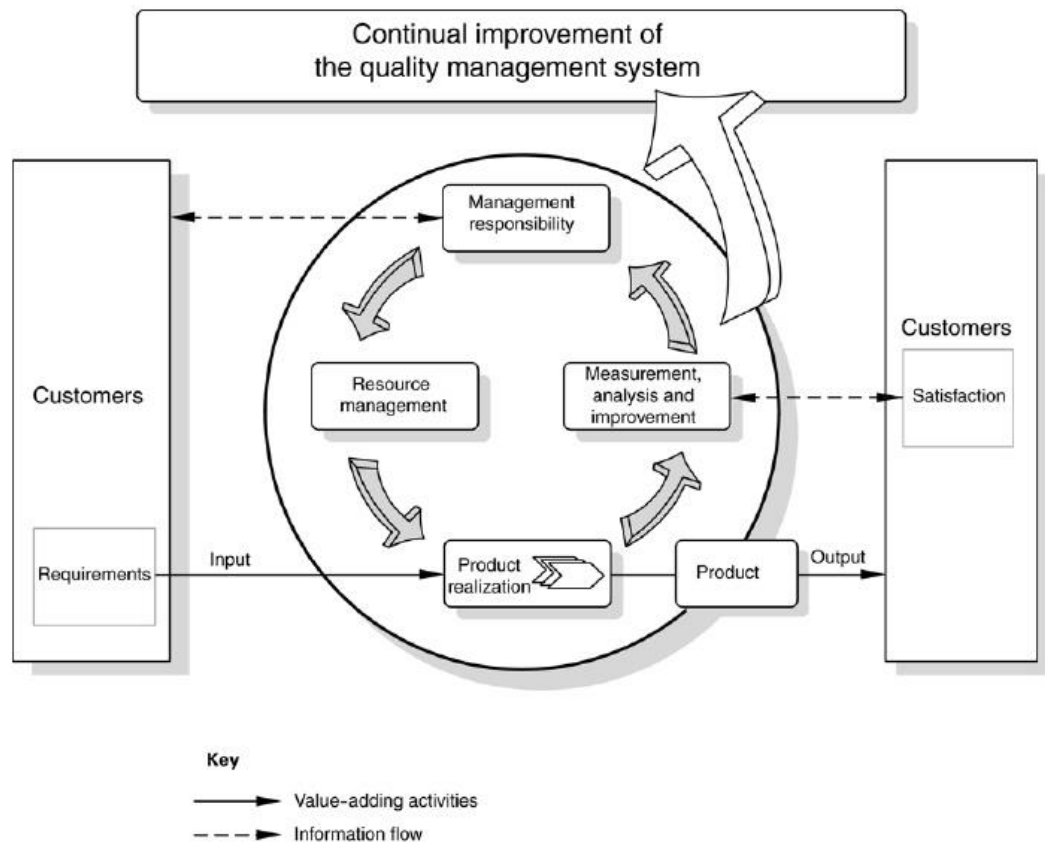
FIGURE 5: Continual improvement of QMS
Adapted from: ISO 9001:2008

3.5.2   ISO 9001 Quality management system

The ISO 9000 series of standards were introduced during the WWII, for military pur-
poses, which led later to the publication of BS 5750 (British Standard, 1979), the first
quality management standard for commercial use. Later a few changes have been con-
ducted to make the standard more international, and ISO 9000 series were born. The
standard was updated in 1994 and 2000, and the latest revision is due at the end of
2015. (Bendell and Boulter, 2004, 296-7; ISO, 2015)

The ISO 9000 series update in 1994 consisted of three auditable certification stand-
ards: ISO 9001 (for the use when requirements towards the supplier have to be ful-
filled during design, development, production, installation and servicing), ISO 9002
(for the use when requirements towards the supplier have to be fulfilled during pro-
duction, installation and servicing) and ISO 9003 (for use when requirements towards
supplier have to be fulfilled during final inspection and test). (Lamprecht, 1996, 17-
20; Bendell and Boulter, 2004, 297)

The ISO 9000 series update in 2000 was tailored to customer needs: a global survey
has been done in order to make the changes more suitable for the organisations world-
wide. (ISO, 2015)

The series have been updated again in 2008, when they were renamed ISO 9001:2008.
No additional requirements were given, however the 2008 revision included some ad-
ditional text in some of the clauses for clarification reasons. (Differences between ISO
9001:2000 & ISO 9001:2008)

The latest update for the series has been done in 2015 called ISO 9001:2015. The sig-
nificant changes compared the previous revision are the new clauses where ISO puts
emphasis on leadership and business context, focuses on risk management, emphasise
objectives, measurements and change, putting emphasis on awareness and communi-
cation and has fewer prescriptive requirements concerning documentation. (ISO 9001
Whitepaper)

3.6 Advantages and disadvantages of implementing Quality Management System

Though numerous studies were made on the topic, research results are still contradictory if the implementation of the ISO or any quality management system (QMS) has resulted in performance improvement within organisations or not. Some authors concluded that the implemented quality management system or the lack of it should not be the only predicative for a company's quality results or positive/negative judgement. (Sampaio, Saraiva & Monteiro, 2012, 891-2)

In their research paper Sampaio, Saraiva & Monteiro (2012, 892-895) describe different reasons why a company wants to implement a quality management system: for improving the company image, for improving quality, marketing advantages or pressure from customers are the main motivators. They also categorise companies into two types: one group of organisations have external, others internal motivation to implement a system. Benefits for an implemented system can be also external or internal from a company's point of view. The main external advantages are for example: new market possibilities or bigger market share, organisational image gets more positive, customer relationships and satisfaction increases. Internal benefits are for instance: product quality and productivity enhances, personnel get more motivated and more aware of the quality issues and internal communication improves. They claim that those companies seeking implementation based on internal motivation might gain more internal advantages; on the other hand companies with external motivations achieve more external benefits than internal. They also state that companies, whose only reason to get a certification is to show it off to customers and competitors will not be able to achieve as many advantages from having it, than those organisations where every individual in the company is fully committed to the quality system.

Psomas, Fotopoulos and Kafetzopoulos (2010) agree that successful implementation and the advantages gained depend on the motivation of the company seeking for the quality management system. In their research they divide the critical factors that might stand in the way of implementation into four main categories, which are the following:

- Important factors that are based on the internal environment of the company: to meet the expectations and needs of the customers, to improve quality of products and services provided, company-image improvement. However some

factors are considered to be negative, like the equipment and infrastructure required for the implementation.

- Another group of factors are connected to employees of the organisation: how much the management is committed to implement a QMS, how well they can communicate the need of QMS towards the workforce, how well the workforce will react on the necessary changes and trainings, and how committed the employees are towards the quality system.
- The next category of factors was related to the requirements of QMS: the extra documentation and paperwork needed, and if the company has the financial resources for the implementation.
- The least important factors were related to the organisation's external environment: the pressure received from competitors and/or customers to have a quality management system.

The main conclusions of Psomas, Fotopoulos and Kafetzopoulos (2010) were, that before a company is willing to implement a quality management system, the management should consider whether the company has the right motives, has a committed, trained and actively involved workforce, has the necessary resources (financially, time-wise), has a suitable infrastructure and is aware of the requirements of the external market.

3.7   Quality costs

Quality costs are defined as all expenses in connection to deliver a product or service that result in customer satisfaction. There are two types of costs related to quality: cost of achieving good quality and costs of poor quality. (Greasley, 2013, 401-402)

Costs of achieving good quality are prevention costs and appraisal costs. Prevention costs include costs that occur when a company tries to prevent problems or poor quality. These expenses can be for example designing products and processes which meet quality requirements in the first place or training programmes for employees who are supposed to deliver a good quality product or service. Appraisal costs are expenses in connection with quality control during production process to ensure that product or service will meet the quality requirements. Appraisal costs can be for instance expenses in relation to tests and inspections and cost of time spent with data collection, testing and evaluations.

Poor quality costs are categorised into internal and external failure costs. Internal failure costs appear before the product or service is delivered to the customer, and include cost of scrap, reworks or fixing of defects, downtime costs of machinery (while machine is used to repair the scrapped item or reproduce a new one). External failure costs are expenses related to responding to customer complaints, handling and replacing products with poor quality, lost sales (when customers' willingness reducing for further business).

The trade-off between costs of achieving good quality and costs of poor quality is as follows: as costs of achieving good quality increases, the costs of poor quality decreases (see FIGURE 6). Total quality cost-curve is the sum of failure costs and prevention + appraisal costs. The optimal quality level is reached when total quality costs are at their minimum.

FIGURE 6: Traditional quality-cost trade-off
Adapted from: Nguyen & Pirozzi (2006)

4 Human resources

The field of human resources and human resources management (later HRM) is very wide. Since the thesis is not aiming to describe all factors and subfields of HR, instead of that the focus will be kept on those issues that are highly important for the main topics. Leadership, motivation, employee performance and development will be the only topics covered. In the past two decades HRM became an important factor for an organisation's performance, and its significance cannot be denied. However motivated and talented employees are not enough to reach better performance, they need a leader who is able to motivate them.

4.1 Leadership

4.1.1 Leadership definition

Goetsch and Davis (2013, 124) define leadership as *"the ability to inspire people to make a total, willing and voluntary commitment to accomplishing or exceeding the organizational goals"*. In their opinion the key word in the definition is *inspire.* Inspiring people means motivation, but taken it to a higher level. While motivation comes from within the employees, and is a temporary result of the satisfaction of their own needs, inspiration means that workers are not only committing to reach the goals of the company, but feel that those goals are their own. Effective leaders are those, who understand the difference between that two and can influence the employees in a positive matter to commit to organizational objectives by following the leader.

Griffin (2013, 504-5) defines leadership as both a process and a property. Leadership defined as process is to influence and shape organisational goals and to motivate people to reach those goals. As a property, leadership is to be defined to be able to motive employees without force by someone who is accepted as leader by others.

4.1.2 Leadership characteristics for followership

Several traits differentiate a good leader from a bad one. Good leaders have to have good communication skills (which means also good listening skills); commitment toward not only the work that must be done, but also to the people who are doing it; they have to be positive role models for their employees by setting consistent examples for them. With good communication and listening skills good leaders can have

positive influence on the workers, and can easily persuade them to fully commit to the organizational missions. There are also other (more basic) characteristics that leaders who want to be followed have to have, these are: strong sense of purpose, self-discipline, honesty, credibility, common sense, persistence, commitment and steadfastness. Leaders also have to earn the respect of the followers. (Goetsch and Davis, 2013, 125, 131-2)

Common mistakes however a leader can do, that he is aiming for being friends with those they are leading. Leaders should understand that if they want to be followed, they cannot be buddies. This of course does not mean, that they cannot maintain a good relation with the employees. Unethical working practices (like having an intimate relationship with an employee) are not wise either, which can undermine the working moral and the respect toward the leader. (Goetsch and Davis, 2013, 132)

Griffin (2013, 507-8) explains that several researches have been carried out to define what individual traits make a person a good leader, but studies gave controversial results. Though in his opinion the common traits needed for a good leadership are honesty, integrity as well as intelligence.

4.1.3 Leadership styles

Goetsch and Davis (2013, 129-130) differentiate 5 leadership styles that exist. The base for the differentiation is how leaders interact with those people they are trying to lead.

Autocratic (or dictatorial) leaders are leaders that create rules, and expect others to simply just obey those rules, without questioning them. Autocratic leaders do not ask others for opinion, not even those who have to implement or follow the rules. Some say that in short run, this type of leadership might work, however it is not effective in the long run.

Democratic (or consulting) leaders on the other hand consult those people who will have to implement and follow the rules, and only make decision after received advices. Critics say that compromising for the most popular recommendation might also result in the leadership to fail or not bringing the result expected.

Participative (nondirective) leaders allow team members to make decisions over the problem and to suggest solutions or strategies to be implemented, thinking that if people can take actions themselves, the results and responsibility will be more accepted by them. Critics of this approach argue that making final decisions might take long time, and works only with team-members who are totally committed to the organisational goals.

Goal-oriented (result-based) leaders are those who are focusing only on the goals or results in front of them without taking into account other factors not related to goals or personality traits of the people they are leading. Critics say that if the focus is only this narrow at a time, opportunities might be dismissed, and other problems overlooked.

Situational (contingency) leaders after studying the present circumstances decide which leadership style to apply for the goal or solving the situation. Critics say situational leaders focus only on short-term problem-solving, instead of long-term, which raises concerns about this style.

4.1.4 Leadership and quality

In their work Goetsch and Davis (2013, 130) argue what might be the best leadership style in a total quality setting. In their opinion an enhanced (advanced level) of participative leadership should be the best solution. The traditional participative leaders request inputs from employees in developing new strategies or finding solutions for certain problems. The difference from this in an enhanced level is that employees who provide the inputs are empowered. The leaders of the advanced level are not inactive, but listening to the employee inputs, collecting them, registering, following them up and acting on them. Employees are also rewarded if their ideas result in improvements. Weak suggestions from employees are not immediately dismissed, but the team tries to improve them for later usage.

They give an American example, how this type of leadership can help a company to overcome its competitors by reducing physical and psychological distance between team members for effective communication, promoting positive personal relationship between employees and letting the employees focusing on their actual work rather than administrative tasks. (Goetsch and Davis, 2013, 146)

Empowering employees means that employees are responsible for their own ideas and for the results (products or processes) of those ideas. They are given "ownership" for their own work, which will create better willingness for continuous improvement. Empowered employees are more motivated and committed to the company, help each other, seek better and better results in production or processes and as a result the company's productivity is increasing as well. (Goetsch and Davis, 2013, 113, 115) Beside empowerment, Griffin (2013, 487-9) mentions another form of motivational strategies: alternative work arrangements. This can be arranged by variable and/or flexible work schedules (when employees can choose when they will do their weekly work hours), job sharing (one person's job is executed by two part-time employees), telecommuting (doing part of the job from long distance, for instance from the employee's home).

4.1.5 Leading multicultural teams

During recent decades when businesses went more international than ever before, those who are leading multicultural teams have to face additional challenges in working life. These include differences in communication, work moral, authority and decision making. Communication problems especially occur when native speakers are team-members with non-native speakers: non-native speakers might find it more difficult to express their ideas or opinions, which usually results in native-speakers the thought that the non-native speaker is less intelligent. Work moral and attitude toward (work) authority and hierarchy also differs for people with various cultural backgrounds leading for more contradiction in work setting. Decision making process tend to differ also for different cultures, while in America people make a decision and move on to the next problem, Asian cultures are considering the decision for longer time, and tend to turn back from time to time to a decision already made. (Goetsch and Davis, 2013, 162)

In their book Goetsch and Davis (2013, 162) suggest some strategies how leaders can overcome on those difficulties when leading a multicultural team. They advise that for example team leader and team members should try to adapt to other cultures, in order to eliminate the differences in communication and decision-making, however a great level of inclination is expected from both the leader and the whole team. Changing the team structure could also help in creating better coherence inside the team: team mem-

bers who are constant source of conflicts could not be assigned to the team, or rearranged to another position inside the team. Another solution is creating a well-working multicultural team is, that the leader (or a higher level manager) sets up ground rules and also goals assigned for the team in question, which has to be adapted and followed by all members. The last suggestion is that team members who are incapable of adapting to team are free to leave and a better replacement searched and assigned for working with the team.

4.2   Motivation of workforce

Motivation might not be the same for different individuals. One might say that some factors motivates them better, than others, and those factors which seem to be very motivating for one person, will not have the same effect on another worker. (Leopold, 2002, 109)

There are two main categories of motivation theories: content and process theories. Content theories also called as "need" theories are based on factors that motivate people to meet their individual needs, however stating that individuals behave the same way as others. Process theories recognise the different needs of individuals, and focus on the different processes that create those needs. (Leopold, 2002, 110) The following section will introduce shortly those theories which are the most known in the field.

4.2.1   Maslow's hierarchy of needs

First published in 1943, Maslow's hierarchy of needs differentiates five levels of human needs, assuming that after one level of needs is fulfilled, people will seek to achieve the needs of the next level. However Maslow also stated that the sequence not necessarily will be the same for every type of group of people, also cultural differences might have an effect on the individuals' needs. The basic assumption is however, that those five levels follow each other in the following importance: physiological, safety, social, esteem and self-actualisation needs. (Leopold, 2002, p. 110)

The five levels of needs are shown on FIGURE 7, and the most important properties of each level are the following:

- Physiological needs: or also called basic needs are those which is necessary for a human being to stay alive: nutrition (food), oxygen, sleeping, excretion and for some extent also sexual activity.
- Safety needs: is the need for stability of fulfilment of basic needs, including personal safety, financial, health, and employment safety.
- Social needs: the feeling of affection, belonging and love, both in a sexual and non-sexual way. The social needs are fulfilled by other people: family and friends, and other social groups.
- Esteem needs: the need to be accepted, respected and valued by others in the form of recognition, prestige and attention, and also by themselves (self-acceptance) in the form of self-respect and self-esteem.
- Self-actualisation appears when an individual becomes his/her best possible potential. It differs with every individual what they might feel as their own best potential, but mostly it embodies for people in creative fields (musicians, writers, actors, and so on), and can be described also as the need for self-fulfilment. (Maslow, 1943)
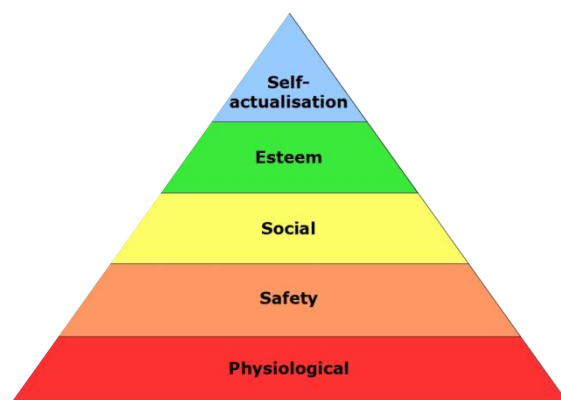
FIGURE 7: Maslow's hierarchy of needs
Adapted from: http://www.simplypsychology.org/maslow.html

According to Griffin (2008, 437-9) all of these needs can be projected and implemented in business or working environment too. Basic needs for workers are salary or wages, and a good working environment. Safety means job continuity and security, safe working conditions, insurances and retirement policy offered by employer. The social needs are fulfilled by good working atmosphere and the feeling of belonging to the group of workmates, together with supportive supervisors and managers. Esteem

needs, that are coming from others (colleagues and managers) are respect, recognition and trust, and from inside of the individual positive self-esteem and self-respect. Self-actualisation happens when a person meets challenges in the workplace, that give him or her the possibility of personal growth and development, and the chance to use their creativity and giving decision making responsibilities.

However Maslow's theory is one of the most well-known theories, it is as well one of the most argued one. According to Rutledge (2011) it does not take into consideration the importance of social connections. In her article she states that none of the 5 level of needs in Maslow's theory is possible to fulfil without social connection. In her opinion basic survival depends on people's ability to connect with others, as society has become recently more complex. The needs are not following each other in hierarchical order, more like building up a dynamic system, where the need for belongingness is the main driving force for any other need. In her work she introduced a modified theorem for Maslow's model, which can be seen on FIGURE 8.

FIGURE 8: Maslow rewired
Adapted from: Psychology today

4.2.2   Alderfer's modified need of hierarchy

The model from 1972 indicates that the need of individuals can be divided into three main needs:

- existence needs (all needs that are necessary for human survival, for instance food, or related to work salary, good working conditions);
- relatedness needs (all kind of relationships in a person's life, including not only family and friends, but also colleagues and supervisors);
- growth needs (all needs that are vital for one's personal development).

One basic difference in this theory compared to Maslow's is, that the need to fulfil these needs is not hierarchical, but they should be seen as continuum, where the needs might appear at the same time, making any of them just as important as the other. The importance of a need can be lowered/increased if the individual feels dissatisfied/satisfied with it. (Leopold, 2002, 112)

Griffin (2013, 477) agrees that depending on an individual, the different needs might occur at the same time and be the cause for motivation. He also states that this theory has been called frustration-regression theory, meaning that if a need gets satisfied, but will not increase satisfaction towards other needs, that the person might become first frustrated, and then regresses to be motivated by the same need. As example he gives that if a worker who was motivated to earn more money gets a pay rise (existence needs) and for that he/she would like to establish more, close relations with other individuals (relatedness needs), but it does not happen, the worker might lose the motivation for earning more salary.

In 1976, Mumford extended the theory into five categories more related to workers' needs, which are respectively: knowledge, control, psychological, task and moral needs. (Leopold, 2002, 112)

4.2.3   Herzberg's two-factor theory

Herzberg's research in 1959 resulted in his "two-factor theory". He found out after interviewing about 200 accountants and engineers that motivation of workforce comes from two different aspects. He called one of those aspects the *hygiene factors* (relationship with colleagues, job security, working environment, salary, company policy, level and quality of supervision), and the other was called *motivators* (responsibility, recognition, personal advancement, achievement, nature of role). He concluded that while motivators cause only satisfaction or dissatisfaction for workforce, the lack of hygiene factors only results in dissatisfaction. (Leopold, 2002, 113)

However Herzberg's method has been questioned in the past. Some claimed that conducting a research in the form of interviews cannot really reflect on the interviewees' opinion on their performance at work. Also as was stated before he questioned only accountants and engineers, whose job is rather interesting and diversified, and not any person who is doing unskilled, repetitive type of work. (Leopold, 2002, 114) Griffin (2008, 441) agrees that however Herzberg's theory is appreciated by managers, because it increased the importance of motivation in the workplace, but most of the researchers do not really value it.

4.2.4   The expectancy-based model

One of the most popular expectancy-based models was established by Vroom in 1964. He claimed that *motivational force* can be calculated in a very simply way: the motivation to behave (F) is a combination of outcome expectation of a certain behaviour (E) and the valence of outcome (V). Mathematically it would look:

$$\mathbf{F} = \mathbf{E} \times \mathbf{V.}$$

Critics of this model have been claiming that expectancy theories can identify motivational factors for workforce, but it does not give an explanation why an individual values or does not value a particular outcome. (Leopold, 2002, 115-7)

Griffin (2013, 480-482) puts it to easier form in words: in his opinion motivation depends on the factors: how much an individual wants something, and how likely the individual thinks he/she might be able to get it. Motivation leads then to effort, which with the combination of environment and ability results in performance. Performance turns into various outcomes with different associated value (valence). Managers, leaders should understand what outcome will motivate their employees for better performance.

4.2.5   Equity theory

This theory is based on people's feelings on how equally and fairly they are treated in an organisation compared to other workers. The most significant research has been carried out by Adams (1965). It is based on the assumption that everyone expects fairness and equity. According to him, if an individual feels that he is being treated unfairly, the distress caused will make him more motivated to reach equity compared to

others. However unfair treatment will result as well in less commitment towards the organisation. (Leopold, 2002, 117-8)

When comparing the input/output ratio with others, a worker might feel equity, under-rewarded or over-rewarded. An under-rewarded person will try to reach equality: with less input (efforts), or asking for better output (pay rise), or just will leave the job. Over-rewarded people are less disturbed by the fact of being for example overpaid, but studies showed, that they are also likely to reduce the inequity by increased input, or reduce the outcomes of his work (productivity). To avoid these situations, organisations tend to move toward performance based salary systems instead of standard salaries. (Griffin, 2008, 445-6)

4.2.6   Goal-setting theory

The theory (often called also motivational technique) is based mostly on the research carried out by Locke (1976), who stated that an individual's behaviour at the workplace depends on their goals or intentions. He explained that the established goals have to be specific, realistic and achievable, and it is important that positive feedback is given any time. According to Leopold (2002, 118-9) this theory is the most accepted and supported theory of all.

Griffin (2008, 446-8) explains that performance depends on 2 factors: the difficulty and the specificity of the goal. Difficulty of the goal has to be so, that is attainable, but still challenging for the workforce to work towards it. Goals have to be also specific, but he describes that in some cases it is not possible. A very specific goal is for example that if an organisation would like to increase sales by 3% during the following year. However, stating a goal such as increasing job satisfaction or motivation is harder to specify how it can be measured. Griffin also claims that 2 other factors (goal acceptance and goal commitment) should be added to the theory. Goal acceptance shows to what extent the individual feels the goal to be his/her own, and goal commitment stands for the individual's personal interest to reach the given goal.

4.3   Agency theory

An agency relationship is described as a contracted relationship between a principal and an agent, where the principal(s) gives order/instructions for the agent(s) to perform a certain service. The simplest form of agency relationship is between employer (principal) and employee (agent). (Delves & Patrick, 2010)

Agency theory focuses on studying the agency relationship, with possible problems arising from it. One of the biggest conflicts is that though principal and agent work toward the same goal, they might not have the same interest, since both of them are driven by self-interest. Another problem principals face is: how can they motivate the agents to work as they are expected to work by the principal. (Delves & Patrick, 2010; Seven Pillars Institute, 2015; Luhman & Cunliffe, 2012)

Delves and Patrick (2010) refer to Mitnick who identified three main problems in agency theory: the principal's problem is to find motivational tools so that the agent is trying his/her best to achieve the principal's goals (for example by financial and non-financial incentives and sanctions). The agent's problem arises in decision making, when the agent either acts in his own interest, either on the principal's interest, or has to compromise between those two. The third problem comes with policing mechanism and incentives, which include extra surveillance, more directive tasks, or in exchange rewards (bonuses, increased pay). These cause extra expenses for the principal, so before implementing any of them, it has to be evaluated whether the return is bigger than the cost of input incentives.

The term "Agency loss" means the difference between the best possible outcome for the principal and the consequences of the agent's actions. Agency loss is zero, when the agent acts strictly in the principal's best interests. On the other hand when the agent starts to act according to his self-interest, the agency loss will increase. The more the agent turns towards his own goals, the higher the agency loss becomes. Agency loss can be minimized, if the principal and the agent have the same goals and interest, and if the principal knows whether the actions of the agent will serve the principal's best interest. The interest/goal-difference between principal and agent is always at high risk, so principals should motivate their agents that results in the agent moving aside his own interest and putting first the principal's. (Seven Pillars Institute, 2015)

Arthurs and Busenitz (2003) explain that differences between actual goals and perceived goals lead to four types of problems in agency theory, which can be seen in the following FIGURE 9. No agency problem exists if the actual and perceived goals are both the same between principal and agent. If the actual goals are the same between principal and agent, but the perceived goals are different, it is called hidden agency problem. According to Arthurs and Busenitz (2003), this category should be avoided by any means. Perceived agency problem is, when actual goals are the same between principal and agent, however the perceived goals are different between them. Visible agency problem is, when both the actual and the perceived goals are different between principal and agent. It is easy to see, that the most desirable situation is, when there is no difference between perceived and actual goals: that is when agency loss is the least it can be.

		Perceived goals between principal and agent	
		Same	Different
Actual goals between principal and agent	Same	No agency Problem	Perceived Agency Problem
	Different	Hidden Agency Problem	Visible Agency Problem

FIGURE 9: Goal congruence between principal and agent
Adapted from: Arthurs & Busenitz (2003)

4.4   Employee performance and rewarding

An organisation's performance not only depends on external factors (for instance competition, market situation, regulations), but also highly on individual employees' performances as well. Managing performance of employees is highly controversial since on one hand it can be seen as a controlling process (from employees' point of view); on the other hand managers should be helping the employees to develop in the necessary areas. According to Leopold (2002, 129-132) the role of managers who evaluate performance is very complex, due to the fact that employees' and organisa-

tional goals are different: employees would like to have reassurance and rewards, organisation look after outputs and results, and want their employees to accept criticism and work hard on better performance.

Leopold (2002, 132-142) introduces several methods on how performance management can be done. The two main categories are formal and informal performance processes. However formal processes are mainly used in bigger organisation with high employee number and informal used by smaller companies, he states that the size of the organisation should not be the only factor when deciding which method to use. The main advantage of formal process is its objectivity and equity for each individual, on the other hand, they tend to be time-consuming to evaluate, and might not give enough flexibility for changes. The informal process is more personal, as it requires almost daily interactions between manager and employee, it gives the possibility of immediate feedback, and disadvantage of them is that they might appear to be too subjective.

Methods for employee performance management range from simpler to more complex methods. All of them have their own advantages and disadvantages, so managers should carefully consider which of them should be used. Leopold (2002, 136-142) describes four types of them. **Trait methods** which were popular few decades ago listed traits (attributes), and then each trait has been ranked for the individual employee. One problem with this kind of method is that it is focusing mainly on personal traits, not working performance, and does not describe any improvement ideas for the employee. As trait method's flaws have been discovered, **objective-based method** has been developed. In this method organisational goals and sub-goals have been defined for each level throughout the organisation with a set time period by when those goals have to be achieved. After the end of the period, achievement should be evaluated, and new goals set with new time period. Critics say however that this method also has some serious flaws: goals might be only short-term goals, while long-term goals neglected; focuses on individual, not tem-performance; focuses on the output, not on how the whole work process is carried out. **Competency-based method** has been developed only about a decade ago, and purely putting emphasis on achieving objectives and targets that are quantifiable and easy to measure. This method not only focuses on the outputs of a certain job, but also on the whole process. **360-degree method** is for evaluating an employee's performance from different angles: performance is rated by managers and superiors, peers and subordinates, or in some cases by customers as

well. Self-evaluation should be included in this method also. The main advantage of this method is that when evaluation comes from more sources it is seen as more reliable and objective. However the method is time-consuming for everyone involved, and can carry extra expenses.

Measuring performance of employees should not be only carried out only for giving feedback on the individual's performance, but it can be used for rewarding those who are performing above the average, or achieving exceptional goals and targets. Rewarding employees can have a positive influence on the performance of the individual and as so, it can affect the company's performance as well. According to Goetsch and Davis (2013, 160-1) the best way to reward is following a compensational system made up from three levels. The first level is the individual employee's traditional basic salary. As an extension, based to the person's performance, he/she can be rewarded with incentives. The third level of rewards is a team reward: those who are working in the same team are getting incentives that are based on the team's performance, and fairly proportioned between team members, based on each team member's contribution to the team's performance.

Building up a compensation system for individuals and teams should follow these steps: first management has to decide what performance will be measured for incentives. Secondly decision has to be made, that how those can be measured, how often they should be measured and how those data could be collected. Thirdly it has to be decided what the rewards will be: monetary, nonmonetary rewards or the combination of the two. It is also important in this phase to make the rewarding system fair and based on result-proportions. Most employees are very sensitive to fairness, and having a reward system that does not suit for that criteria might not result is better performance. The last step when building up a rewarding system is to integrate it with other performance based systems, for example promotions or evaluations. (Goetsch and Davis, 2013, 160-1)

Managers sometimes make the mistake of thinking that employees only want financial rewards. However this is not the case. Nonmonetary rewards in some cases might be more valuable for employees, than money. For this reason, managers and persons who are responsible for developing a reward system should examine their employees, what might work for each individual as a reward. (Goetsch and Davis, 2013, 161) Leopold (2002, 150-1) describes a few non-financial rewards, like for example: feedback and

recognition (as to show employees that their work is appreciated), job satisfaction (when the given and expected reward is close to each other, employee feels his needs has been satisfied fairly) or in some cases giving the employee more responsibility and autonomy.

4.5 Employee development

Leopold (2002, 190-1) suggests that companies should look at developing, educating and training employees as a long-term investment for the company. Most of the organisations – he claims – make the mistake of thinking about trainings as unnecessary costs for the company, and not willing to see the fact, that developing the workforce might not results immediately in better profit-results. Advantages should be overviewed in a longer time scale: investing in the training and development of the employees, can result in more committed workforce, who will have more flexible skills, will be able to adapt to changes in the job and can accomplish better quality of products and services provided for customers. He explains also that some organisations might be against training, because they might fear, that the employees will leave the workplace, thus the organisation will provide better skilled workforce for its own competitors. This fear is actually quite understandable in the trucking business, as studies have shown that the labour turnover in this field is one of the highest. (Hilal, 2008, 19-20)

Leopold (2002, 202-11) cites various approaches to employee training. Firstly it cites Meggison's systematic approach to employee development that has four stages, and can be seen in the following FIGURE 10. The approach introduces the model, which is cyclical and putting emphasis on continuous development and training of workforce.
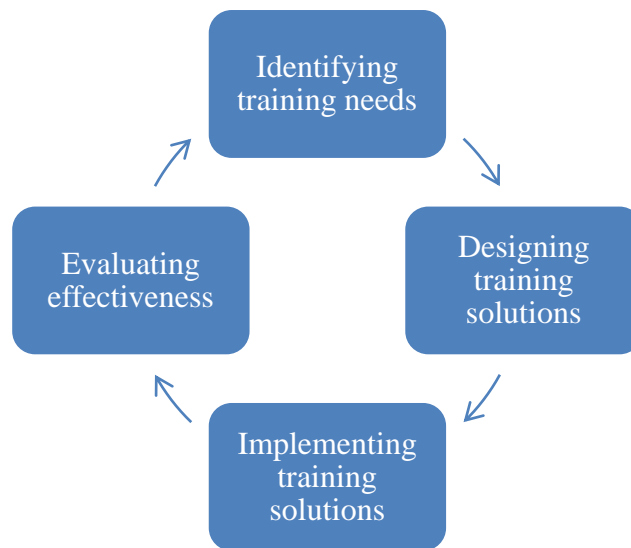
FIGURE 10: The systematic training cycle by Meggison.
Source: Leopold (2002, 204)

Secondly it describes Boydell's theory from 1983, which explains that the need of training appears in three different levels: organisational level (the skills that everyone has to develop inside an organisation, regardless their title and job), job/occupational level (skills that will result in better performance in a specific job) and individual level (skills that needs to be improved according to the individual's current skills).

And last Leopold (ibid) explains the model ("staged approach") suggested by Stewart (1999), which has six stages. First the training need has to be decided and the symptoms for need, preferably with the help of measurable indicators. Whenever that is done, it should be assessed if the problem is worth solving. If the answer is yes, the root causes has to be found for the problems and evaluated if training could help solving those. Solutions have to be generated, together with the cost/benefit estimations, before recommending the action to the person who is in charge for the decision. The staged approach can be seen in FIGURE 11.

| Stage 1: Describing symptoms |
| Stage 2: Estimating importance |
| Stage 3: Analysing cause |
| Stage 4: Generating solutions |
| Stage 5: Estimating costs/benefits |
| Stage 6: Recommending to decision-maker(s) |
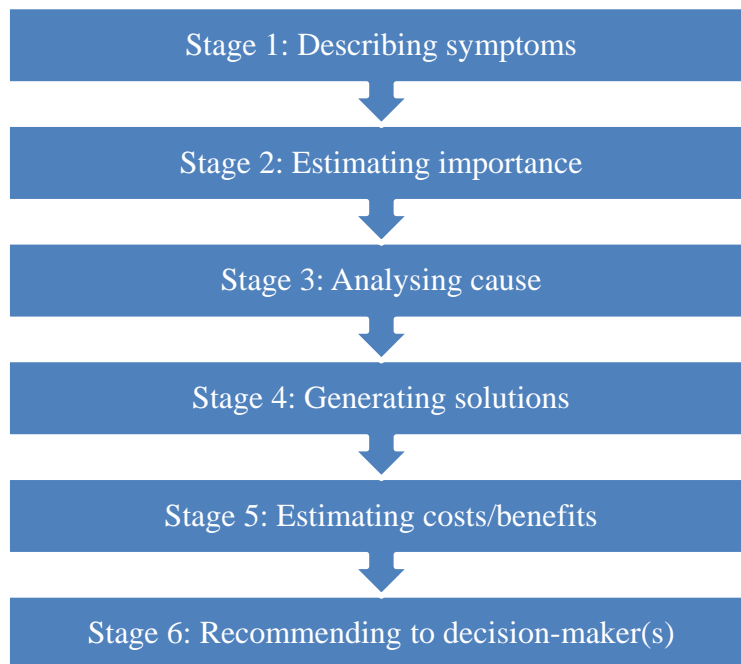
FIGURE 11: Staged approach for establishing training needs.
Source: Leopold (2002, 206)

Leopold (ibid) adapted the most common training types from Reid and Barrington (1997), which are the following: on-the-job training (observing the employee, while he/she is working), planned organisational experience (a training that is integral part of a particular job position), in-house courses (usually regular, generic-type training including specific needs), planned experience outside the organisation (visits and secondments to suppliers, customers and competitors) and external courses (trainings arranged by external organisations, for example consultancy agencies, educational institutions).

Goetsch and Davis (2013, 194-196) describe the main principles widely accepted about training and how individuals learn. According to them, most people will learn new things, if they want to learn them, so motivating employees or explaining for them the advantages of training can actually help to make them want to learn. Individuals learn things better, if it is related to their already existing knowledge. The best way people can learn if the teaching process is done in a step-by-step method, where each step logically follows the previous one, and the material starts from simpler elements toward the more complex ones. When planning training one should also keep in mind, that people learn things better, if they can practice and apply it, and the more they use their knowledge the better they will be at it in the future. Important element

of the training or teaching process is to give immediate feedback and test if they we are able to understand and learn.

Despite the efforts sometimes trainings fail. There are several reasons for that, for example lack of resources, insufficient training-planning, not suitable teaching material, inadequate teaching. Goetsch and Davis (2013, 201) refer to Juran when describing two, more serious issues, that can cause failed trial of training: management is not involved in training-planning process and the scope of the training is too narrow, that does not allow employees to see every aspect behind the training needs.

4.6   Labour turnover

According to Leopold (2002, 40) labour turnover is a percentage, that shows the number of leaving employees during a certain period compared to the total number of employees. The topic will be explained more in Chapter 5.4.1, together with the main reasons for high labour turnover, both for the company and commonly for most organisations.

Usually a company with high labour turnover numbers is considered doing a bad business: unable to select the right workers, unable to motivate them, or losing them to another company that might be offering better salary or benefits. It is important to note, that a company's bad reputation is not the only disadvantage that comes with high labour turnover figures. One of the biggest impacts are costs and time: whenever an employee decides to or is forced to leave, it means that the money and time invested in him/her is lost, this includes trainings, education, expenses and time spent for hiring that particular employee and after he leaves, finding a substitute. The constant change in employees means also that new employees have less knowledge about how the companies systems are working, which results is more mistakes and less effective work. High turnover also results in lower performance, which is highly related to quality measures and also might set back the company's daily functions. (Kokemuller, 2015)

5   Research findings

5.1   Quality Management Systems

5.1.1   Business types in Finland

According to the European Commission's publication (2005), SME stands for small and medium-sized enterprises, and can be defined if a company belongs into this category by number of employees, and either the annual turnover or the balance sheet total of the company. The company categories can be seen in the following Table 3.

Table 3: Categorisation of SMEs.
Source: European Commission

Enterprise category	Headcount	Annual turnover or	Annual balance sheet total
Micro	<10	≤ €2 million or	≤ €2 million
Small	<50	≤ €10 million or	≤ €10 million
Medium-sized	<250	≤ €50 million or	≤ €43 million

The situation in Finland about SMEs can be seen in Table 4, however, the source of Statistics Finland makes it only possible to get information under 200 employees within an enterprise, or over 200 employees, so for the table this numbering was used, not the categorisation of the European Commission. The latest data available was for the corresponding year of 2013. (Statistics Finland, 2015)

Table 4: Enterprises in Finland, categorisation by size
Source: Statistics Finland, 2015

	Micro (<10 employees)	Small (10-49 employees)	Medium-sized (50-200 employees)	Big (over 200 employees)
Total number of enterprises	362 898	22 765	3 332	583
% of total	93%	6%	1%	<1%
Total number of personnel	499 362	436 471	289 742	242 235
% of total	34%	30%	20%	17%
Turnover (EUR 1M)	96 605	106 060	82 428	105 912
% of total	25%	27%	21%	27%

5.1.2   SMEs and Quality Management Systems

Small and medium sized enterprises (SMEs) have to face more challenges, than bigger companies, if they are considering implementing a quality management system. SMEs have less available resources, which is hardened by the costs of implementing and maintaining a QMS, and they also might face difficulties to understand and apply the system. However there are also few advantages in the case of smaller organisations: less people are involved in decision making processes, individuals have more than just one task, and communication is simpler, easier and more direct. SMEs are supposed to look on implementing a quality management system as an investment in the organisation's better market position and competitiveness. (ISO-SB)

In Finland there are over 2000 companies with ISO 9001 quality certification, of which 58 are in the business field of "Transport, storage and communication". (IQNet, 2015)

5.2 Customer-survey findings

A survey (see Appendix B: Questionnaire for the Customers) has been carried out among the main customers of the company. The main information that the survey was supposed to find out, if there is any pressure from customers towards the company to implement a quality system. Secondly also to find out what features of Kuljetus Eklöf Oy the customers are satisfied with and which are those fields that could be developed in any way. The survey was kept as short as possible. The beginning is basic statistical data collection (position and experience). Two open-ended questions were included to find out customer satisfaction and dissatisfaction. Another table has been included with multichotomous questions that are focusing on the customers' expectations with the possibility to list other things too that customers might find important. Before sending out the final survey, one of the managers of the company's biggest customer has been asked to test and check it. His suggestions were taken into account and small changes have been done to the survey for a final version.

Altogether the questionnaire has been sent out to 12 people, with 3 weeks' time given for returning their answers. After two weeks a reminder has been sent out for those who did not respond yet. In all, 7 responses has been received, with following results: the customers who answered stand in various positions in the company they work for, some on managerial level with whom the office personnel of Kuljetus Eklöf Oy has little to almost no contact, to traffic coordinators who are in daily contact with Kuljetus Eklöf Oy.

The average work experience in the logistics field among those who answered the survey is 262 months (over 21 years). One of the customer-companies has quality management system in use, the other one does not. For both companies: about 50% of their own customers/subcontractors have also implemented quality management system.

Question 5 was supposed to point out if the responders actually thought that a company with implemented QMS is performing better compared to those, which don't have that in use. 57% of the responders stated, that in their opinion, the answer is

"Yes": a company's performance is better if they have any kind of QMS, and the other responders didn't have the experience to answer the question properly.

In Question 6 responders had to choose how important different characteristics of their suppliers are when it comes to business relations. The following Table 5 shows the importance of expectations from suppliers.

Table 5: Expectations from suppliers

Company characteristics/expectations	Very important	Somewhat important	Not really important	**Total responses**
Quality Management System		6	1	**7**
Exact and appropriate information on time	7			**7**
Experienced and trained personnel	7			**7**
Proper technical background	3	3	1	**7**
Long-term partnership	2	3	2	**7**
Competitive price	4	3		**7**
Punctuality (FIX unloadings and loadings)	7			**7**
Flexibility and capability to react to changes	6	1		**7**

In question 7, customers were asked to write down what are the positive sides of working with Kuljetus Eklöf Oy and also they could suggest issues that need developing or improvement. Most of the responders mentioned as positive thing, that office

personnel is always reachable, reliable, cooperative and flexible; information is given to customers in time (not only positive, but negative information as well, like delays or occurring problems); personnel is well-trained and experienced and can be trusted with any issues and problem-solving.

As for the suggested improvements a few things were mentioned: accuracy of loading details (mostly loading meters) which come from drivers, drivers' language knowledge and their "customer service", problem-solving sometimes takes too long which causes delays in loadings and unloadings.

5.3   Kuljetus Eklöf Oy and Quality Management System

According to the European Commission's categorisation, Kuljetus Eklöf Oy is considered as a medium-sized company, with an average of approximately 50-60 employees (both office personnel and truck drivers).

Though more and more companies seek for establishing quality management system in use, the questionnaire results from customers' survey showed that no pressure has been put on Kuljetus Eklöf Oy yet from their business partners to implement a QMS. The survey results suggested that customer trust in the company; they think that the personnel are well-trained, experienced and always available, ready to solve any kind of problems without hesitation. The long-term partnership between the company and its customers ensure, that customers know, how the company works, how they provide information and cooperation, which indicates that actually customers at the moment do not find a quality management system as important, as for example providing them correct information on time.

Taking this assumption into account, no documentation will be done as part of this thesis that a quality management system implementation would require.

5.4   Human resources

In this chapter it will be introduced, what are the main problems, that the company, and the daughter company in Hungary faces from HR point of view. The findings are based interviews with the CEO, the transport manager and the traffic planner from Kuljetus Eklöf Oy, and the area manager of Transport Eklöf Kft. Quantitative data has

been collected from the ERP system called LogiControl. The most basic information (number of employed drivers and their nationality) is shown in Table 6.

Table 6: Drivers nationality as of April 2015
Source: Kuljetus Eklöf Oy (2015)

	Finnish	Estonian	Hungarian
Kuljetus Eklöf Oy	7	7	1
Transport Eklöf Kft	0	0	30
Driver via recruitment company	0	0	11
Total	**7**	**7**	**42**

5.4.1 Labour turnover analysis

One of the main problems is unfortunately the high number of employees, who decide within short period of time to quit from the workplace. The data for TABLE 7 has been collected from both companies from the past three years, and shows the length of employment of the workers who did quit work during the years in question. The short-est period of inspection has been chosen as 0-2 months, because most drivers of Transport Eklöf Kft work for 6 weeks, and then have 2 weeks resting period in their home country. Drivers who work for the Finnish company Kuljetus Eklöf Oy gener-ally work longer periods (2-4 months), before their few weeks long resting time. The table shows that the longer a driver has been working for the company, the less the chance that he might be quitting from the work.

Table 7: Employment length of quitting workers in Kuljetus Eklöf Oy

Length of employment (of those drivers quitting the company in the corresponding year)	Number of drivers quitting (2012)	Number of drivers quitting (2013)	Number of drivers quitting (2014)
0-2 months	15	13	18
2-6 months	11	18	22
6-12 months	8	14	15
1-2 years	6	6	3
2-5 years	2	6	3
over 5 years	3	0	3
Number of workers quitting total	**45**	**57**	**64**

According to Leopold (2002, 40) labour turnover is a percentage, that shows the number of leaving employees in a certain period compared to the total number of employees, which can be seen in Table 8, for the past three years. The results were way worse for the Hungarian daughter company in 2012 and 2013, than for the Finnish company, however in 2014 the labour turnover was higher in the Finnish side.

Table 8: Labour turnover analysis

	2012	2013	2014
Total Number of workers (HU)	69	80	71
Number of ongoing contracts	31	25	30
Number of drivers quitting	38	55	41

Labour turnover (Transport Eklöf Kft)	55%	69%	58%
Total number of workers (FI/EST)	16	14	38
Number of ongoing contracts	11	12	15
Number of drivers quitting	5	2	23
Labour turnover (Kuljetus Eklöf Oy)	31%	14%	61%

The main reasons why drivers decide not work any longer for company are:

- Personal reasons: having been away from their families for more than a month is not bearable for some, or simple they become homesick.
- Work-related reasons: leaving because they don't feel that this job is for them (mainly applicable for drivers with zero experience in the field of transportation, so called "zero-kilometer" drivers).
- Financial reasons: many of them have loans, and have to support their families back in their home-country, and they are not accepting that their salary might be paid later as expected.
- Technical reasons: drivers have to use on-board computer for communication with the main office, and sending loading and unloading information, which they find too difficult to use in their everyday working life.
- Some drivers have to be laid off also for personal reasons: the company has a zero-tolerance policy towards the use of alcohol in the workplace, or unacceptable behaviour towards work-colleagues. (Eklöf, 2015)

The high labour-turnover is not only problem within the EU, the US also has faced problems in the logistics field. One report suggested what the main reasons are for people changing jobs frequently. Those were: dissatisfaction with job itself, lack of advanced opportunities, dissatisfaction with work-private life balance, too much stress, low opinion on the boss's or the management's performance, no salary increase. The article also gives reasons why people were likely to stay in a particular job: good salary, benefits and a good boss, good work-private life balance, uncertainty

of the job market, feeling of being appreciated and recognised at the work place. (Saunders, 2015)

5.4.2 Motivating drivers at Kuljetus Eklöf Oy/Transport Eklöf Kft

Volvo Dynafleet program is one way to measure drivers' performance, and to build up a list, who are the "best" ones with the best results (taking for example fuel consumption, breaks' effectiveness). Every month the best one of the drivers is awarded extra salary. The idea was to motivate those drivers with less knowledge in order to achieve financial benefits. However results showed that good drivers stayed good ones, but the less skilled drivers did not feel the urge to improve their performance.

The salary system is designed so that the more time a driver is employee at the company, his salary increasing with time. However this practice was launched over a year ago, it did not have a positive effect on labour turnover.

The company awards financially every quarter year (four times a year) one-one driver as well, who showed good attitude towards his job, or developed his skills better than others. The idea behind the award was also that it will motivate every driver to try to give their best. However instead of happening that, some felt that the system is unfair and those are rewarded who did not deserve it.

The company tried this year another reward: the best drivers, with best attitude and longer working experience at the company were invited to Finland for a few days' training, and other free-time activities were offered for them. The company paid all expenses. The idea was to motivate the drivers and to keep them working for the company also during the years to come. However one of those invited drivers a few weeks later after the award-trip quit the company. (Eklöf, 2015)

5.4.3 "Driver shortage" in trucking/transportation business

High labour turnover in the trucking business in not the only challenge companies have to face. The report of the European Union High Level Group on road transport (2012, 3-4) states that inside the EU area the problem of driver shortage might become another issue organisations have to deal with, rather soon, than later. As earlier the main positive side-effects of being an international truck driver were higher wages, the possibility of international travelling, these are not that much attracting workforce

anymore. Travelling anyways became more available for anyone, and especially younger generations want to have better balance between working and private life. The image of truck driver profession has been changed also drastically in the past decades, and now is connected with low wages, low qualification, poor working conditions and the job title somehow leaves a negative, degrading feeling in most people.

The report suggests some solutions, how to solve the shortage problem. One of those solutions is to make the job more attractive, especially within younger workforce, since unemployment rate is still high. Disadvantages of the long-haul trucking job include being away from family and home for longer time periods, lack of access to sanitary facilities, accidents, violence and low salary/wages compared to the qualifications and skills required. Some improvements have been made though: free movement between the Member States allowed drivers to move to those countries were they could get higher salaries (e.g. UK, Germany and the Netherlands), the driving and resting times were regulated commonly. Another problem is that most of the drivers are low-skilled, though the road freight transport within the EU is still the most important way of moving cargo. To improve the labour workforce's quality, higher levels of trainings should be provided, including language education. Another suggestion is that road hauling profession should be made more appealing for female workers. Now the profession is dominated by male workforce, and the reason for that might be, that women might not feel safe under the current working environment, and would be exposed to more violence from their male encounters. That could be eliminated by improvements in the working conditions. (European Union High Level Group, 2012, 19-22) Aging of the available truck drivers, who might retire in the coming few years will be a problem soon and costs of becoming a truck driver also makes the profession less attractive. The latter problem could be eliminated by financial supports both from governments (benefit could be reduced unemployment rate) and the organisations themselves. (Cassidy, 2014)

The Government of Hungary - Ministry of National Economy announced in July 2015 that they are planning to spend 5 billion HUF (approximately 16 million EUR) on education of new truck drivers. According to Minister Varga, with the support of this money 6000 people will be able to obtain a C and E driving licence. He also stated that in 2014 there were about 7300 job offers in Hungary for professional truck drivers, and also this was the field, where the least successful was the application process: there were simply not enough applicants, and/or not with proper education for those

job places. The selection process for applicants would be done and supervised by MKFE (Freight Forwarders Association) and OFA (National Employment Non-profit Ltd). The main idea for this initiative is that the Hungarian Government would like to improve the logistics operations inside the country and making road-transportation more competitive, as taxes from road transportation provide about 5% of the income of the government. The funding for the education would be granted by government and EU-funds. For those accepted to the programme, the government pays the expenses of the education, with those criteria that attendance should be 100%, examinations should be successfully completed. In case of extra driving hours or second/third examination is needed, it has to be financed by the individual. If a person decides not to finish the programme, he/she has to refund all the expenses for the government. On the other hand, Hungarian transportation companies should offer scholarships during education and workplaces after successful examinations for the trainees. (Hungarian Government, Ministry for National Economy, 2015)

This could be a very good opportunity to overcome the constant driver shortage for the daughter company of Kuljetus Eklöf Oy, the Hungary-based Transport Eklöf Kft which recruits new drivers from Hungary. (Eklöf, 2015)

5.4.4 Education of drivers

There is a main difference between drivers' education in Finland, Estonia and Hungary. The following Table 9 summarises the education material from the three countries, showing the main study fields and topics that are covered during education in those countries, also with the minimum level of study-length.

The education materials were provided by Jyväskylän Ammattiopisto (Finnish education system), National Transport Authority of Hungary (Hungarian education system) and an Estonian driving school (Autosõit Company Ltd) that educates also professional truck drivers (Estonian education system).

Table 9: Comparison of truck drivers' education

Teaching system	Finland	Estonia	Hungary
Length of theoretical education	Full-time	Min. 30 h	Min. 22 h

Length of driving practice	Full-time	Min. 100 h	Min. 59 h
Teaching material	**Finland**	**Estonia**	**Hungary**
Transport documents	Yes	Yes	No
Storage technology, transport units	Yes	Yes	Yes
Terminal operations and cargo handling	Yes	Yes	No
Loading and cargo securing	Yes	Yes	Yes
Engine technology	Yes	Yes	Yes
Gears and transmissions	Yes	Yes	Yes
Breaks	Yes	Yes	Yes
Electronic and hydraulic systems	Yes	Yes	Yes
Chassis, tyres, suspension	Yes	Yes	Yes
Daily basic-, and lubrication maintenance	Yes	Yes	Yes
Transport damages and insurances	Yes	Yes	Yes
Occupational Health and Safety	Yes	Yes	Yes
Accident prevention, rescue	Yes	Yes	Yes
Logistics, quality and environ-mental systems	Yes	Yes	No
Telematics and transport crimes	Yes	Yes	Yes
Customer service	Yes	Yes	No

Collective agreements and work contract	Yes	Yes	No
Road Traffic Act	Yes	Yes	No
Basics of Information technology	Yes	No	No
First aid	Yes	No	Yes
Vehicle legislation	Yes	Yes	No
Forklift-operations and safety	Yes	Yes	No
Forklift driving	Yes	Yes	No
Vehicle introduction	Yes	Yes	Yes
Other accessories and tools	Yes	Yes	Yes
Permits	Yes	Yes	No
Law of driving and resting times	Yes	Yes	Yes
Proactive driving	Yes	Yes	Yes
Economical driving	Yes	Yes	Yes
Route planning	Yes	Yes	Yes
Introduction to international driving	Yes	Yes	No
Transportation of food cargo	Yes	Yes	No
Transportation of bulk cargo	Yes	Yes	Yes
Transportation of dangerous goods	Yes	Yes	Yes
Fuelling	No	Yes	Yes
Hygiene pass	Yes	Yes	No

Occupational safety card	Yes	Yes	No

One important thing to note is, that the Estonian and Hungarian systems are both course-type education system, while the Finnish system is full-time education in vocational schools.

5.5 Findings of drivers'-survey

A survey has been carried out among the drivers in Hungarian and Finnish language (see Appendix C: Questionnaire for the Drivers for English version). The main questions were based on motivation and quality. In total 23 Hungarian and 15 Finnish/Estonian drivers answered the questionnaire.

The first few questions were administrative (e.g. how long a person has been a truck driver and how long has he been working for Kuljetus Eklöf Oy/Transport Eklöf Kft). Also drivers were asked if they like the job they are doing at the moment. All drivers answered with a positive answer for this question.

In Q5 drivers were asked what fields they feel they could develop. For technical knowledge (trucks and trailers) 20 % of Finnish/Estonian, and 60% of Hungarian drivers answered with yes. 93% of Finnish/Estonian and 100% of Hungarian drivers answered, that they should improve their language skills. Improving IT skills was important for 33% of Finnish/Estonian and 6% of Hungarian drivers. Some Hungarian drivers mentioned that they would like to improve their knowledge about economical driving, road-safety, tachograph, geographical knowledge, dangerous goods' transportation, cargo securing, road transportation rules for different countries.

Question 6 was supposed to find out the drivers' motivation to do a good and proper job. The following FIGURE 12 and FIGURE 13 show the results. Since there is a small difference between different nationalities, it was found important to show the results separately for Finnish/Estonian and Hungarian drivers.

For Hungarian drivers, the most motivating force is salary and bonuses, which was marked "very important" by almost 90% of the drivers. On the other hand only a bit less than 50% of Finnish and Estonian drivers thought that factor to be very important. Recognition and positive feedback from managers or the office seems to be also a

more important factor for Hungarian drivers, than for the others. On the other hand, interesting tasks are motivating Finnish and Estonian drivers more, than Hungarians. The last section in the question was to find out, whether drivers understand or not, that their own job is at least as important as for example the traffic planning the office is doing. Again there was a significant difference between the two groups: almost 90% of Hungarian drivers thought that it was very important and only 53% of Finnish and Estonian drivers thought that their own job is very important from the company's success' point of view.
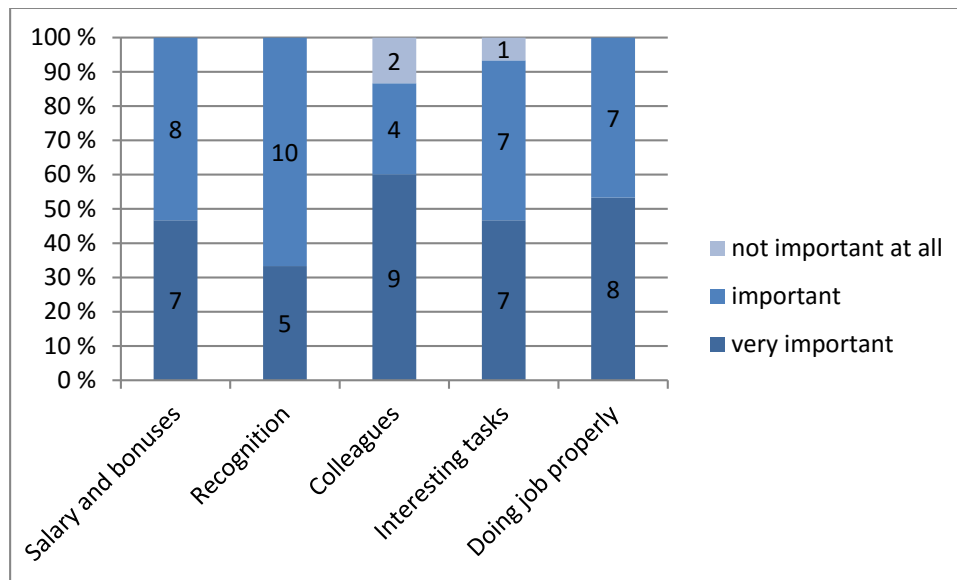

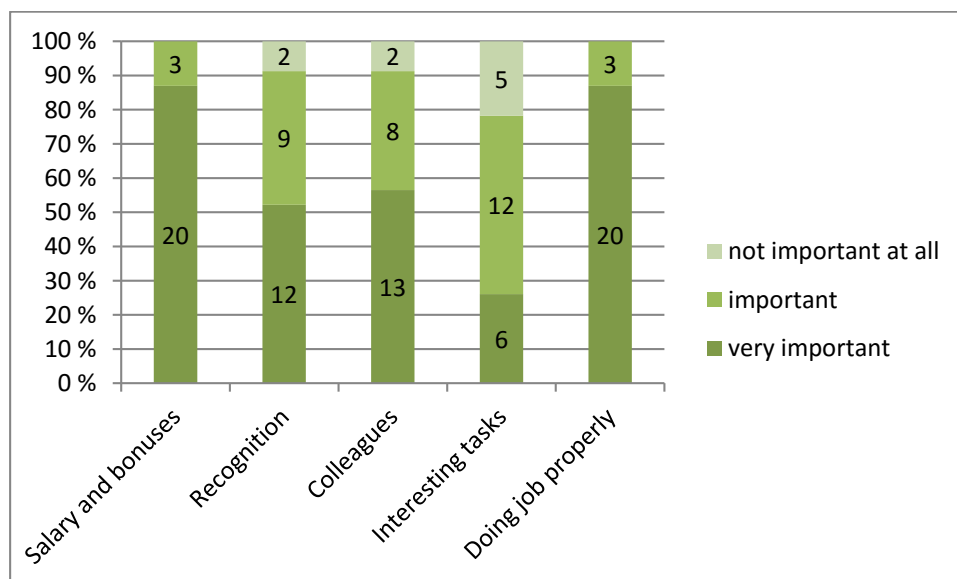**FIGURE 12: Drivers' motivation (Finnish/Estonian)**

FIGURE 13: Drivers' motivation (Hungarian)

Question 7 was supposed to find out from the driver's point of view, what they think is meant by the term "quality job". The results were again separated between Finnish/Estonian and Hungarian drivers, as to point out any major/minor differences between mind-set for different nationalities. Results are shown on FIGURE 14 and FIGURE 15.

While 47% of Finnish/Estonians think that quality job is equal to fast job, on the other hand only 17% of Hungarians agree with that. 13% of Finns/Estonians think mistake is acceptable, but 100% of Hungarians answered that "quality job" should be done without mistakes. Major difference between the two groups were also seen, when it comes to hiding mistakes from the traffic operator: 100% of Hungarians answered hiding mistakes is not important/necessary at all, while only 60% of Finns/Estonians were on the same opinion. Another major difference is when it comes what drivers think; how the traffic operator should do his/her job: all Hungarian responders' opinion is that for a quality job, the traffic planner should also do a very good job, however only 60% of Finns/Estonians think it the same way. 70% of Hungarian and 67% of Finnish/Estonian drivers think that they should immediately inform the office when they have a problem. For the company it is very important, that its customers are satisfied (that is supposed to ensure the continuity of the business and deepen the trust). Apart from one Hungarian driver, all the others thought the same: quality job means satisfied customers, but only 67% of Finns/Estonians shared the same opinion.
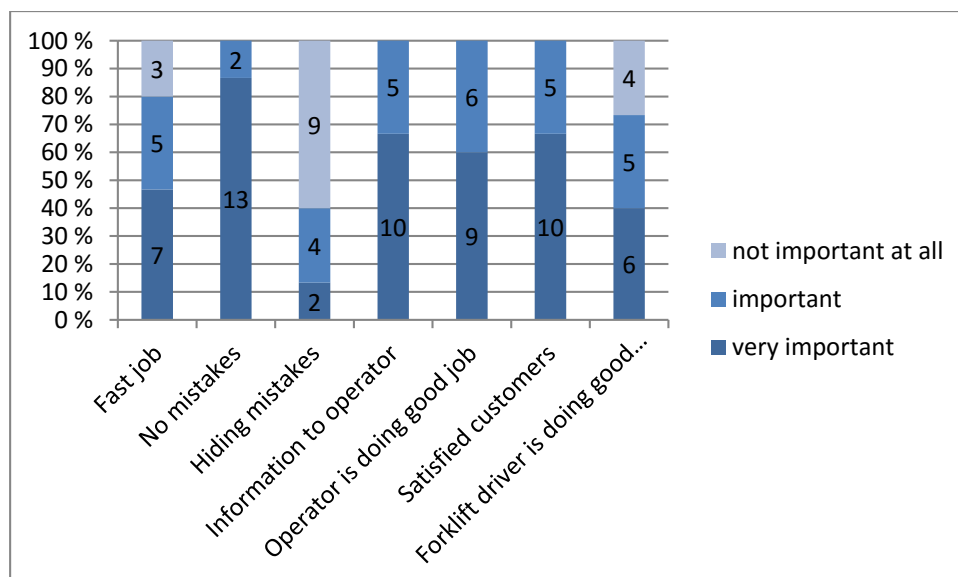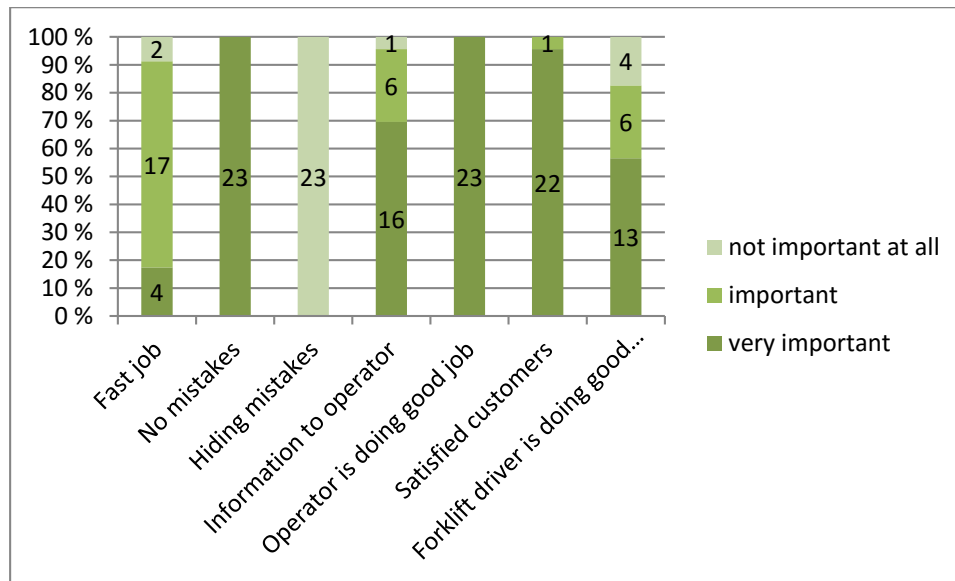
FIGURE 14: Quality job (Finnish/Estonian)

FIGURE 15: Quality work (Hungarian)

In the last question drivers were asked to describe why they like to work for the company, what they like in their job, and on the other hand, what are the things that are disturbing their daily work. For the first part of the question, answers were quite similar:

- The traffic planning (the office personnel) is reasonable, helpful, and is not asking anything that cannot be done (9 out 23 Hungarian, 6 out of 15 Finnish/Estonian drivers)
- The base in Frankenthal, with the possibility of doing laundry, cooking, showering, resting during weekend (9 Hungarian drivers)
- Helpful colleagues, or just the team itself (4 Hungarians, 5 Finnish/Estonians)
- Technical condition of trucks and equipment (3 Hungarians, 7 Finnish/Estonians)
- The work (driving) itself is interesting (17 Hungarians, 10 Finnish/Estonians)

For the second part of the question (what disturbs them during their daily job) most drivers mentioned:

- The arrival of the salary is quite random, and always late (14 Hungarians, 7 Finnish/Estonians)
- The differences in the trucks' technical conditions, speed limits, equipment, slow maintenance of trucks (5 Hungarians, 2 Finnish/Estonians)
- The trailers' technical conditions (2 Hungarians, 1 Finnish/Estonian)
- Un-predictability of tasks (3 Hungarians)
- Waiting times in loading and unloading places (3 Hungarians, 2 Finnish/Estonians)
- Positive feedback from office (1 Hungarian)
- Dirty, unreliable colleagues (6 Hungarians)

For more details on answers for the open questions see Appendix D: Drivers' survey results.

Some drivers mentioned topics they would like to learn more about. Vertamo (2014, 55) in his thesis already suggested a method, how drivers could be educated: they would be given a few teaching topics to choose from, of which for example the four most popular would be thought to them Frankenthal site. Those topics could be taught in rotational system, on separate weekends, each weekend 1-2 topics discussed. Since not all drivers are in Frankenthal every weekend, topics could be repeated after some time, so that everyone can take part.

However he also stated in his work, that his research gave rather discouraging results: most of the drivers have lower education level, and some see education or training as a punishment, or waste of time, because they don't feel the necessity to learn something new, if things can work just fine the old way. Giving them the opportunity to choose training topics that interests them, might give them more motivation to participate in the trainings. (Vertamo, 2014, 55, 72-73)

5.6   Costs of poor quality

One thing that drivers do not consider whenever they are complaining is the costs of their careless behaviour that results sometimes in accidents and damages. During the past years both companies (Kuljetus Eklöf Oy and also Transport Eklöf Kft) had to pay a huge sum of money, for truck repairs, trailer repairs (when damages where caused by the drivers). Another big cost is – though fortunately it happened rarely is a result of closing the trailer-roofs and doors incorrectly. That can be a big problem, if it

happens when trailer is transported by rail, after the driver has left it at the train station. The train has to be stopped; the trailer that has been opened removed from the wagon, closed properly and then pulled by truck to harbour. In extreme cases, the whole wagon has to be disconnected from the train. The process has a lot of costs: crane for removing the trailer, the extra trucking to harbour, and hidden costs, like for example the delay of the train can cause delays in other train connections as well. Of course the customers do not pay for something that has been the fault of the truck driver, but they invoice the costs to the hauling company.

The following Table 10 gives an overview about those costs that were caused by the companies' drivers in recent years. Some of the costs were easy to find, but some are difficult, that is why there is a row for "estimated expenses" also. In 2014 the sum is bigger, because then it happened a few times unfortunately, that trailers opened during rail transportation.

Table 10: Costs of poor quality (Eklöf, 2015)

Year	2012	2013	2014
Costs of repairs	21 000 €	11 000 €	9 000 €
Estimated other expenses caused by poor quality work	12 000 €	10 000 €	20 000 €

Most of these costs could be avoided, and the company should focus on prevention of those damages and accidents which cost a lot, and causing also damage for the company's profit and reputation.

6   Research results

6.1   Implementation of quality management system

The main research question for the thesis was if it would be an advantage from Kulje-tus Eklöf Oy's competitiveness' point of view to implement a quality system. To an-swer this question, the results of the customer-surveys should be taken into account. Although 6 out of seven responders thought that an implemented quality management system is somewhat important and expected from their suppliers (or in the case in question – their transportation companies they do business with), other answers sug-gested that actually for Kuljetus Eklöf Oy at this moment is no direct need for a qual-ity management system. Trust between the company and its customers has been men-tioned a few times in customer responses for questionnaires, as well as the reachability and experience of the personnel working for the company. The customers can rely on the information given to them, let it be positive or negative news, nothing is kept hid-den, which could come later as surprise for them. The partnership and the deep trust between Kuljetus Eklöf Oy and its customers has been developed over decades and the cooperation works well, even without the company having an implemented quality management system. Taking this assumption into account, no documentation will be done as part of this thesis that a quality management system implementation would re-quire.

Several studies have been written in the topic of advantages and disadvantages of im-plementing quality management system, the result if the performance gets better with implementation are contradictory. Only judging a company's performance or capabil-ity of providing quality products or services should not be based on the fact if that company has an implemented QMS or if they do not have.

When a company decides to have a quality management system, the pressure can be external (from customers or market situation) or internal, as well the advantages gained can be both external (for example increase in market share) and internal (more motivated workforce that produces better quality products or services). If a company is using external reasons for justifying a system implementation, they are more like to gain external advantages, on the other hand internal pressure results more in internal advantages.

Before implementation companies are to be considers a numerous factors: whether the company has the right motives for implementation, whether the workforce is committed properly towards necessary trainings and education and willing to commit to extended paperwork and documentation, and whether the company has the necessary resources (to cover extra time and extra expenses needed).

In the case of Kuljetus Eklöf Oy the customer survey results showed what the expectations of customers are. All responders found very important that they receive appropriate and correct information on time, the personnel is well-trained and experienced, the timetables are to be kept and the company should be able to react to changes by being capable and flexible enough. These expectations could be fulfilled without an implemented quality management system. What the company needs is that all employees understand the importance of these factors and willing to commit to fulfil the requirements. At the moment – according to drivers' survey results – this might not be the fact: though almost all Hungarian drivers thought that quality job is if the customers are satisfied, only 2/3 of Finnish/Estonian drivers are on the same opinion. With correct education, explanation and emphasis on the matter this could be easily achieved.

6.2   Human resources: motivation and education

The second and third research questions were, if there are differences between qualities of work of drivers from different nationalities, and if there are how those could be eliminated.

For this education material for professional truck drivers has been collected from three different countries (Finland, Estonia and Hungary) and compared. The length of the education though is hard to compare, since as it was mentioned before, the Finnish system is a full-time education system in vocational schools, while the Estonian and Hungarian systems are course-type of systems. It is hard to decide which system is better, however one thing can be said: for younger people, it is more acceptable and affordable to sit in school for months to get a professional driving licence, however for older people, or some who have family to support, and decide later in their lives to get a truck driving licence, a course-type education system might be more desirable. Comparing the education materials between the three systems (Finnish, Estonian and

Hungarian) there are some small differences only. The Finnish system is lacking fuelling education, in Estonia teaching about basics of information technology is not part of the material, and neither is first aid knowledge.

The Hungarian system lacks the most of compared topics taught for the drivers, the topics not covered are: transport documents, terminal operations, logistics & quality & environmental systems, customer service, collective agreements, road traffic act, basics of information technology, vehicle legislation, permits, forklift operations and forklift driving, transportation of food cargo, also hygiene pass and occupational safety card is not included in the education. Company can make plans about how to overcome the differences between drivers' education, but in order to changes to happen one more thing is needed: motivation from employees' side. Un-motivated workforce is not willing to learn new and more things, not willing to listen to suggestions and improvement ideas and will not commit to company goals and interest, at least not long-term.

One reason for different work moral and quality could be found in the survey results of the drivers' questionnaire. Drivers were asked to mark how important different factors are from their own motivations' point of view. The results showed significant differences between Hungarian and Finnish/Estonian drivers. For Finnish/Estonian drivers the main motivation forces are if they have good colleagues and the relationship with them is good, and also if during the work they can carry out interesting tasks. For the sake of the former one (since it also depends on employees' personality) the company cannot do too much, however with the help of the team leader a better team-coherence could be built up. The latter one also has some drawbacks and would put a lot more extra work on the traffic planners. Most of the unloading places and loading places are the same week after week. Monitoring and ensuring that drivers go to different places day after day is almost an impossible task, because during the planning process that is the least important factor traffic planners have to take into consideration.

For Hungarian drivers the main motivating forces are salary, bonuses and recognition from the superiors. Recognition might be the easier to achieve, and it might not have to have financial expenses for the company. Initiatives to compliment drivers when they have done a good job are easy to implement, by for example sending a message for the driver, or calling them. The question is where the limit should be drawn: at

what point is the job done considered exceptional to be praised and when does it belong to "normal work tasks"? In some cases traffic planners can easily decide whether a particular job has been done with extra efforts and sacrifices, but sometimes it is not so clear. It would also require deeper knowledge of each driver's capability of performing the tasks, knowing in what particular field each driver could improve their own performances and which are the fields, where they reached the limit of their professional skills. In order to be able to determine the drivers' potential traffic planners should be able to have frequent personal communication and interaction with the drivers. On the other hand, some drivers are not so easy to satisfy, and management might face difficulties when willing to find ways to praise good job.

For motivating the drivers (or in fact any employees) a company needs not only good management, but good leaders. Managers (or CEOs) with good leadership skills are supposed to understand what people need in order to make their employees to commit to company goals and make employees to prioritise company's interests before their own. Employees should be given empowerment and their voices, ideas and suggestions heard and seriously taken into consideration for improvements. Motivated workforce will not only commit to the company on the long-term, but will also produce better quality products or services, even without an implemented quality management system. However it is not only the management that should understand what makes employees "tick". It should work also the other way: employees should understand, that the better they work and focus on satisfying customers' needs, expectations and requirements, the better the company's performance and the better the financial outcomes might be, which might be also in favour for their own interests (for example bonuses).

One problem that the company faces on a daily base is multiculturalism. The employees are from three different nationalities: Finnish, Estonian and Hungarian. This causes difficulties between Finnish management and Hungarian drivers (language and communication problems, different cultural background and customs), and between drivers from different nationalities (for the same reasons). This puts extra efforts on all of the parties working for the company in any level, from management to all drivers. Every employee should understand the importance of different backgrounds, how to overcome them. Management has special role in bringing all employees closer to each other and to management itself also. Initiatives should be taken into consideration with the emphasis on that every driver is equal, no matter his nationality, education

background or mother language he speaks. All parties have to understand the importance of equality and make efforts to keep equality in mind. Every company is facing difficulties in the market with external competition; there is no need for inside competition and contradistinctions.

For improving motivation of drivers, management of the company should take into consideration the topics suggested by the drivers that they would like to learn more about. If drivers feel, that their suggestions are important for the company, they are more likely to commit and stay loyal in the long-term, which would also help to decrease the (now) high labour turnover figures. These figures, which show in percentage the number of quitting employees during a certain period of time compared to total number of employees, can suggest if there are troubles in human resources. The high labour turnover percentage also causes unnecessary extra expenses for the company that could be eliminated. Trying to (and motivate) loyal and long-term employees is always cheaper for a company, than from time to time hiring new workers.

It is easy to see that high labour turnover suggests bad reputation for the company. Drivers might spread the word to prospective future employees, and it will be harder and harder to overcome driver shortage. Studies suggest that this problem is not only effecting Kuljetus Eklöf Oy, but many companies in the EU, even overseas in the US. Earlier the job of truck driver brought a lot of advantages with itself: travelling internationally and higher salary. The reputation of the job however drastically changed during the past years: truck drivers are usually considered people with lower education, the work itself connected with poor working conditions and low wages. However initiatives have been put into place to make the truck driving employment more appealing (especially for unemployed people), working conditions improved. In some countries (for example Hungary) to become a truck driver and complete the education to get a professional driving licence requires financial resources that might be problematic for people who have been unemployed for a longer period of time. The Hungarian Government's initiative to support the education for professional driving licence is a recent opening move to help Hungarian people who are seeking new opportunities and also to help transportation companies to overcome driver shortage.

Costs of poor quality cause also extra expenses for the company. This topic however is not researched in more depth, so it is added to further suggestions.

7   Discussion

The thesis writing process was a real challenge for me. Working at the same time for the company definitely had not only its advantages but disadvantages as well. Being part of the office personnel gave me better insight, how things are done, what customers expect, what are the things they are not interested in. I also could see what kind of challenges a transportation company has to face on a daily basis (financial, human resources, unmotivated workers, sometimes mean customers).

Being in daily contact with drivers gave an insight also about their challenges they have to face every day. Before I sent out the questionnaire for them, I could guess most of the answers that will be given. The main results didn't come as a surprise for me. Since the survey was anonym, I thought they would feel more comfortable to share their thoughts, ideas and also their complaints – and they did.

Another advantage was that being actively involved in logistics operations of the company allowed me to be flexible about the scope of the thesis. As time went on, more and more details, factors to be considered and problems to solve evolved, I could easily tailor the topics needed to be covered. Some were left out, or their importance reduced, others on the other hand were enlarged as being bigger issues than they were thought to be. As I was approaching the end of the thesis writing process, I realised that there are subject which I would have liked to explore in more depth (for example drivers' education), but because of timetable problems, I did not have the chance to do so.

One big disadvantage was that working full-time and also writing my thesis at the same time, every day I faced time management problems: either I'm fully concentrating on my everyday tasks at work, or I am concentrating on my thesis. This caused a lot of (maybe unnecessary) stress that had an effect on my motivation as well - unfortunately negatively.

The other disadvantage of the participant observation was that it was really hard to distance myself emotionally from the thesis topic throughout the whole writing process, and objectively viewing both from the company's and the drivers' interest during the whole logistics, transportation work. Since with almost half of the drivers we speak the same mother language, and with some of them I have been in daily contact, I got a better insight about their interests, and got more complaints how the office is

working, or why we are not working as the drivers think we should. Sometimes it felt like standing between two different interests, though everyone in the company should work towards the same goal.

The learning process was challenging, time consuming, sometimes motivating me to be better in what I am doing, sometimes demotivating and only struggling. However in all, I can say, that researching the topics I have written about, I have learnt a lot about transportation and human resources, which hopefully will be helpful for me in the future. The insights gained during research could help me to suggests ideas for the company, on how to overcome the main problems, that were discovered, however knowing more, than I did in the beginning, I can also see that from company's and drivers' point of view, which might be the factors that would stand in the way of implementing some of those ideas.

Working in a multicultural team is never easy, and it definitely was not easy during the thesis. As I have lived in Finland for years now, I can see differences between Finnish and Hungarian attitudes toward problems and new ideas and work moral. Because I know both and lived in both situations, it was hard to manoeuvre between those differences and trying to be fair with all parties involved. That is also a result of participant observation, and not being able to distancing myself emotionally from the arising problems. If I started the thesis just now, probably that would be one thing I would try to do differently.

In all, I can say, that the research was fruitful for me, and hopefully for the company as well.

8 Further research suggestions

As the conclusion has been reached after the customers' survey results that at the moment an actual implemented quality management system is not a necessity for the company, it could be still a future project. As it was stated before, transportation business is at the moment at a very competitive stage, and companies might seek for new opportunities to expand their market share. One way to do it is by having an implemented quality management system, as many have recognised it already. It could be also complemented with the implementation requirements of environmental quality management system.

After researching drivers' education systems for the three different nationalities, results showed, that Hungarians are taught fewer topics in driving schools, than Finnish or Estonian drivers. It would be a nice topic to discover in more depth, with more exact details, what those differences are, and if they are really necessary for drivers' every day working life. Depending on those results, company could make a plan, how to equalise the knowledge for every single driver at the company.

Company should also prepare a plan, how to avoid expenses, costs that are result of poor quality work. Though prevention actions definitely would cost money (like for example training for drivers), but certainly those costs would be lower, than paying for the actual damages and repairs.

Multiculturalism was and will be always part of the everyday life for the company and its employees. Vertamo's thesis already gave an insight about cultural differences, and this work a bit more about how drivers from different nationalities could be motivated. However these results might be only still just the tip of the iceberg, and deeper issues and reasons for differences could be discovered by further analysis. In the future it might greatly help for the management to understand better the mind set of every employee, and company might be able to create a coherent workforce that is able to deliver high quality results according to customer requirements, which will ensure the company's future during the times of fierce market competition.

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10 Appendices

10.1 Appendix A: Main customers of Kuljetus Eklöf Oy

10.2 Appendix B: Questionnaire for the Customers

1. What is your position at the company?

   ………………………………………………….

2. How long have you been working in the field of logistics in general (years and months)?

   ………………………………………………….

3. Does your company have a Quality Management System, for example ISO?

   □ Yes   □ No

4. Does any of your customers (suppliers/transportation companies) have Quality Management System?

   □ Yes, …..% of them   □ No

5. In your opinion, is the performance of a company with a Quality Management System better than others?

   □ Yes   □ No   □ No experience to answer the question

6. What are the most important things you expect from your suppliers (mainly from the transportation companies)?

   1: very important/totally agree

   2: somewhat important/somewhat agree

   3: not really important/somewhat disagree

   4. not important at all/totally disagree

	1	2	3	4
Quality Management System				
Exact and appropriate information, on time				
Experienced and trained workforce				
Proper technical background (software, equipment, etc.)				
Long-term partnership				
Competitive price				
Punctuality (FIX unloadings and load-ings)				
Other:				
Other:				

7.   Please answer in your own words:

a)   What are the positive sides of working with Kuljetus Eklöf Oy?

b)   Any issues you would like Kuljetus Eklöf Oy to improve/develop in the future?

10.3 Appendix C: Questionnaire for the Drivers

1. How long have you been working as a professional truck driver?

   ☐ 0-1 year   ☐ 1-3 years   ☐ 3-6 years   ☐ over 6 years

2. How long have you been working for Transport Eklöf Kft / Kuljetus Eklöf Oy as a professional truck driver?

   ☐ 0-1 year   ☐ 1-3 yrs   ☐ 3-6 yrs   ☐ over 6 yrs

   ☐ I started my carrier here

3. Do you like the job, you are doing at the moment?

   ☐ yes

   ☐ no, because …………………………….

4. What foreign languages do you use in working life? What is your opinion about your language skills?

   ☐ English   Writing: ☐ good   ☐ average   ☐ poor

   Speaking: ☐ good   ☐ average   ☐ poor

   ☐ German   Writing: ☐ good   ☐ average   ☐ poor

   Speaking: ☐ good   ☐ average   ☐ poor

   ☐ Finnish   Writing: ☐ good   ☐ average   ☐ poor

   Speaking: ☐ good   ☐ average   ☐ poor

5. Which are the areas you think you could still develop?

   ☐ technical knowledge about trucks and trailers

☐ language skills

☐ computer based knowledge, e.g. using Sunit

☐ other: …………………………

☐ other: …………………………

☐ other: …………………………

6.   What makes you motivated to do a good job? Please mark in every row:

    1: very important

    2: important

    3: not important at all

	1	2	3
Salary and bonuses			
Recognition from my bosses			
My colleagues and the relationship with them			
Interesting tasks			
I just want to do my best, because if the company's good business depends also on my performance			
Other:			
Other:			

7.   What do you think is meant by „quality job"? Please mark in every row:

    1: very important

2: important

3: not important at all

	1	2	3
If I do my job very fast			
If I do my job without mistakes			
If I do mistakes, I hide them			
I have to inform the traffic operator about every problem immediately			
If the traffic operator does his/her best			
If the forklift-driver does his/her best, and I don't need to help			
If the customers of the company are satisfied			
Other:			

8. Please write down with your own words,
    a) Why do you like to work for Kuljetus Eklöf Oy/Transport Eklöf Kft and what do you like in your job?

    b) What the issues that disturb you in your everyday job?

10.4 Appendix D: Drivers' survey results

10.5 Appendix E: Drivers' handbook