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UTILIZING KEY PERFORMANCE
INDICATORS IN THE TRANSPORT UNIT OF
AN INTERNATIONAL COMPANY

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Suorituskykymittarit ja niiden vaikutusten tunnistaminen yrityksen tavoitteiden saavuttamiselle ovat tärkeässä roolissa yrityksen päätavoitteiden saavuttamisessa. Suorituskykymittarit ovat mittareita, jotka auttavat organisaatiota ymmärtämään kuinka hyvin strategiset tavoitteet saavutetaan. Tämä opinnäytetyö tutkii suorituskykymittareiden tärkeyttä yritykselle ja kuinka niitä voidaan hyödyntää kansainvälisen teknologiateollisuusyrityksen kuljetusyksikössä. Opinnäytetyö keskittyy myös suorituskykymittareihin, joita kyseisen kuljetusyksikön tulisi hyödyntää.

Teoreettinen viitekehys koostuu kolmesta pääteemasta, jotka ovat suorituskykymittarit yleisesti, logistiikan tyypilliset suorituskykymittarit sekä kohdeyritys ja sen suorituskykymittarit. Empiirinen tutkimus suoritettiin puolistruktuurisena teema-haastatteluna, jossa kohdeyrityksen Suomen kuljetusyksikön tiimiläistä ja tiimipäällikköä sekä kohdeyrityksen Puolan analytiikkatiimin tiimivastaavaa haastateltiin. Tämän lisäksi asiakkaille lähetettiin kyselylomake, muodostaen tutkimusmenetelmäksi triangulaation.

Tutkimustulokset osoittivat, että suorituskykymittarit ovat suuressa roolissa yrityksen suorituskyvyn arvioinnissa ja asetettujen strategisten tavoitteiden saavuttamisessa. Tulokset osoittivat myös, että Suomen kuljetusyksikön tulisi käyttää suorituskykymittareita, jotka tarjoavat kokonaisvaltaista tietoa kuljetuksista, mukaan lukien kokonaiskustannukset, lisäkustannukset ja säästöt.

Avainsanat	suorituskykymittarit, logistiikka, kuljetusyksikkö, mittarit, strategiset tavoitteet, suorituskyvyn mittaaminen, kansainvälinen yritys
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ABSTRACT

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Key Performance Indicators and identifying their impact on reaching goals play an important role in achieving the main objectives of a business. KPIs are indicators that help the organization to comprehend how well it performs with its objectives and strategic goals. This thesis explores the vitality of KPIs for a company and how they can be utilized in the transport unit of an international company. Moreover, the thesis focuses on what KPIs the Finnish transport unit of an international technology company should use.

The theoretical framework consists of three main themes, that are Key Performance Indicators, usual Key Performance Indicators in logistics, and the target company's Finnish transport unit and its Key Performance Indicators. The empirical study was conducted as a semi-structured interview, where a team member and the manager of the Finnish transport unit, and the leader of the target company's Polish analytics team were interviewed. A survey was also sent to the target company's main customers. Therefore, the research method for this thesis is triangulation.

The research results conclude that the role of KPIs is essential for a company. KPIs play a huge role when it comes to measuring performance and achieving the company's strategic goals. The results also indicated that the Finnish transport unit should use KPIs that provide integrated information related to transports, including the total costs, extra costs, and savings.

Keywords	key performance indicators, logistics, transport unit, indicators, strategic goals, measuring performance, international company
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CONTENT

TIIVISTELMÄ

ABSTRACT

1	INTRODUCTION.....	9
1.1	Background and Aim of the Thesis.....	9
1.2	Research Objectives and Questions.....	10
1.3	Research Methods and Materials.....	11
1.4	Structure of the Research.....	11
2	KEY PERFORMANCE INDICATORS.....	13
2.1	Key Performance Indicators more closely.....	14
2.2	Illustrating the KPIs.....	15
2.2.1	KPIs compared to visiting the doctor.....	16
2.3	Misunderstanding about the KPIs.....	17
2.3.1	Key result indicators.....	18
2.3.2	Result indicators.....	19
2.3.3	Performance indicators.....	20
2.4	KPI characteristics.....	21
2.5	Building the KPIs.....	22
2.5.1	Balanced Scorecard.....	23
2.5.2	The four viewpoints of balanced scorecard approach.....	23
2.5.3	Winning KPIs.....	24
2.5.4	The foundation stones of winning KPIs.....	25
2.5.5	The six-stage methodology.....	27
3	USUAL KEY PERFORMANCE INDICATORS IN LOGISTICS.....	30
4	THE TARGET COMPANY'S FINNISH TRANSPORT UNIT & ITS KEY PERFORMANCE INDICATORS.....	35
4.1	Current state of indicators.....	36
4.1.1	Taking a deeper look into the current indicators.....	37

4.1.2	Improvements and possibilities	38
4.2	KPI goals of the target company's Finnish transport unit.....	38
5	EMPIRICAL STUDY	40
5.1	Theoretical framework.....	40
5.1.1	Theory, empirical information and praxis	40
5.1.2	The use of research literature in this research	41
5.2	Research methods.....	41
5.2.1	Qualitative research	42
5.2.2	Quantitative research	42
5.3	Research plan	43
5.3.1	Interview.....	44
5.3.2	Survey/questionnaire	45
5.3.3	Timetable.....	46
6	RESEARCH RESULTS.....	48
6.1	Interview with a team member and the manager of the Finnish transport unit	48
6.1.1	Theme 1. Background questions	48
6.1.2	Theme 2. Key Performance Indicators	49
6.1.3	Theme 3. The target company's transport unit and its key performance indicators	51
6.2	Interview with a team member of the company's Polish analytics team	53
6.2.1	Theme 1. Background questions	53
6.2.2	Theme 2. Key Performance Indicators in the Polish analytics team	54
6.2.3	Theme 3. Problems, possibilities, and improvements	57
6.2.4	Theme 4. Possible cooperation with the Finnish transport unit and Polish analytics team regarding KPIs?	59
6.2.5	Theme 5. Additional questions.....	61

6.3	Key Performance Indicators survey for the customers.....	61
6.3.1	Results of the survey	62
7	DISCUSSION AND CONCLUSIONS.....	67
7.1.1	What is the role of Key Performance Indicators in achieving the strategic business goals of a company?	67
7.1.2	Which Key Performance Indicators should be used in the Finnish transport unit of the target company?	68
7.1.3	Key Performance Indicators currently and in the future	70
7.1.4	Pickup notifications	71
7.2	Reliability and validity of the research.....	72
7.3	Research benefits and follow-up research suggestions.....	73
	REFERENCES.....	75

LIST OF FIGURES

Figure 1. Strategic & team direction. (Parmenter 2015, xvi.)	13
Figure 2. Strategic direction. (Parmenter 2015, xvi.)	13
Figure 3. Critical Success Factors & Success Factors. (Parmenter, 2015)	16
Figure 4. KPI Characteristics. (Parmenter, 2015.)	21
Figure 5. Framework of a balanced scorecard, based on Norton & Kaplan, 2007.	24
Figure 6. “The Seven Foundation Stones in the Winning KPI Methodology” (Parmenter 2015, 108.) Virhe. Kirjanmerkkiä ei ole määritetty.	
Figure 7. The KPI Team’s Reporting Lines (Parmenter 2015, 135.).....	29
Figure 8. On-Time Shipping example. (Netsuite, 2021.)	31
Figure 9. On-Time Final Delivery (OTD) example. (Netsuite, 2021.).....	31
Figure 10. On-Time Pickup example. (Netsuite, 2021.)	32
Figure 11. Order Accuracy example. (Netsuite, 2021.)	32
Figure 12. Number of Shipments example. (Netsuite, 2021.)	33
Figure 13. Average transport cost example. (Netsuite, 2021.).....	33
Figure 14. Role/roles of the respondents.	62
Figure 15. The importance of KPIs. (1 => not important. 5=> very important)	63
Figure 16. Services of other countries’ transport units inside the company.....	63
Figure 17. Improvement in the Finnish transport unit’s KPIs from 2020 to 2021	64
Figure 18. KPIs that the customers would like to receive data of. (0 => not relevant. 3=> very relevant).	64
Figure 19. The most important KPIs. (0 => not relevant. 3 => very relevant).....	65
Figure 20. Development of Key Performance Indicators in the Finnish transport unit.....	70

LIST OF ABBREVIATIONS

KPI Key Performance Indicator

KRI Key Result Indicator

RI Result Indicator

PI Performance Indicator

CSF Critical Success Factory

BSC Balanced Scorecard

1 INTRODUCTION

In a company that works in the international markets, strategy and achieving goals are crucial. It is important for a company to upkeep its continuous improvement to produce high-class services and/or products and to build competitive advantage. Defining the key performance indicators and identifying their impact on reaching goals, plays an important role in achieving the main objectives of a company. The objective of this study is to determine how key performance indicators work and how they can be utilized in achieving the strategic goals of an international technology industry company, but also what key performance indicators they should use. The target company's Finnish transport unit has several key performance indicators, but the goal is to understand what KPIs are important when it comes to stakeholders. The principal wanted the name of the company to remain unveiled in this thesis.

The target company is an international company that employs around 40 000 people in 90 countries. It is a pioneering technology leader that provides machinery, software and different services and products in sustainable energy with minimal environmental impact, and the company aims to be carbon-neutral in its own operations by 2030.

1.1 Background and Aim of the Thesis

The best sales organizations can be described as top-notch cars. Every sector is optimized so well that as much money as possible tinkles in the cashbox. However, the number of sales is not the only thing that measures the company's success. It is important that a company also takes other relevant factors into account. One important factor could be for example customer lifetime. (Turunen 2020). Maintaining a customer relationship, or customer loyalty, is essential for a company. In the last two decades, usage of key performance indicators has become more com-

mon. The objective of key performance indicators is to choose a specific measurable value where the company will put its focus on and that is a part in the company's objectives. (Isaksson, 2021).

For the empirical research a team member and the manager of the target company's Finnish transport unit, and the team member of the target company's Polish analytics team were interviewed. A survey was also sent for three main customers of the Finnish transport unit. In addition, a customer satisfaction survey done by the target company in 2020 and 2021 was used to evaluate the target company's KPIs from the customers' point of view during the mentioned period.

1.2 Research Objectives and Questions

The aim of this thesis is to study how key performance indicators work, how they can benefit a company and how a company can choose the relevant indicators. The target company's Finnish transport unit has several key performance indicators, but the goal is to understand what KPIs are most important when it comes to relevant stakeholders. With the help of KPIs, the target company wanted primarily to create a strong fundament for viewing different values that help the company reviewing how well or poorly different goals have been achieved in different sectors.

Getting the KPIs to the point where they are convincing usually takes at least 26 months (Malmi, Peltola & Toivanen 2006, 91). Because of the above reason, there was a need for creating a comprehensive, valid, and reliable "information kit" to help with the commissioning of key performance indicators in this specific company, but also to gather reliable information from the various stakeholders on how KPIs can be utilized to achieve strategic goals and which KPIs the Finnish transport unit could and should use.

In this study the research questions were:

1. What is the role of Key Performance Indicators in achieving the strategic business goals of a company?
2. Which Key Performance Indicators should be used in the Finnish transport unit of the target company?

1.3 Research Methods and Materials

The task of a research method is generally to create a meaningful context for the research material. (KvantiMOTV, 2009). The research material is material that is analyzed, for example material that is received from an interview. Research material means all research-based material, but also self-produced material. (Koppa, 2020).

In this research, triangulation is used as the research method, that is a combination of both qualitative and quantitative methods. Qualitative research can be compared to a microscope or telescope, as the object can be examined more precisely, with more detail. (Puusa ja Juuti 2020). Quantitative research for its part can be compared to an exam arrangement that is familiar from natural science. In the classic exam everything starts from a hypothesis what according to the dependent variable is affected by the independent variable. (Alasuutari 2011; Hirsjärvi et al. 2014.)

1.4 Structure of the Research

After the background and the topic area of the research created by the introduction in the first chapter, the structure of the thesis progresses to the theoretical study (theoretical framework). The objective of the theoretical framework is to open up the research questions that are relevant to the research. The second chapter deepens in key performance indicators and handles what KPIs are and how they can be utilized in a company. The third chapter delves into the types of key performance indicators that are commonly used in logistics and how they

could possibly be utilized and used in the function of the target company's Finnish transport unit. The fourth chapter describes operations of the target company and its Finnish transport unit, and the unit's KPIs.

The fifth-, sixth- and seventh chapters cover research methodology, how the research was planned and done and lastly the results, discussion, and conclusions are presented.

2 KEY PERFORMANCE INDICATORS

Key performance indicators (KPIs) are used in businesses by managers to understand how effectively the set goals are achieved. Companies use scorecards, dashboards, or performance frameworks to group KPIs into reports or displays that provide information of how the business performs. For a company, it is utterly important to understand if the business is on the right track or not. To do that, the company first needs to define its strategy and afterwards link its KPIs to the strategy. The development of KPIs needs to start with the company's strategy and the goals that the business aims to achieve. One very important point for KPIs is that they need to give the company answers and information to what needs to be known. (Bernard, 2012; Zellefrow, 2021.)

Even though organizations have a strategy, the teams inside might not be working in the same directions as the company, as shown in Figure 1. Organizations should aim towards what is shown in Figure 2, where all teams work towards the same direction as the company.

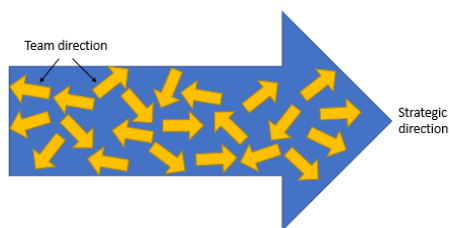


Figure 1. Strategic & team direction. (Parmenter 2015, xvi.)

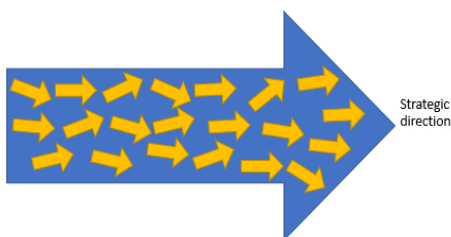


Figure 2. Strategic direction. (Parmenter 2015, xvi.)

Instead of Figure 1, an organization should develop critical success factors that measure the organizations performance, what will help the staff of the organization to align their daily activities to have the same strategic direction as the organization is aiming at as in Figure 2. (Parmenter 2015, xv.) People will not necessarily do what the management expects, but instead they will do what the management measures. (Parmenter 2015, xvi.)

2.1 Key Performance Indicators more closely

KPIs are indicators that help the organization to comprehend how well it performs when it comes to its objectives and strategic goals. In the largest sense, a KPI gives an organization information about its performance which helps to understand whether the stated objectives are being reached or not, and if the organization is on track toward its stated strategic goals. (Bernard, 2012.)

KPIs are indicators that are the most critical when it comes to the future of the organization, but also its current state. KPIs focus on the performance of the organization. One might think that KPIs might sometimes be brand new indicators to an organization, but in fact they have been there, gathering dust or they haven't been recognized. (Parmenter, 2015.)

KPIs can be used to measure for example the volumes, kilometers driven and the collection/delivery success. KPIs that measure quality can be used to measure for example the needs and expectations of the customer and how well the company can match the needs. KPIs can also be economical what means that they measure the effectiveness of the company, and/or indicators that measure how good the company is able to react to the demand of the markets, what would mean that the indicators lean towards the flexibility of the company. (Finne & Kokkonen 2005.)

2.2 Illustrating the KPIs

There is a story about a Senior British Airways (BA) Official who made not only the planes fly, but also the business by concentrating on one important KPI. Senior British Airways Official got told by consultants that were employed, to investigate the key measures that shall be concentrated on, that they needed to focus on one critical success factor, so called CSFs: the arrival (time) and the departure of the airplanes. Finding out the CSFs is a critical step in a “KPI exercise”. The senior BA official wasn’t quite impressed about the conclusions as in the industry, everyone obviously knows the importance of well-timed planes. (Parmenter, 2015.)

However, that was where the KPIs laid, and the consultants proposed that the organization should focus on a late plane KPI. Whenever a BA plane was delayed past its certain time, there would be a notification. The notification of a late plane was a phone call from Peter, who called the specific BA team of a late arrival of a plane. The notification was used to give an advantage against the time that was needed to plan actions for keeping up with the schedule. Actions like informing the planes that shall be prioritized to the refueling team, doubling up the cleaning crew, not allowing passengers for the business class to check in late and for example updating the external caterers about the late plane to help them manage re-equipping the plane. (Parmenter, 2015.)

It was not long after this when the planes of BA received a reputation of staying on time with the planes, as all BA managers at the relevant airport received a personal call from Peter if a plane was delayed over a certain limit. This KPI worked for the business as it was linked to a CFS that was the most critical one for the airline. (Parmenter, 2015.)

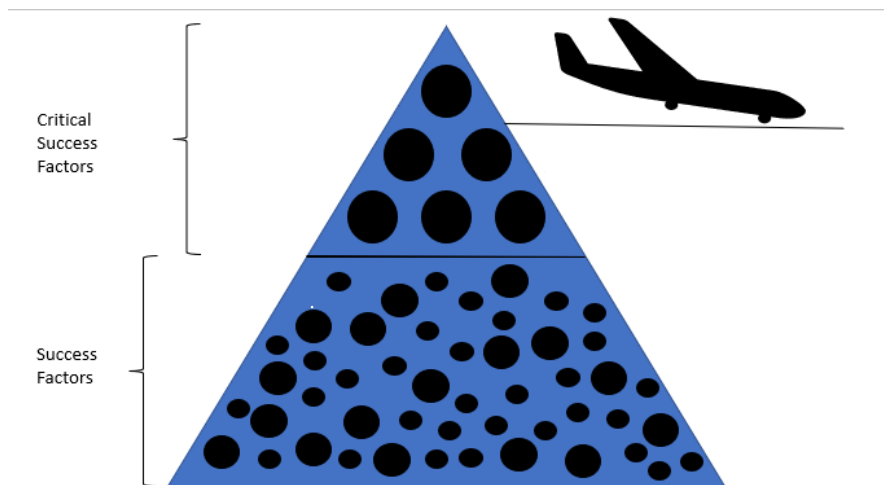


Figure 3. Critical Success Factors & Success Factors. (Parmenter, 2015)

Another great example of the importance of KPIs is a distribution company where an important CSF for the company was getting trucks to leave with maximum capacity instead of it being able to carry over 40 tons and only have smaller loads of 20 tons for example. The reason for not loading full was that the company was focusing on delivering each item on time to each customer. (Parmenter, 2015)

Each day in the morning, the CEO of the company received information of the trucks that had left with insufficient load the day before. The CEO would then talk with all their dispatch managers to check if any action had been taken towards asking the customer if they would agree on receiving the goods on another date, what would have helped in utilizing the maximum capacity of the trucks. In most cases, it would have been possible for the customer to receive the goods earlier or later. Therefore, the gained profitability was remarkable. (Parmenter, 2015)

2.2.1 KPIs compared to visiting the doctor

Let's say that you are not feeling well and therefore you decide to visit a doctor. The doctor might ask what is wrong, and at the same time he is searching for evidence that backs up your story. He may, for example, measure your heart rate, cholesterol levels or your blood pressure. These can be related to KPIs, as the same

thing is done in organizations and without those indicators, we are relying on opinions of key personnel and relying on our own assumptions without any greater evidence. Without KPIs we are flying blind. (Bernard, 2012.)

2.3 Misunderstanding about the KPIs

Making KPIs to serve your organization is a challenging project as not all the KPIs can help you to achieve better performance. This is since all the standard measures will not work for every organization. KPIs are too often understood to be financial or numerical measures that can be easily counted. (Bernard, 2015.) It is crucial to choose the correct development team for designing the KPIs. The worst choice that could be made is to delegate the project of setting the KPIs to consultants who pursue to provide key solutions without knowing the business. To avoid a mistake like this, KPIs should be investigated and provided by a team in-house, that knows how to set KPIs but also actually knows the business. (Parmenter, 2015.)

“I believe it is a myth to consider all performance measures to be KPIs.” (Parmenter, 2015. Page 3.) After researching the KPIs for the past 25 years, Parmenter has concluded that there are four types of performance measures that are categorized in two groups. The first group is result indicators and the second one is performance indicators. Result indicators are not only one team’s input, but in fact a totality of more than only one team’s input. Performance indicators for their part can be tied to a cluster of teams or a team that are working very closely together to achieve a common objective. In performance indicators the responsibility of good or bad performance is therefor on a single team’s shoulders. (Parmenter, 2015.)

Some measuring methods are more important, so an extra word “key” is used. Parmenter, 2019. In this way two measures have evolved for each type of measure:

1. Key result indicators (KRIs) that give an overall summary on the board of the performance of the organization
2. Result indicators (RIs) report the management of how the teams are producing results by combining.
3. Performance indicators (PIs) report the management what their teams are delivering.
4. Key performance indicators (KPIs) report the management how the organization is performing overall with its factors for critical success. By observing these factors, the management can step up the businesses performance dramatically if needed.

Organizations usually use these four types as an inappropriate mix in measuring performance. (Parmenter, 2019)

2.3.1 Key result indicators

Key result indicators (KRIs) are very often mistaken for key performance indicators (KPIs). Apart from KPIs that can be measured even hourly, KRIs are always a past measure. They should typically be reviewed monthly or quarterly in the board meetings, what will help in understanding how the progression with the company's strategy is going. (Parmenter, 2019.)

KRIs do not instantly tell what is needed to be done to improve the results, as they cannot change direction due to being reported "too late". Parmenter states below examples of KRIs for the private sector, nonprofit and government agencies. (Parmenter, 2019)

Examples of key result indicators for the private sector include:

1. "Net profit before tax".
2. "Net profit on key product lines".
3. "Customer satisfaction".

4. "Return on capital employed".
5. "Employee satisfaction". (Parmenter, 2019)

Examples of key result indicators for nonprofit and government agencies include:

1. "Availability of the major services that are offered, e.g., average waiting time for service".
2. "On-time implementation of infrastructure projects".
3. "Membership numbers (for professional organizations)". (Parmenter, 2019)

2.3.2 Result indicators

Result indicators (RIs) are a summary of the activity of more teams than just one. RIs are a great overview of the cooperation of teams. Comparing RIs to KRIs, KRIs are a more important and an overall summary of the activities that have occurred. (Parmenter, 2019.)

Compared to KPIs, that focus on the most critical aspects of the organizational performance for the current success, RIs focus on a wider time horizon. (Parmenter 2019.) KPIs of course can also be used to measure monthly, but usually they are used to improve the business right away when a problem occurs.

Parmenter (2019 chapter 1) states below examples of RIs for the private sector, nonprofit and government agencies.

Examples of result indicators for the private sector include:

1. "Sales made yesterday".
2. "Number of initiatives implemented from the recent customer satisfaction survey".
3. "Number of planned initiatives to be implemented next month to improve the timeliness of _____".

4. “Number of initiatives implemented from the staff survey”
5. “Number of employees' suggestions implemented in the past 30 days”
6. “Number of staff trained to use specified systems (key systems only)” (Parmenter, 2019)

Examples of result indicators for nonprofit and government agencies include:

1. “Weekly hospital bed utilization”.
2. “Percent coverage of [Enterprise Name]’s supported services”.
3. “Number of people on treatment/tested for [Disease Name 1], [Disease name 2], and for [Disease Name 3]”.
4. “Percentage of investments covering low-income, high disease-burdened countries”. (Parmenter, 2019)

2.3.3 Performance indicators

Performance indicators (PIs) are nonfinancial indicators that can be tracked back to a team, and if they weren't nonfinancial, they would be RIs. Performance indicators are important, they help the teams to work towards the strategy of the organization.

Parmenter (2019, chapter 1) states below examples of PIs for the private sector, nonprofit and government agencies.

Examples of performance indicators for the private sector include:

1. “Abandonment rate at call center—callers giving up waiting”.
2. “Late deliveries to other customers (excluding key customers)”.
3. “Planned abandonments of reports, meetings, processes that are no longer functioning”.

4. “Number of training hours booked for next month, months two and three, and months four to six—in both external and internal courses”. (Parmenter, 2019.)

Examples of performance indicators for the nonprofit and government agencies:

1. “Number of media coverage events planned for next month, months two to three, and months four to six”.
2. “Date of next customer focus group”.
3. “Date of next research project into customer needs and ideas”. (Parmenter, 2019.)

2.4 KPI characteristics

Defining the characteristics of a KPI is very important for a company before it implements a KPI project. There are still many organizations that cannot see a difference between the KRIs and the KPIs. This might result to the KPIs conducting in negative effects. (Parmenter, 2015.)

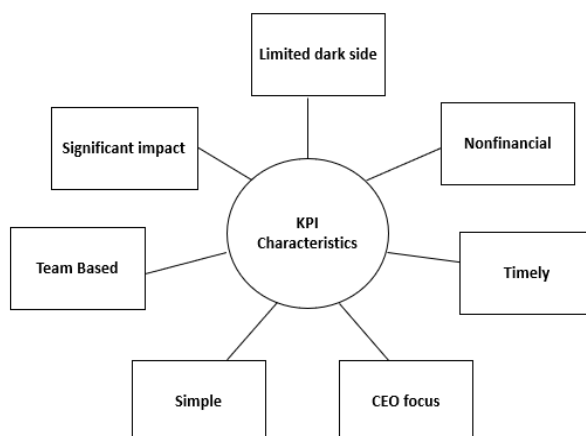


Figure 4. KPI Characteristics. (Parmenter, 2015.)

Figure 4 shows the seven characteristics of a KPI that a KPI needs to fulfill to be a KPI. KPIs are always nonfinancial, and they can be monitored 24/, daily, weekly,

yearly etc. as they are not dependent on a specific monitoring timeline. (Parmenter, 2015, 11.) All KPIs make a great difference and need constant attention. KPIs should tell what actions need to be taken. The airline example earlier in chapter 2.2 was a great example of a KPI as the late plane KPI communicated to everyone that recovering the lost time shall be focused on. Baggage handlers, flight attendants, front desk staff and cleaners would all do magic to save minutes here and there while improving or maintaining standards of the service. (Parmenter 2015, 12.)

KPIs are always deep enough so that they can be tied to teams in the organization as the CEO can always call an employee and ask: “Why?”. KPIs will also affect the critical success factors and many perspectives of the balanced scorecard (more information of balanced scorecard can be found in chapters 2.5.1 and 2.5.2). The organization will score goals in many directions when the staff, management, and CEO focus on the KPI. Before a performance measure (a process of analyzing, reporting, and collecting information of the performance of an organization, individual, group, component, or system) becomes a KPI it needs to be ensured by testing, that the performance measure creates the wanted behavioral outcome (for example helping the teams to line their behavior in a unified way so it benefits the organization). (Parmenter 2015, 12-13.)

2.5 Building the KPIs

Many organizations often start developing a KPI system by trying to select the KPIs immediately without enough preparation and they have thought that the KPIs made only a little or no difference at all to the performance. In many cases the reason for that is a fundamental misunderstanding regarding the issues. This could be compared to painting the outside of a house, the preparation includes only 50 percent of a good job. It is crucial to establish a sound environment where the KPIs

can perform. The building phase of the KPIs can begin once the organization appreciates the objective and the process involved around KPIs. (Parmenter 2015, 101; Bernie 2016.)

2.5.1 Balanced Scorecard

The Balanced Scorecard (BSC) is a strategic performance management framework that is used widely. It allows the organization to manage, measure and identify its strategic objectives. The BSC provides a simple, logical, and brilliant solution to businesses that need relevant information about the present, but also past to manage and predict its future successfully. (Bernard, 2015.)

The BSC was born in the beginning of 1990s by David Norton and Robert Kaplan. They had realized that the current indicators did not help them with achieving long term goals. Things that are more difficult to measure and more relevant in the long run, such as customer or staff satisfaction and the development of internal business processes were receiving too little attention. (Vuorinen 2013, 52.)

2.5.2 The four viewpoints of balanced scorecard approach

The tool requires that the strategy of the company is divided to four viewpoints, that are the customer, processes, learning and finance. Altogether by these the strategy needs to be viewed through the (1) strategic goals, the (2) critical success factors that are needed to achieve the strategic goals, (3) key performance indicators that measure the critical success factors and the (4) action plans that help achieving the goals of the indicators. The financial numbers of the company should be in order in the end, what is clear and usually also the main goal. Achieving that is usually not that easy, though, without a satisfied customer, what for its part is hard to accomplish without a learning and capable staff that at the same time enjoy working. At the same time also, the strategic goals need to be fulfilled, but to achieve the strategic goals, it is important to succeed with the critical success factors and those won't be achieved without a concrete and reasonable operational

action plan. (Vuorinen 2013, 52-53; Kaplan, Norton & Lahnaoja 2007.) Figure 5 shows the framework of a balanced scorecard/indicator.

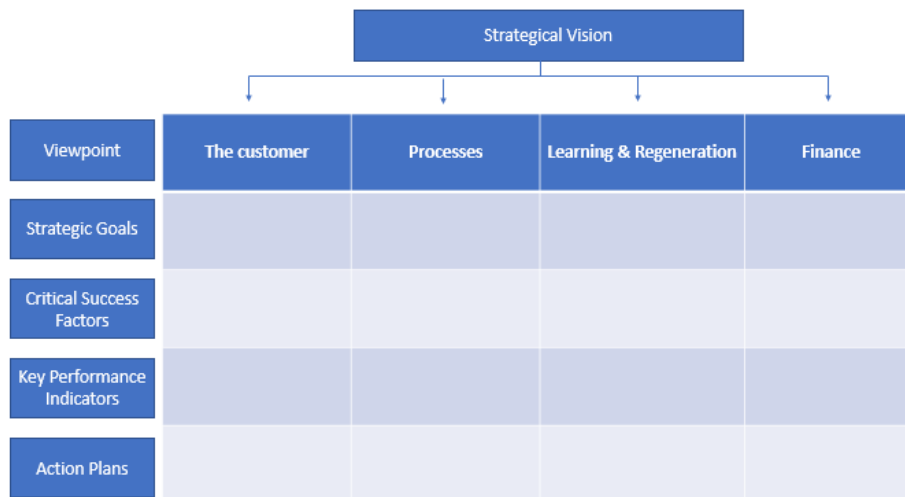


Figure 5. Framework of a balanced scorecard, based on Norton & Kaplan, 2007.

2.5.3 Winning KPIs

David Parmenter came up with a winning KPIs approach that was based on the approach of the balanced scorecard, but the difference is that the execution of the KPIs is more specifically derived to the measure the performance of the organization. (Parmenter 2015, 300.) All measures are not KPIs, but all KPIs are non-financial as explained more precisely earlier in chapter 2.4. It's crucial to determine the organization's CSFs before launching the execution process of the organization's KPIs as the winning KPIs are always defined based on the CSFs on daily routine tasks of a business. The CSFs can be found by mapping out the relationships with the CSFs in the organization and then choosing the most important one/ones that are related to other success factors of a higher number. (Parmenter 2015, 300.) In winning KPIs approach, two new perspectives were introduced: "employee satisfaction" and "environment management and community". Also, the "Innovation and learning" was modified to stand as "Learning and growth" instead. The CSFs and KPIs must affect more than just one perspective in the balanced scorecard

when using the winning KPIs approach. (Parmenter 2015, 301). Figure 6 shows how foundation stones and stages are connected to execute and develop the organization's KPIs.

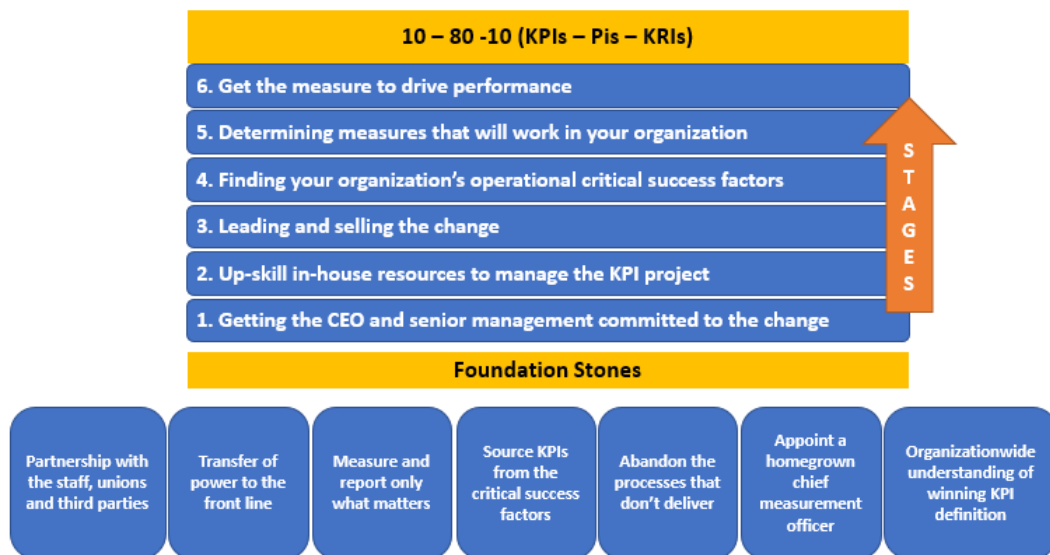


Figure 6. “The Seven Foundation Stones in the Winning KPI Methodology” (Parmenter 2015, 108.)

2.5.4 The foundation stones of winning KPIs

In a winning KPIs approach the foundation stones are the base that must be set up by the development teams of the KPIs before the KPIs are introduced in a company. This allows the exploring and determination of the most relevant KPIs for an organization and also enables the minimization of the dark side of KPIs. The rule 10/80/10 (figure 6.) should be followed by the organization, what briefly means that up to ten KRIs should be appropriate to demonstrate the status of the organization to the board, eighty PIs are a valid number of indicators for an organization for the use among separate teams. And lastly, ten KPIs should be appropriate to drive the organizational performance, but the number can be increased up to twenty KPIs. (Parmenter 2007, 98.)

Establishing a direct relationship with the stakeholders that are relevant, is the first foundation stone to be laid down by the KPI development team. This will lead to the development of organizationally healthy and successful KPIs. The KPIs will bring a critical change to the organization, but it requires that the need of the change is mutually understood and accepted. (Parmenter 2015, 110.)

One of the main reasons of developing KPIs is to improve the performance of people, and KPIs shall not be developed in the “vacuum”. The power of decision making should be on the operational level staff, as it increases their sense of responsibility and confidence. One crucial factor for a successful performance improvement is the authorization of relevant operational staff. The operators should be authorized for corrected actions, if there are any negative effects on the KPIs. The teams can select and develop their own performance measures for more precise operational decisions. The staff need to be prepared and trained to the authorization of making decisions based on the KPIs and CSFs. The staff should be familiar with lean and agile methodologies so they can adjust their performance flexibly to separate situations with least amount of effort for the change. (Parmenter 2015, 110.)

Only measures that will enhance the performance, should be developed by the organization, rather than making measures that will consume resources and overwhelm the efficiency of the organization’s employees and managers. Eliminating “waste” is necessary, for example measures that deliver nothing to the organization should be forsaken. (Parmenter 2015, 111-112; Bernie 2016.)

The KPIs should be developed by the critical success factors that bring the most value for the organization and its business. The performance measures and CSFs are the measures and factors that link the organizations daily activities to its strategies. The CSFs have an 24/7 impact on the business and therefore measuring how the staff align their daily activities to the CSFs in the organization is important. The

KPIs should not be based on the stakeholders' gut feeling, but instead on the CSFs. (Parmenter 2015, 113-114.)

Rather than being a failure, abandonment is an accurate decision that shall be made by the management with the activities that do not deliver or will never work out. The resources should be allocated to another activity that creates value to the organization, the earlier this is done, the lower costs will land to the organization. (Parmenter 2015, 114-115.)

Another foundation described by Parmenter (2015, 116) is the cruciality of having an in house grown team to work with the developing of KPIs as they are more aware of the situation in the organization and are more experienced than anyone new who would be taking responsibility of developing the KPIs without knowing the business itself. Having a new team to work with the developing and execution instead of someone who has worked in the organization and knows its business might lead to a huge gap. (Parmenter 2015, 117.)

The KPIs won't yield results as intended if each KPI do not have a clear definition. Therefor it is important that each KPI is defined organization wide and the staff should be able to easily understand what a KPI could be and what a KPI could not be. The senior management and the CEO are in a crucial role when it comes to communicating the right objective, definition, and results of the created KPIs. (Parmenter 2015, 118.)

2.5.5 The six-stage methodology

Parmenter highlights six stages for a successful introduction of KPIs (Parmenter 2015, 105-106):

1. Getting the senior management and CEO to trust and commit to the incoming change. The senior management team needs to be committed to driving through and developing the KPIs in the organization and any balanced scorecard including them. The organization must also remember

that timing is everything, the project needs to be executed in a suitable window, where time for the process can be found by the senior management team.

2. The up skill in-house will be a valuable resource in managing the KPI project. The success of a project regarding the KPIs rests with the home-grown staff who are trained and have been reassigned on the project with their full time and commitment.
3. Selling and leading the upcoming change. All major project executions are intensely affected by the failure or success in leading and selling the upcoming change.
4. Finding the operational critical success factors in the organization. CSFs are aspects or operational issues that require a lot of attention and need to be done advisable day-in and day-out by the staff inside the organization.
5. Determining the measures that will function in the organization. A lot of performance measures are made from an incorrect process. "Numerous methodologies, including the balanced scorecard, appear to simply say the measures are a by-product of the exercise." (Parmenter 2015, 106.) It is extremely important to precisely choose the correct performance measures and not at the last minute without a clue about what is needed to find a measure that creates the appropriate behavioral response to the organization.
6. Performance driving measures. A reporting framework must be developed within the organization at all levels so that the measures can drive performance.

A well-trained small team has the best chance of success when it comes to developing and executing KPIs. Depending on the size of the organization, a project team of two to four people works the best and all members need to be committed full time on the project and shall be directly linked to the CEO regarding reporting.

Figure 7 shows the reporting linkage of teams that develop KPIs with the CEO, interested stakeholders and the senior management. (Parmenter 2015, 135.)

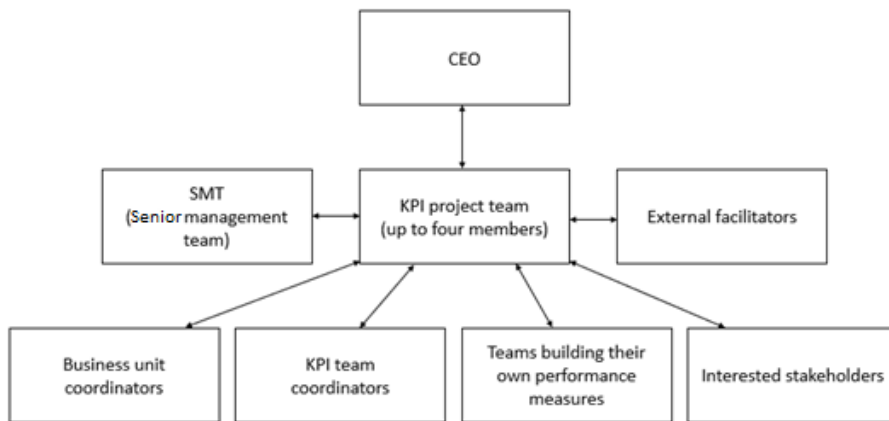


Figure 7. The KPI Team's Reporting Lines (Parmenter 2015, 135.)

3 USUAL KEY PERFORMANCE INDICATORS IN LOGISTICS

Logistics cover everything between purchasing and warehousing to the start of transporting and the end of delivery, and how each stage manages the resources. There are a lot of KPIs that are possible to measure in logistics, for example inventory, supply, management, distribution, and transport management related KPIs, that will help improving the performance of an organization. There are dozens, maybe even hundreds of different aspects that can be measured and the measures are usually divided in separate categories, and they usually work best as indicators.

As there are a lot of separate aspects that can be measured, this section focuses on KPIs that are usual in logistics and could possibly be used as indicators in the target company's Finnish transport unit. A few examples are also given to help understanding the calculation of KPIs.

On-Time Shipping is a KPI that shows how many shipments have departed the warehouse on-time. Shipments are usually on tight timelines, and in some cases a shipment might arrive late, and it might cost businesses more money and impact the customer experience. If the benchmark is higher than the on-time shipping KPI, it points out that there are problems in the warehouse. This specific KPI is one step in understanding the customer's satisfaction. (Netsuite, 2021.)

Figure 8 shows an example of On-Time Shipping. 23 orders were shipped out on-time, from which 18 shipments were in-full and on-time. Two shipments ended up being behind what the carrier promised, and three shipments were partial orders that were shipped on-time. (Netsuite, 2021.)

$$\text{On-Time Shipping} = (\# \text{ orders shipped on-time}) / (\text{Total \# orders shipped}) \times 100$$

$$\text{On-Time Shipping} = 18 / 23 \times 100$$

$$\text{On-Time Shipping} = 78.3\%$$

Figure 8. On-Time Shipping example. (Netsuite, 2021.)

On-Time In-Full is a KPI that measures the number of shipments that were delivered according to the schedule and quantity specified when the shipments were first ordered. This KPI measures how often customers get their order in time and therefor is usually a customer-centric metric. (Netsuite 2021; Twig Network 2018.)

On-Time Final Delivery (OTD) is a KPI that is quite close to **On-Time In-Full**, it measures the number of products that were delivered on-time at latest on the due date, compared to all shipped products and the number of them. This KPI measures how efficient the performance and supply chain are in delivery operations. This KPI is used for the whole order and is not broken down by piece. (Netsuite, 2021.)

Figure 9 shows an example of On-Time Final Delivery. The number of orders that were delivered during this week was 18, from which 15 were delivered in full, two deliveries were partial, and one order is still pending.

$$\text{OTD} = (\text{Units delivered on-time}) / (\text{Total units}) \times 100$$

$$\text{OTD} = 15 / 18 \times 100$$

$$\text{OTD} = 83\%$$

Figure 9. On-Time Final Delivery (OTD) example. (Netsuite, 2021.)

On-Time Pickup is a KPI that measures the number of pickups made by the freight carrier on-time compared to the total shipments of a period. This KPI shows how

well the carrier performs, and it also boosts shipping efficiency and customer satisfaction. It is recommended to rely on documentation transit time instead of the carrier's data. (Netsuite, 2021.)

Figure 10 shows an example of On-Time Pickup. There were 46 shipments this month, from which 43 shipments were picked up.

$$\begin{aligned}\text{On-Time Pickup} &= (\# \text{ shipments picked-up}) / (\text{Total \# shipments}) \times 100 \\ \text{On-Time Pickup} &= 43 / 46 \times 100 \\ \text{On-Time Pickup} &= 93.5\%\end{aligned}$$

Figure 10. On-Time Pickup example. (Netsuite, 2021.)

Order Accuracy is a KPI that measures order pick and inventory on-hand accuracy. In other words, order accuracy gives information of well or poorly the carrier handles the shipment. Companies can encounter slowdowns in sales or production, what will cost money and time without high order accuracy. (Netsuite 2021; Twig Network 2018.)

Figure 11 shows an example of Order Accuracy. 128 orders were picked up today, but quality control verified only 123 of them.

$$\begin{aligned}\text{Order Accuracy} &= (\# \text{ orders verified correct}) / (\# \text{ orders picked today}) \times 100 \\ \text{Order Accuracy} &= 123 / 128 \times 100 \\ \text{Order Accuracy} &= 96\%\end{aligned}$$

Figure 11. Order Accuracy example. (Netsuite, 2021.)

Number of Shipments is a KPI that measures how many loads have been sent by the company during a certain timeline. The averages of this KPI help companies to

hit the set financial goals by optimizing the resources correctly. Number of shipments also helps companies to allocate and prepare resources over the past year. (Netsuite, 2021.) Number of Shipments can be handled at an adjusted period, weekly/monthly/yearly etc. (Twig Network, 2018.)

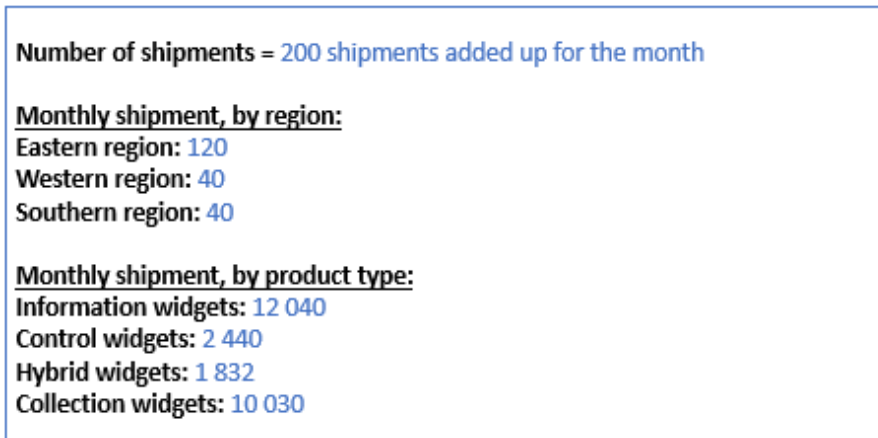


Figure 12. Number of Shipments example. (Netsuite, 2021.)

Transportation Costs are a group of KPIs that track the price of an order from the beginning to the end. It includes administration, warehousing, transportation, inventory carrying and processing costs. This KPI is used to see if the company's transit operations are efficient. (Netsuite 2021; Twig Network 2018.)

Figure 13 shows an example of Average transport costs. The transportation costs were averagely 800€ in a month and the gross income was averagely 10 000€ in a month.

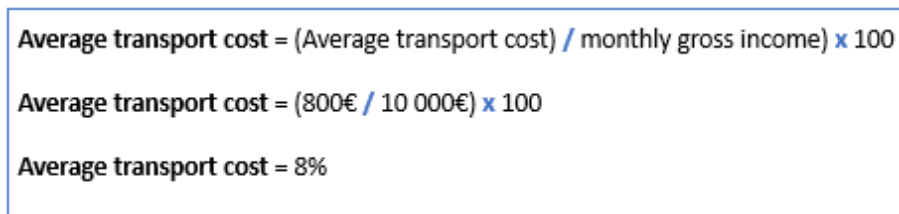


Figure 13. Average transport cost example. (Netsuite, 2021.)

Lead Time is a KPI that measures the time between placing an order and receiving it (cycle time). This KPI helps to identify the possible bottlenecks. (Netsuite 2021; Twig Network 2018.)

Delivery Time is a KPI that measures how quickly a placed order arrives in its entirety, what means that the time is not just for parts, but for the entire order. This KPI impacts loyalty and the satisfaction of customers. (Netsuite, 2021.)

Shipping time is a KPI that measures the length of time it takes to get the order “from A to B” within the given timeline. Shipping time is often coupled up with the on-time shipping KPI and the same as on-time shipping, this KPI is a vital measure to customer satisfaction. (Netsuite, 2021.)

Average Days Late is a KPI that measures how many days longer it takes the customer to receive the order after the due date has already passed. This KPI directly impacts the loyalty and satisfaction of customers and provides insight regarding the delivery process. (Netsuite, 2021.)

Lead time, shipping time, delivery time and average days late are relevant KPIs when you want to have information of when the product should arrive in its destination. They tell how much time is needed overall through a supply chain. (Sakki 2009.)

Truck Turning is a KPI that measures the time between a truck entering the warehouse/facility to load or unload goods and when the truck exits. This KPI shows how well the loading and unloading is handled by a company. The smaller the turning rates of trucks, the more time is spent on the road. (Netsuite 2021; Twig Network 2018.)

4 THE TARGET COMPANY'S FINNISH TRANSPORT UNIT & ITS KEY PERFORMANCE INDICATORS

The target company's Finnish transport unit consists of various departments that include for example monitoring the transports of separate technology products, declaring transports and invoice handling. A lot of shipments are taken care of each day and sent to all over the world from the company's warehouses in Sweden and Finland. Most of the shipments are sent from Ludvika in Sweden and from Vaasa, Lappeenranta, or Helsinki in Finland, but in some cases, shipments might also need to be taken back (imported) to Sweden or sent as cross-trade (the starting point could be for example Bulgaria and the destination United Kingdom).

The target company offers a big list of different high voltage products, capacitors, filters, instrument transformers, components, circuit breakers, surge arresters and more. In some cases, the goods might also include dangerous goods such as gas.

As mentioned above, the target company has premises in Vaasa, Lappeenranta, and Helsinki. The factory in Vaasa handles most of the orders, as there is not much action in the premises in Lappeenranta and Helsinki when it comes to sending products. The products that are sent from Finland are mainly transformers, and they can be as big as a small house. The Finnish transport unit that is discussed in this thesis, is located in Vaasa, Finland.

The products that are sent from the factory in Ludvika, are mainly high voltage products and transformers. These products are a little smaller than the ones that are shipped from Finland apart from some special cases that might include over 60 packages or packages that require a mega trailer as they are very large.

As there are operations in around 90 different countries, not all orders are placed for the mentioned transport unit in Vaasa. The departments in other countries

handle similar products and similar shipments to countries that are quite the same as the transport unit in Vaasa takes care of.

The Finnish transport unit in Vaasa, Finland consists of five employees and the manager. There are separate roles in the team for who works with what country and sector, but in a short note one employee works with shipments that are mainly related to Finland, and four with shipments that are mainly sent from Sweden/imported to Sweden. The responsibilities of the manager are discussed more in chapter 6.1.

4.1 Current state of indicators

The current state of KPIs and metrics in the company is quite foggy. As mentioned earlier in chapters 2.3 and 2.4, many companies don't have enough knowledge of what KPIs are, how they work and how they should be executed.

The Finnish transport unit has a few KPI-like indicators, but they stand out more as a metric. Metrics give data about the organization's standard business processes, but they do not dig as deep as KPIs do when it comes to providing insight into what an organization needs to achieve and measure to reach its long-term objectives. (Onstrategy, 2021.) There are various indicators that measure the delivery accuracy and pick up rate of carriers, but those are used in monthly meetings as review of the last month, and they do not provide in depth information of what could be done better to improve the performance.

The main reason for the target company's Finnish transport unit not having proper KPIs might be the lack of knowledge when it comes to how KPIs work and what is needed to properly execute the process of building KPIs, but also a lack of resources necessary for design and use-tests of KPIs.

4.1.1 Taking a deeper look into the current indicators

The Finnish transport unit has some indicators that lean towards being KPIs. One example is a system that shows *lead times* to different countries and cities, by using the country, city, and postal code information. In case the Finnish transport unit has a nominated forwarder for that specific lane, the system shows how many days it will take for an order to arrive in its destination. The system also provides separate *information of groupages* (small shipments), *part-loads* (medium shipments) and *full loads* (the shipments requires full space of a truck). Small shipments/part-loads usually take longer to arrive compared to full loads, due to the carrier having goods for other companies and destinations that they unload during the transport, this makes the *lead time* longer than for a full load that can drive directly to its destination without any extra stops. The system also shows an average price of the transport.

Another indicator could be the *delivery accuracy* and *pickup percentage*, but this is only used for one specific carrier and only for its truck department. The indicator is also more of a metric, as it does not provide insight information of what needs to be measured and achieved to reach a full percentage (100%). What the indicator does do though, is provide quite accurate information of how well the carrier has succeeded with pickups and deliveries of separate transports, what will help keeping a monthly track of shipments that the carrier has taken care of.

There are also indicators that are taken care of by the warehouse located in Sweden, that provide *information when a shipment has been picked up* (so called “avgående transport”), if some documents are missing and need to be printed (the transport unit of the target company prints separate documents such as invoices, labels/waybills, list of packages). The current KPIs of the Finnish transport unit are further discussed more in chapter 6.1.3.

4.1.2 Improvements and possibilities

KPIs are quite a large concept, what gives a lot of possibilities for companies to take the next step towards reaching its strategic goals, and to improve its current state with KPIs. KPIs are certainly not easy to handle and understand, but studying the topic and really deepening in it, can give companies a huge improvement in its business and the way different teams are working towards the goals.

As mentioned above, there are some KPI-like indicators/metrics in the transport unit, but they are not as perfect and in real time as the company aims them to be. Of course, for the time being, the company probably has not tried to use the full potential of KPIs yet, that then led into having KPIs as a topic for this research.

Improvements for the pickup notifications are given more deeply on chapter 7.1.3, that handles the current state of the notifications and how these specific notifications could be improved to help preventing accidents that lead to orders not being picked up as requested and promised due to various reasons. There might be errors from the forwarders side, the warehouse's side or from the Finnish transport unit's side that might result in an order staying in the warehouse for even one week in the worst-case. There are many possibilities to improve the pickup notifications. Improving the pickup notifications would help keeping the planned pickup percentage higher and delays smaller, and it also impacts customer satisfaction as if the due date is missed, the delay would be decreased to the minimum.

4.2 KPI goals of the target company's Finnish transport unit

The Finnish transport unit doesn't yet have established KPIs, but the aim is to use them in the future in achieving the strategic goals that have been set. When it comes to the knowledge of KPIs inside the Finnish transport unit, it was wished that this thesis would be created to improve the knowledge of KPIs inside the unit, how they can be used to achieve strategic goals and how they can be utilized in improving the company's business. The goal was also to find suitable KPIs.

The manager of the transport unit has mentioned briefly in an interview that the company aims to follow the reliability of deliveries and in an idealistic situation the organization would have all available data regarding all deliveries in the system, as close to real time as possible. The organization finds customer satisfaction important, where the reliability of deliveries and deliveries staying inside the timetable play a great role. Comprehensive, accurate and real time KPIs allow the organization to take quick actions towards the carrier's transporting actions if they don't match with the agreements that have been made.

5 EMPIRICAL STUDY

This chapter covers relevant methodology for research, or in other words examines different research strategies and how they can be used in research. The chapter focuses in qualitative and quantitative research, that are combined in this specific research (triangulation) to help getting more reliable and comprehensive results. The chapter begins with general information of the theoretical framework, theory and empirical information and proceeds to cover research methods and how they are used in this research.

5.1 Theoretical framework

To find valid and reliable information of how empirical research should be done, several books that discuss the topic were examined. Gathering material and the method used in analysis is determined by the theoretical framework. Limits are set for the theoretical framework and methods that can be used by the help of the gathered material's nature, what means that choosing the method is therefore extremely important and a far-reaching solution. (Alasuutari, 2011.) The theoretical framework consists of three important chapters for the study in this research, namely: key performance indicators, usual key performance indicators in logistics and the target company's Finnish transport unit and its key performance indicators.

5.1.1 Theory, empirical information, and praxis

In the past years, several different abstracts have been formed for theory. From the very beginning theory meant "seeing" or "looking". Theories are therefore analytical tools that help explaining, understanding, and making predictions in particular target fields. Today the word "theory" is used for events and experiences that are made by theoretical methods to explain phenomena that are based on those events and experiences. Theories aim at describing their own branch of science so that the researcher who has orientated himself/herself for the branch of

science in question is able to verify, challenge and understand these theories. (Puusa & Juuti 2020.)

Empirical information consists of facts that are based on immediate experiences, and they are a part of our inner and outer sensory perceptions. We receive facts of an experience as such they are, so we trust our senses to be valid. Our inner and outer observations for their part help gathering information for the conformity to law of creatures and objects and their cohesiveness. (Puusa & Juuti 2020.)

“Empiricism” reflects praxis, but it isn’t absolutely like it. For example, using the clutch of a motorcycle might sound like self-evident because by using empirical methods we can state what happens when the clutch is being pressed, but that does not yet help using the clutch. A person who has driven a car for years and learned how to use the clutch with their left foot, might not still be able to use the clutch of a motorcycle correctly, even though it is located on the left side as in a car. What makes it different is the fact of using your left hand instead of left foot. Praxis and empiricism can’t therefore be seen as the same thing and neither the theory as an actual opposite. (Puusa & Juuti 2020.)

5.1.2 The use of research literature in this research

Research literature is in a central role, as it will help with the ways to put empirical research into practice. Answers for how empirical research helps this work and how it can be used to gather information for example, will be pursued by the help of research literature. Executing research is a complicated and challenging project and therefore using research literature will help with making this part a valid, reliable, and precise. Triangulation research is used in this work, what is also a part of empirical research.

5.2 Research methods

Scientific research usually starts with a research problem and could be described as “the world of theories”. A plan for the research should also be created, as it

helps with picking the correct research methods and methods. (Kankkunen & Vehviläinen-Julkunen 2017.) Research questions assist in the research problem and the questions should be interesting from the theoretical point of view also. The research methods should be chosen based on the topic of the research. (Puusa & Juuti 2020.)

5.2.1 Qualitative research

Qualitative research is as its name says, interested in how something is from its qualitative perspective. To understand if the wine is good, the researcher needs to understand the difference of how things are in fact (the wine is qualitative good) and how it could be differently (qualitatively bad). (Hirsjärvi, Remes & Sajavaara 2014.) Qualitative research can also be compared to the work of a detective, as both compile the totality of the pieces that are collected from the material and a lot of clues are gathered during the process. (Puusa & Juuti 2020.)

Characteristic for qualitative research is its multidisciplinary, rich expression and complexity. The material is multidimensional as life itself, but that doesn't essentially mean that the material consists of documents or authentic situations or so said things that exist regardless of the research. The material consists of reports that are documented as detailed as possible. Interviewing or observing are mainly used in qualitative research. (Alasuutari, 2011.)

5.2.2 Quantitative research

Quantitative research aims at emphasizing universally applicable causation laws. The mainline is to choose correct methods for the collection of the data, that can be measured numerically or quantitatively. It is habitual that theories that have been stated in the past are utilized and conclusions are based on past research – as said, qualitative research is usually the “preliminary test” of quantitative research. (Hirsjärvi et al. 2014.)

Quantitative research can be compared to an exam arrangement that is familiar from natural science. In the classic exam everything starts from a hypothesis that according to the pendent variable is affected by the independent variable. For example, when examining gravel's effect on the friction of a surface, a test that measures how far an objective travel when it slides at the same speed on a surface with gravel and on the other stage on a clean surface could be arranged. In quantitative research the material is converted to a table. (Alasuutari, 2011.)

5.3 Research plan

Usually, empirical research is fulfilled by using qualitative or quantitative approach, but in the last decades combining these two has become more common what makes the method triangulation. (Puusa & Juuti 2020.) In this research both qualitative and quantitative methods are used, what makes it triangulation research. The decision for choosing triangulation as the research method is based on the research problem and research questions that help to answer the problem, collecting material and introducing/explaining it. This research method gives the ability to take advantage of viewing the research from both qualitative and quantitative perspective. The manager of the transport unit, another team member, and a colleague from the transport unit in Poland will be interviewed to gain maximal information and material regarding the subject and its research questions. On the other hand, a survey/questionnaire will also be sent out to some of the Finnish transport unit's customers.

Choosing triangulation was a simple choice, as it will give diverse material for the research as an interview is held with the person who has given me the topic for this research, a team member who has been reviewing the metrics most close to KPIs in the target company's transport unit and a team member of the target company's Polish transport unit who has been working with collecting data and using

KPIs for many years. To get even a greater picture of the research problem, a survey will be sent out to the customers. The survey will give important material for the research from another perspective apart from the organizations inside.

5.3.1 Interview

In qualitative research different interview methods are usually used for collecting material for the research. An interview can be described as a conversation that aims on a certain goal that has been set in advance. It is a conversation that is mainly led by the researcher as it happens from the researcher's suggestion. An interview aims at collecting material that helps with making convincing conclusions regarding the phenomenon that is being researched. (Puusa & Juuti 2020.)

Interviews can be fulfilled in many ways, and they are flexible/adjustable. (Puusa & Juuti 2020.) In this research the interview will be semi-structured. In a semi-structured interview, the themes are usually selected in advance, and they contain separate more precise questions about the theme. (KvaliMOTV, 2006.)

The developed theoretical framework will be used for the themes of the interviews, and they will be done remotely through teams because the target company uses mainly Teams for meetings and therefore it is a familiar application for the participants. The goal is to receive more thorough and analyzed information of the target company's Finnish transport unit's goals with KPIs, what the current state of KPIs is, and what KPIs might be searched for. These themes will be discussed with the manager of the transport unit and another team member. To get even more in-depth material for KPIs and data collection, another interview will be arranged with an expert from the target company's transport unit in Poland. This interview was decided to be arranged to help receive information of KPIs that another transport unit already uses, what is also in line with the theoretical framework (chapter 5.1).

The themes that will be used in the interview of the manager and another staff member, as KPIs that the unit aims for, are linked to the theoretical framework. The interview with the Polish expert focuses more on what KPIs they use, what KPIs they think are useful and which not. This of course includes questions about why they use KPIs and what the current state is with KPIs and data collection in general, but also questions of how the Finnish transport unit could use KPIs on its own and how the KPIs could be processed in the Finnish transport unit. By the help of this interview, the research will receive valid and reliable information of KPIs and data collection that is already a praxis for a company.

5.3.2 Survey/questionnaire

In quantitative research the research is possible to be fulfilled for example by phone, interviewing or mail/e-mail. In this research the survey will be sent by email to the customers. The reason for using e-mail is that the target company uses email as its main communication habitude with forwarders, customers and inside its own organization. The survey itself will be done through internet as it is fast, easy, clear and without extra cost. It is also important to remember that the questions need to be formed correctly and downrightly, as they are the key base for successful research. (Valli & Aarnos 2018.)

The survey will be created with the help of Google Forms that generates a link that can be used to participate in the survey. The goal is to receive replies from three of the main customers. The target company's customers have more separate customers on their side, but they are not directly customers for the target company of this thesis.

The survey is done as a structured survey, what means that the survey will have questions with separate alternatives as an answer. There will also be some questions with an open reply field, which is sometimes a part of a structured survey. (KvaliMOTV, 2006.)

The survey is done with the help of the research questions and theoretical framework, but the survey mainly focuses on which KPIs the Finnish transport unit should use. It starts with simple background questions to get data of the persons that have taken part in the survey. The survey then proceeds to gather data of what the customers think about the Finnish transport unit's KPIs. The target company shares KPI data with its customers, but as the KPIs are still unfinished, it is important to receive thoughts of the current situation and possible improvement ideas from the customers. At the end, the survey includes questions on what KPIs the customers would appreciate to be reported to them and what KPIs they think are the most important to receive data of. The target company has already done a survey on customer satisfaction, which will also be used to help the research. The survey that will be sent to the customers will also include specified questions based on the mentioned survey that has been done earlier by the target company.

The questions mentioned above were decided to be asked because some KPIs are reported to the customers as they play a big role in the transports. The customers' opinions need to be taken into consideration as well when KPIs are built, as they are highly connected to them. The answers that the customers give, will give great feedback when it comes to customer satisfaction based on what they currently think about the state of KPIs, but also if something could be improved. All these elements can be a highly useful tool on deciding what KPIs the Finnish transport unit should use, and how important the KPIs are for the customers, but to test the theoretical framework and research questions in this study.

5.3.3 Timetable

The interviews and survey are planned to take place in December of 2021. The first interview for the transport unit's manager and its team member will be held in week 49 and the interview with the team member of the Polish transport unit will be held on week 51. The survey for the customers was first planned to be sent out

on week 52, but for various reasons it was possible to send it first at the end of January 2022.

6 RESEARCH RESULTS

This chapter covers the results of the empirical research. The manager and a team member of the Finnish transport unit were interviewed, and in addition also a team member of the Polish transport unit's analytics team was interviewed. This chapter also covers the results of a survey that was sent to the customers of the Finnish transport unit, that gives even more precise information of what customer related KPIs the Finnish transport unit should use, and the customers' opinions of the current state of KPIs shared by the Finnish transport unit and how they could possibly be improved from customer point of view. The questions for the interviews were sent in advance to the target persons to give them a chance to look on the questions beforehand.

The interviews and survey will be discussed in their own chapters. The interviews will be divided based on themes that include the questions and answers one by one.

6.1 Interview with a team member and the manager of the Finnish transport unit

This chapter examines the questions for a team member and the manager of the Finnish transport unit and their answers.

6.1.1 Theme 1. Background questions

Questions: Role in the company? Work experience in the industry? Role with handling KPIs?

Person A is manager of the Finnish transport unit. His role is to manage the team and administer the unit. He has worked in this role from year 2020. He worked in the company from the year 2011 starting as a summer help with forwarding and logistics. He worked as part-time during his university studies. Between 2011 and 2017 he also worked for another company for a few years with logistics that included exporting and importing tasks. From the year 2017 he has worked in the

target company. At first, he worked as a trade operations administrator and was promoted the manager of the target target company's transport unit in 2020.

Person B is customer service specialist, working with customs clearance and booking transports for transformers. She is also responsible for monthly meetings with a few forwarders and leads the meetings from the target company's side. She started working in the target company in the year 2012, first working with order processing and several assistant tasks. She joined the current position in 2017.

Person A is responsible for KPIs overall and his role is to examine the KPI results and other gathered data. Person B is responsible of examining the available data of carriers (for example pickup and delivery accuracy).

6.1.2 Theme 2. Key Performance Indicators

Question: How well do you know what KPIs are and what they are supposed to do?

Both person A and person B know that KPIs measure how well the company performs on certain sectors and the KPIs aim to provide numbers and statistics on sectors that are important for the company. Both persons are aware that KPIs aim to give information of the quality of various sectors that are connected to the company's strategic goals and how well or poorly the goals have been achieved. Person B also added that when it comes to the target company's KPIs, they include performance of carriers for example when it comes to planned pickup and delivery dates or if there have been delays. She also commented that the raw data will help with creating indicators that measure the performance and examining if the performance matches the goals of the target company.

Question: How do you think KPIs could be utilized in helping to achieve certain strategic goals of the company?

Person A thinks that KPIs can help with the quality, compliance and for example that the correct products move in the correct time and to the correct address. He

also mentions that KPIs can also help the company to maintain the costs in control, so that they don't expand too much. He also thinks that KPIs can help with examining how well the carriers overcome the deliveries of various products. This will help to interfere if there are problems on various lanes or procedures of carriers when it comes to reliability of deliveries or the quality of the deliveries. He also adds that all of this will help avoiding possible delays that affect customer satisfaction and cause other problems. He also hopes to receive data regarding costs for separate modes of transport, separate carriers, and on what timeline the previous transports have been taken care of.

Person B agrees with all of the above and adds that the more raw data is received (whether if it is from the carriers or our unit) the better: it will help with analyzing the data, creating KPIs, viewing the performance and interfering with the grievances or reporting them forward. She also mentions that it would be great to have people with expertise for creating charts and KPIs, adding that on her part it is on a low level.

Questions: Why are the KPIs topical now? Why has the company not executed the process before?

Person B answers that the KPIs are probably topical for the first time now because data collection has been increasing and everything that is just possible to be measured and reported, is being measured and reported. She says that when she started in the company around ten years ago, this topic was not discussed that much and that the trend has strongly shifted towards reporting and measuring all kinds of data. When it comes to the second question, she doesn't know how to properly answer as the "pressure" for using KPIs etc. data collection comes from people that are in a higher position in the company.

Person A agrees with Person B regarding the points of KPIs and data collecting becoming more common first in the past decade and increasing year after year.

He also adds that collecting and reporting data has been more modest, basic, and manual in the past, what has had an impact on the situation. He believes that now when the technology has improved and different kinds of automatic systems can be built, it will be easier to take advantage of collecting and reporting data more versatily. A company like the target company needs to be a part of using KPIs and improving them, the person A says.

When it comes to why the company has not executed the process before, Person A answers that one of the big reasons is resources. The team only has around six to eight employees, and it limits the possibility of having some employees to work with collecting, analyzing, and reporting data and KPIs. Added on the previous, the problem with KPIs not being complete/perfect has been known for a while and the company has been thinking about improving the system, he adds. Now that the company can improve and put more resources in KPIs, they will act towards making them more precisely. The team doesn't either have a person with the expertise to handle and analyze KPIs, Person A said.

6.1.3 Theme 3. The target company's transport unit and its key performance indicators

Questions: How would you describe the company's current state of KPIs and other data collection? Why do you think so? What could be done better/improved in your eyes?

Person B describes that the current state of KPIs and other data collection is on an "okay" level, not great, but not very poor either. A good amount of raw data is received from road/truck and express shipments, but the data received lacks air and sea shipments. She points out, though, that there are more road and express shipments compared to air and sea. Taking advantage of the data received is on a basic level and it could be used more comprehensively, but there is no know-how for that. The data could be used better if the Finnish transport unit had an expert who knew how to handle the data in more ways.

Person A agrees with person B that the transport unit does not have employees with the skill to take full advantage of the data that is received from carriers. He also thinks that the current KPIs are okay, but the situation could be better. The company will have a project in the year 2022. The project will standardize procedures of the transport units in separate countries. There will also be some updates in the used system and software, that will most likely help in handling the data more easily and effectively, person A believes.

Questions for the team member (Person B): Could you open the current process around KPIs and data collecting more? Are the KPIs affiliated with the customers and/or forwarders? Which KPIs etc. data collecting methods are used?

KPIs that person B mainly uses indicate what address and country a shipment has been sent from and what address and country it has been sent to, what has the shipments overall volume (cubes and loading meters) been, what was the overall price, when was the shipment picked up and delivered, and what the estimated time of arrival was. All these KPIs are linked to forwarders only and not to customers currently.

Questions for the manager (Person A): What are the goals of the company when it comes to KPIs? What kind of KPIs are looked for? Why those KPIs?

According to person A, the goals are to improve the understanding of the sector, how the company and forwarders perform with achieving certain promises, follow the *volumes of transports, lead times* and the *costs* for example. In general, the goal is to have KPIs as a help with decision making when it comes to improving the business. The reason for these KPIs is mainly that they are connected to the goals of the transport unit.

6.2 Interview with a team member of the company's Polish analytics team

This chapter covers the results of the interview with a team member of the target company's Polish analytics team.

6.2.1 Theme 1. Background questions

Questions: Role in the company? For how long and much have you worked in the role and the industry?

The interviewee has worked as a reporting, analytics, and master data team leader for around four years in the target company's Polish unit. Before the current position, he has worked with data analytics for around three years, what was more praxis analyzing and not completely KPI related even though, connected to transport/shipping data.

The Polish analytics team creates and maintains reports (for example KPIs, shipments statistics, spend and savings), and they are responsible of collecting and combining different data that comes from different internal sources such as a program called "Eyefreight". Some forwarders also send Excel files with information regarding shipments to the team for analysis. The team also creates Excel based tools and automated Sharepoint lists such as a calculator for road rates and central savings platforms (an employee will add savings received from for example a negotiation with forwarders regarding a transport in the Sharepoint list as per instructions). The interviewee also described the team's role as an analytical support team for transport sourcing teams who need data or analytical help to negotiate contracts and in getting more information of the market conditions, but don't have an analyst in their own team. As the team also works with master data, they will have a big role in an upcoming project inside the whole target company that will unite the procedures of separate countries as one, so that the way of working and operating will be more similar in each country's unit. They have for example helped another country to setup a Sharepoint list recently and another country to

create an automated Sharepoint list. A Sharepoint list is essentially like a spreadsheet, a simple database, or a table, it is a collection of data with a certain structure. The information that a Sharepoint list includes can be presented in many ways, for example as text, numbers or even images. (Contentformula, 2020.)

6.2.2 Theme 2. Key Performance Indicators in the Polish analytics team

Questions: How are KPIs and other data used in the Polish analytics team? How often are they examined?

The interviewee replied that the team prepares the reports, and they are mainly used by the management, but also some reports are prepared for transport units and the head of all transport units. In addition, reports are also prepared for sourcing teams as many of the data are strategic. The team prepares reports for transport units that handle *on-time pickup*, *on-time delivery*, *transit time*, what the *agreed transit time* was on a transport when it was booked for the forwarder and what the *actual transit time* ended up being. Transport units can also track the workload together with transport planners as some shipments may take 5 minutes and some 5 hours, especially now due to the Covid-19 situation. Road transports usually take less time to plan, but Covid-19 has had a big impact on ocean and air shipments, the interviewee says. The team will include *general numbers*, *transport numbers* and *orders* in the reports so that transport units can track how many *transportation orders* were combined in one shipment, for example 200 orders and 100 shipments will tell that on average, one shipment has included two orders.

The interviewee informed that there is an internal data warehouse that collects data from all SAP systems that are collected on the invoice level. The data received is used for most of the KPI reports. The team analyzes the performance of forward-

ers which will help sourcing teams sometimes to push the suppliers if the performance is poor. Sometimes it may also help while negotiating new contracts with the forwarders as the sourcing teams can point out that the forwarder has promised something, but the service has not been on the level that was agreed on, and therefore the new contract should have a decrease in the price.

When the interviewee was asked how often KPIs are examined, he answered that most of the KPIs are examined monthly as they rely on other data sources that are examined monthly as well. The same goes for shipment reports that are provided by forwarders, they provide the data monthly so therefore the analytics team will prepare reports monthly as well. Only two KPIs are reported more often than monthly, saving initiatives, that are refreshed live because if a user adds something in the saving list, it is automatically and instantly transferred to a Power BI report after the user presses "save". The second one is an Eyefreight specific report that is used by the Polish transport unit, that helps the unit to track the number of orders, shipments, and measure on time pickup and delivery. So, the saving initiatives are reported live and Eyefreight specific reports weekly, the interviewee stated.

The team analyzes the performance of forwarders which will help sourcing teams sometimes to push the suppliers if the performance is poor. Sometimes it may also help while negotiating new contracts with the forwarders as the sourcing teams can point out that the forwarder has promised something, but the service has not been on the level that was agreed on, and therefore the new contract should have a decrease in the price.

Question: What kind of KPIs are used?

This question was answered on a little by the interviewee within the previous questions, but he clarified the KPI tools that are used within this question. The interviewee clarified that Eyefreight is used for countries that use the same system

as well. Usually for other countries than Poland, the team relies on data reports received from forwarders. An SMS tool (data warehouse) is also used, where the information starts from invoice level. A data warehouse is where all data from all ERP systems are combined into one big data file. The last tool that they used is called Salonis. Salonis is an internal system that helps to run reports and gives an access to sales or orders. Basically, SMS indicates what the analyzed company is paying for and for how much, and Salonis indicates what they are selling and for how much. SMS is on SAP-PO (purchase order) level and Salonis is on SAP-SO (sales order) level.

Question: How are the KPIs built in the first place?

The interviewee stated that everything starts always with collecting requirements from the requestor. The requestor comes to the Polish analytics team and informs them that they would like to see this, this and this KPI in the report. The Polish analytics team then proceeds on checking the possibilities of providing those KPIs, as most of the requestors are not familiar with what the analytics team's data sources are able to provide. In a lot of cases the analytics team needs to reply to the requestor that they are not able to provide some of the requested KPIs due to not having the necessary data available but are able to come up with an alternative KPI. In some cases, the Polish analytics team is already providing some KPIs that the requestor is not aware of and in those cases the analytics team redirects the requestor to the place where they can find a report including those KPIs already. For those KPIs that the analytics team does not show already, they will create based on what is asked for depending on what they are capable of after discussing the requestors needs. After the analytics team knows what the requestor wants, they will prepare a draft of the report that is more focused on the technical section (for example all calculations) and does not include much visualization yet at this level. When the draft including the discussed KPIs is ready, then the requestor will look through the draft and either agree or give a suggestion for some changes.

Once the draft is accepted by the requestor, the analytics team discusses about layouts and how the data etc. will be presented with the requestor, again so that the KPIs that will be built will match the needs of the requestor. The report is then finalized by visualizing it, creating all the charts as per requested and published for the requestor to have a final examination. The interviewee also added that the KPI reports are built as soon as they get requests, but of course there are also some KPIs that have been created before for another requestor, that the company maintains and updates with new data that has been collected.

6.2.3 Theme 3. Problems, possibilities, and improvements

Question: Are there some problems currently with the KPIs and data provided? Are some new KPIs considered? Is there something that should improve with when it comes to KPIs? What possibilities are there with KPIs?

When it comes to problems, the interviewee stated that the biggest one is not having all the needed data available. The data quality varies in different data sources. Taking the internal systems as an example, in few countries the data is quite good, some countries the data is provided in excel files only, and from some countries the Polish analytics team doesn't receive any data at all. The biggest problem therefore is the missing data and the quality of the data that is available, the interviewee said.

The biggest possibility on its part is the new SAP and internal systems that will be available in the future. Those systems will give a possibility to create new KPIs as all data will be in one system and the analytics team will be able to track a lot of things that are not possible to track currently. Therefore, the biggest improvement for KPIs will be the number of KPIs that can be used, the interviewee informed.

Question: What KPIs are used the most?

The KPIs that are linked to the management/top management team, are mostly spend and saving KPIs. If it comes to transport units and the heads of transport units or planners, they are interested the most in *on-time pickup* and *on-time deliveries*. Sourcing teams on their behalf are focused more on shipment statistics, for example how many shipments are there, or what region and which forwarder is used the most. So, different KPIs are used by different teams the interviewee stated.

Question: How good of a measuring way are KPIs for a company when it comes to success in various sectors?

The interviewee thinks that it is very important to use KPIs or even crucial. KPIs are an excellent way to measure not only the company's own performance and find gaps in it, but also to measure the performance of the suppliers. As an example, the interviewee mentioned *on-time pickup* that can be measured on the company's own level, but also on the supplier's level. Each transport will have instructions from the order responsible, including for example a pickup for Friday. The transport unit will then try to organize a pickup for Friday, but in case they are able to organize the pickup first for Monday, then the company knows that there was a delay of one business day as the pickup couldn't be organized for Friday, but for Monday instead. When it comes to measuring the supplier's performance regarding *on-time pickup*, the requested pickup date could be for Friday and the forwarder agrees to do so, but in fact they pick it up first on Monday. In this case the company can see that there was one business day delay with the pickup, and it was not on-time. The interviewee also repeated that KPIs are important because they give companies a possibility to negotiate new contracts with a lower price with forwarders in case the performance has been poor, or maybe switch the forwarder to another one who can take care of the transports better. And in case the performance has been good, the company will know that the forwarder has done

its job and therefore it will be worth continuing business with them. The interviewee also stated that these are only a few examples of why KPIs are an excellent tool for measuring performance and success.

6.2.4 Theme 4. Possible cooperation with the Finnish transport unit and Polish analytics team regarding KPIs?

Questions: Would it be possible to use the same methods in the Finnish transport unit that the Polish analytics team uses? Are there some tools that you use, that the Finnish transport unit could also use?

The interviewee informed that sadly probably not the same methods can be used as they have different systems in use than the Finnish transport unit, but there are some things for sure that could be used in the Finnish transport unit as well, as the pickup dates and delivery dates are tracked in both teams.

If it comes to tools, the interviewee answered that there are a few tools that could be used in the Finnish transport unit as well for KPIs, for example Power BI (European road rates calculator and currency change calculator) and spot quotations that are sent for ocean and air shipments. Both the Finnish transport unit and the Polish transport unit use these tools, and as the Polish analytics team uses them to report some KPIs, it would be possible, the interviewee told.

Question: What kind of services could the Polish analytics team provide for the Finnish transport unit regarding KPIs etc. data collection?

The interviewee answered that the current project they are working on is the 'one KPI report for all transport units' mentioned earlier, and that is what they can do on the KPI level. It will be published in Power BI, so all transport units will have an instant access to it. When it comes to general data collection, the interviewee said that the Polish analytics team is collecting data from air and ocean suppliers, the biggest ones, and then combining and cleaning the data and presenting it as a Power BI report. It can be used by the Finnish transport unit as well. The needed

data can be filtered out in Power BI to receive data for shipments and forwarders that are in scope of the Finnish transport unit. Unfortunately, the forwarders don't provide information separately for transport units, so the report only shows shipments for the whole country and not separately for each unit and/or city. One way to collect data for shipments could be to manually go through the information of shipments in Power BI, that shows what address every shipment has been sent from. The interviewee also mentioned that of course if there are any requests or ideas to implement some new reports to the Finnish transport unit specifically, it might be possible to be done.

Question: How would the data collection be done and transferred by the Finnish transport unit? How would everything work in general?

The Polish analytics team collects data from different data sources and for some of those they have a direct access and therefore the team can directly connect them to their data warehouse, the interviewee answered. They can download most of the data instantly, but when it comes to transport units, they are not receiving any data yet, but this will change in 2022 because of the analytics team's current project. The KPI reports will be provided monthly and if the data from the Finnish transport unit is provided in the format that the analytics team has requested, they can download the files and apply it on a data model that will automatically transform the data to a format that can be accessed to through Power BI.

Question: Would it be possible to arrange a training session for the Finnish transport unit regarding how the data for KPIs is collected, how the KPIs should be handled and reviewed, and how the process of using more KPIs should be executed?

The Polish analytics team needs to create the KPI report for the Finnish transport unit before, but after that it will be possible to show what the Polish analytics team

does, how they do it and how the results can be read, the interviewee stated. They can therefore teach the Finnish transport unit what the steps are for creating a KPI report, what they have done with the collected data, how they collect the data, how the data is modified, what operations are done for the data, what the results are, and how all the results can be read.

6.2.5 Theme 5. Additional questions

Question: How could the Finnish transport unit create its own country specific KPI reports in the most reasonable and clear way?

The interviewee believes that the best tool for creating KPI reports is using Power BI, as he is not a fan of any excel tools because if something is started through Sharepoint, it might be edited, removed, or moved by someone. It is also a problem when one person filters something on Sharepoint, the filter will be applied to everyone who is looking at the report. Therefore, it would be best to use Power BI and within a specific group of people who handle the data together.

The interviewee also pointed out that everything depends on what KPIs the Finnish transport unit would like to be shown in the report, but the Polish analytics team can help with that, and help building new KPIs based on the requests of the Finnish transport unit and the data sources available.

6.3 Key Performance Indicators survey for the customers

This chapter covers the results of the survey that was sent to the three main customers. The survey was published in Google Forms and the link was sent for the customers. The results are presented in the same order as the questions were in the survey, starting with background questions, moving forward to the importance of KPIs and lastly to the customers opinions of the Finnish transport unit's current state of KPIs and KPIs that the customers find important.

6.3.1 Results of the survey

The survey was sent to the main customers of the Finnish transport unit. It was sent to the managers of the units who had the freedom to choose if they shall answer the survey alone, as a team or if everyone from their team shall give separate answers. This was decided to be done as there was no clear information if the customers handle KPIs only inside their administration, so therefore the customers know the situation best and can decide who shall take part in the survey from their team. In total the survey received three separate responses, where from two were given by the manager of the unit and one was given by a few team members together. In some answers the font of the questions might differ, and it is due to the questions having confidential information of the company. Accordingly, when reporting the results, the questions are the same as in the survey, but some keywords have been aligned.

The answers are given by
3 responses

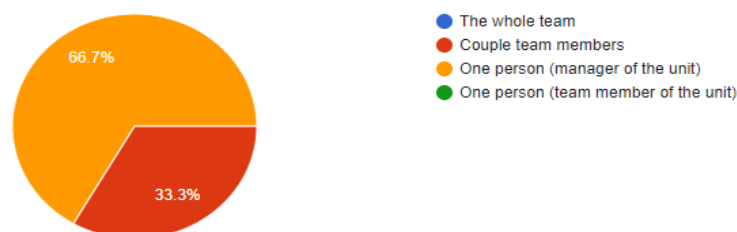
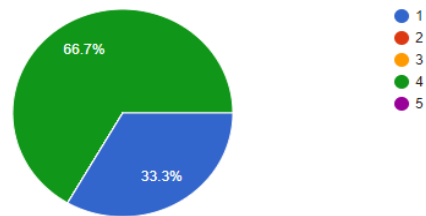


Figure 14. Role/roles of the respondents.

Next in the background section there were questions about KPIs when it comes to knowing what they are and how important the respondents evaluate KPIs.

How important do you think KPIs are for a company in general? (On a scale from 1 to 5)

3 responses



How important do you think KPIs are in your own work? (On a scale from 1 to 5)

3 responses

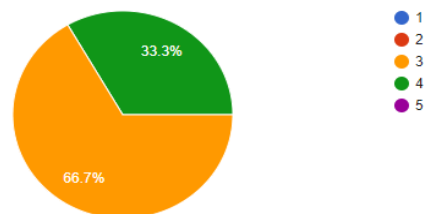


Figure 15. The importance of KPIs. (1 => not important. 5=> very important)

Figure 15. shows that two of the respondents evaluate KPIs very high when it comes to the importance for a company in general. There is some spread though as one of the respondents evaluate KPIs very low when it comes to importance for a company in general. KPIs are considered high in the respondents' own work.

Do you use services of other transport units? (Other than the Finnish transport unit). (Other services than inbound and/or cross-trade shipments).

3 responses

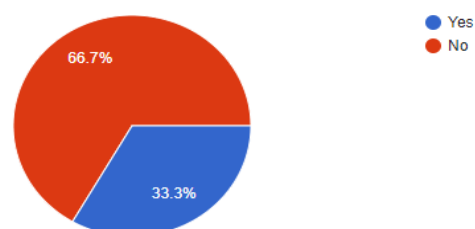


Figure 16. Services of other countries' transport units inside the company.

Figure 16 shows that two of the respondents don't use services of other transport units. One of the respondents use the services of other transport units. The respondents who use services of other transport units stated that they do not receive any KPI data from the transport units.

There was a slight improvement in the Finnish transport unit's KPIs from 2020 to 2021 based on the voice of customer survey, do you think that the reporting of KPIs actually improved during this time? (KPIs that the Finnish transport unit reports to your team).

3 responses



Figure 17. Improvement in the Finnish transport unit's KPIs from 2020 to 2021

Even though the earlier customer survey done by the target company of this thesis stated that there was a slight improvement in KPIs in 2021 compared to 2020, all the respondents felt like the reporting of KPIs had in fact stayed the same during this period (Figure 17).

Which KPIs would you like to be reported to you by the Finnish transport unit?

3 responses

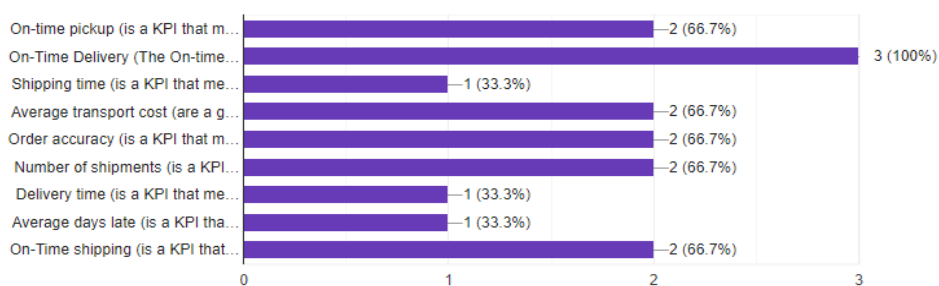


Figure 18. KPIs that the customers would like to receive data of. (0 => not relevant. 3=> very relevant).

The respondents find on time delivery the most important, all of them chose this KPI as one of the KPIs they would like to receive data of. Two of the respondents

also chose *On-time pickup*, *Average transport costs*, *Order accuracy*, *Number of shipments* and *On-time shipping* as a desired KPI to be reported. One of the respondents valued *Shipping time*, *Delivery time* and *Average days late* relevant as well (Figure 18).

As an additional question to the above, the respondents were asked to choose five KPIs at the most, that they find the most important of the listed KPIs. Figure 19 shows the results, that indicate that the most important KPIs to receive data of are *On-time delivery* and *Average transport costs*. All the respondents chose these two as a desired KPI to receive data of. Two respondents evaluated *Number of shipments* and *On-time pickup* as one of the most important KPIs, and one evaluated *Shipping time*, *Order accuracy*, *Delivery time* and *On-time shipping* as the most important KPIs. *Average days late* was a clear leftover as it was evaluated as one of the most important KPIs by none of the respondents. This question also included an extra option to suggest another KPI that was not stated in the list. None of the respondents chose that option.

Of the above/below KPIs, which do you find most important? (Please choose max 5) - (You can also add KPIs in the "other section" if you feel like a KPI you would like to be reported is missing from the list(-) These KPIs are an example list of KPIs that the Finnish transport unit could possibly provide data of).

3 responses

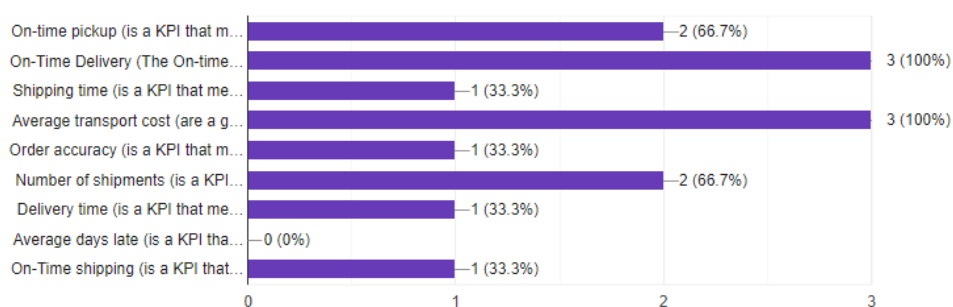


Figure 19. The most important KPIs. (0 => not relevant. 3 => very relevant).

Lastly, there was an additional feedback field for improving the Finnish transport unit's KPI reports. One of the respondents doesn't receive KPI reports on a regular monthly basis but would like to receive them monthly as an easy Powerpoint or

Excel file. Another respondent doesn't receive any KPI reports currently, and the third respondent doesn't recognize that any other KPIs are reported to them besides expected savings.

7 DISCUSSION AND CONCLUSIONS

The main goal of this research was to get answers for the below research questions. This chapter analyzes the receiver research results based on the research questions.

1. What is the role of Key Performance Indicators in achieving the strategic business goals of a company?
2. Which Key Performance Indicators should be used in the Finnish transport unit of the target company?

7.1.1 What is the role of Key Performance Indicators in achieving the strategic business goals of a company?

It can be concluded in general that KPIs are a very good way to measure performance, or even mandatory as the Polish analytics team leader said in the interview. Key Performance Indicators play a huge role when it comes to measuring performance, as they give up-to-date information of how for example a forwarder has performed when it comes to picking up an order on time. KPIs are also a very great tool for negotiating new contracts with the forwarders, as they indicate whether a forwarder has done their job as requested or not. KPIs can therefore be used not only to measure how the company itself achieves its goals, but also how the business partners of the company achieve the goals that have been set for them. As Bernard (2012) concludes, without KPIs a company is flying blind. (Chapter 2.2.1, 15)

Achieving strategic business goals is much more complicated than some would think, however the role of KPIs is huge as they span across different processes what can make it easier to understand the big picture. Literature overview of this thesis also shows that by reviewing the results, it should be possible to decide what needs to be done to achieve the goals in the future in case they were not

achieved now. Measurements and indicators can be categorized in two groups: result indicators and performance indicators. Result indicators (RIs) are a summary of the activity of more teams than just one and RIs are a great overview of the cooperation of teams. In performance indicators the responsibility of good or bad performance is on a single team's shoulders. Key result indicators (KRIs) are very often mistaken for key performance indicators (KPIs) and KPIs are too often supposed to be financial or numerical measures that can be easily counted. Apart from KPIs that can be measured even hourly, KRIs are always a past measure and KRIs do not instantly tell what is needed to be done to improve the results, as they are being reported "too late". There are still many organizations who cannot see a difference between the KRIs and the KPIs. This might result to the KPIs conducting in negative effects. (Parmenter 2015, 2019.)

The survey sent to the customers also shows that the role of KPIs in achieving the strategic business goals of a company is considered being on a high level, what two of the respondents also indicated. It is uncertain why one of the respondents felt KPIs are not of importance for a company in general, even though all the respondents evaluated KPIs highly important in their own work.

7.1.2 Which Key Performance Indicators should be used in the Finnish transport unit of the target company?

For the Finnish transport unit, the goal is to have KPIs that help making decisions when it comes to improving the business. The KPIs should relate to the strategic direction of the Finnish transport unit. (Chapter 2.1, 13; chapter 2.5.2, 22). In general, the goals of the Finnish transport unit are to improve the unit's understanding of KPIs and how the company and its forwarders achieve certain promises, as Person A and B stated in the interview. In addition, Person A also stated that following the *volumes of transports*, *lead times* and the *costs* are looked for. The KPIs should be built and handled by a project team of two to four and all team members need to be committed full time to achieving the best results. (Chapter 2.5.5, 27;

figure 7, 27) The team should not either be too large, as it can cause problems with editing the files, as the team leader of the Polish analytics team stated.

Everything that the Person A mentioned are possible to be measured based on the interview with the Polish analytics team leader. The Finnish transport unit should use KPIs that provide transport related information, including *the total costs*, and *extra costs* and *savings* separately. The best way to measure transport related information such as *lead times* and *volumes* is Power BI, that includes transport related information. When it comes to measuring the costs, spot quotations and the central savings platform could be used as an advantage. The interview with the Polish analytics team leader shows that the above are the best current tools for using KPIs and reporting them.

The survey on its part shows that *On-time delivery* and *Average transport costs* should at least be reported to the customers. In addition, the customers evaluate *On-time pickup* and *Number of shipments* as the most important KPIs that the Finnish transport unit should include in the KPI reports for the customers. The KPIs that will be reported for the customers should be discussed separately with each customer so that the reports can be tailored to match their needs (chapter 2.1, 13), as there was some spread in the replies of what KPIs the customers find most important. The interview with the team leader of the Polish analytics team shows that they also begin with collecting requirements and suggestions from the person/unit who has requested for KPI reports, that indicates that this is exactly what the Finnish transport unit should also do.

Another point worth mentioning is that the Finnish transport unit doesn't currently have KPIs that relate to the customers directly. The interviews with Person A and Person B show that the KPIs are mainly connected to forwarders. The only data on the customers' opinions of the Finnish transport unit's current action is a survey "*voice of customer*", which is basically a survey that measures the overall satisfaction of the customers and doesn't focus enough on questions of KPIs.

The KPIs need to be derived from the Critical Success Factors (CSFs) that bring the most value. The Finnish transport unit should focus on building measures that enhance performance. Measures that deliver nothing to the organization are a waste of resources, but not a failure. In fact, an accurate decision is needed that will allow the company to use its resources on those activities that create value to the organization. The KPIs need to be developed by the CSFs that bring the most value. (Chapter 2.5.4, 25; figure 6, 24).

7.1.3 Key Performance Indicators currently and in the future

The below Figure 20 shows what KPIs are currently used in the Finnish transport unit and what KPIs could be used in the future, supported by findings in this research.

<u>Key Performance Indicators used currently in the Finnish transport unit</u>	
Shipment Volume	Transportation Costs
Loading address & delivery address	Lead Time
Estimated time of arrival	

<u>Key Performance Indicators that the Finnish transport unit should use</u>	
Lead Time	Transportation Costs
On-Time Pickup	On-Time Delivery
Number of Shipments	Order Accuracy
Shipping Time	On-Time Shipping
Savings & Extra Costs	

<u>KPIs for the reports to customers</u>	
On-Time Pickup	On-Time Delivery
Average Transport costs	Number of Shipments
Order Accuracy	On-Time Shipping
Delivery Time	

Figure 20. Development of Key Performance Indicators in the Finnish transport unit

Based on the literature overview, staff interviews and customer survey the above KPIs should be considered to be used by the Finnish transport unit in the future. A golden rule for the number of KPIs that a company should use is usually 2-4 per goal (Lönqvist, Antikainen & Kujansivu 2006), and so said “less is more” applies for KPIs as well (Bernard, 2015.) All these KPIs are common in logistics, and used by many other companies, what confirms that they can be taken advantage of. (Chapter 3, 28-32). These KPIs are also used inside the target company, confirmed by the team leader of the Polish analytics team when discussing their services to various units in the target company.

7.1.4 Pickup notifications

The *pickup notifications* work quite well at the current state, but when they are inspected from the perspective of KPIs, some things could be added besides the “avgående transport” (chapter 4.1.1). KPIs could assist the transport unit by giving a notification if a shipment is not yet picked up, even though it should have been. There were a few cases recently where shipments got delayed by one week as a carrier had problems with its IT system. Therefore, information about a needed pickup didn’t go over to the carriers traffic department, responsible of scheduling the loading and unloading of their trucks.

To prevent delays such as mentioned above, a KPI that indicates when a shipment has passed the pickup date that the transport unit has marked, there would instantly be a notification that the shipment has not been picked up. Detecting shipments having not been picked up is currently almost fully manual, there might be weeks when employees are under a rush and cannot find the time to check and confirm if separate shipments have already been picked up. Without systematic notices, one could possibly just forget to check through the list of shipments after a few days, due to being busy with other shipments.

As a requested pickup date is set in the system by the transport unit, the carriers could check if the requested pickup date can be taken care of and either confirm the date or decline the request and set the next possible pickup date as a confirmation. The system would then notify in case the pickup date has passed and we have not received an “avgående transport” notification as a confirmation. This KPI would help keeping the planned pickup percentage higher and delays smaller, that also impacts customer satisfaction as if the due date is missed, the delay would be decreased to the minimum (chapter 4.1.2) By the help of this indicator, the customer could also be informed right away that the shipment will be delayed by one day, as information is received after the planned pickup date has passed. This would be considerably better instead of them unfortunately knowing one week later that their order has not yet been picked up, even though it should already be on the road or even delivered.

7.2 Reliability and validity of the research

Encompassing research reflects its reliability and validity. Reliability means that the same result is achieved when the research is repeated. Therefore, the constancy of a research is examined by reliability. Validity for its part means the competence of a research, or in other words if the correct facts for the topic are researched. (Hirsjärvi et al. 2008.)

The reliability of the material received from interviews and surveys depends on the quality. Research cannot be seen as reliable if the material is classified or documented randomly or if the sound of the recordings is unclear, for example. (Hirsjärvi et al. 2008.)

This thesis kept its focus on producing reliable content from the start, including definition of theoretical framework, analysis of relevant scientific literature and documentation of empirical findings. The research results of this thesis can be classified as valid, since the interviews and survey included a large variety of persons

who work in the industry and handle KPIs, with one of them being an expert with KPIs.

The questions used in the interviews and survey were approved by the principal of this thesis before the interviews were held and the survey sent. The questions were also sent to the interviewees a few days before the interview to ensure that the interviewees would have time to prepare and have a better understanding of how the questions were meant to be asked. The questions in the survey were also explained to the customers beforehand to make sure that the respondents would have a better understanding of the questions. In the end however, one or two questions could have been more precise to ensure that the replies answer on the question in a way that the researcher aims at. The interviews were recorded with two separate devices to ensure that the quality of the recordings was on a very good level.

7.3 Research benefits and follow-up research suggestions

The goal of this research was to create a reliable and encompassing information kit of KPIs, how KPIs can be utilized in achieving the strategic goals in a company and what KPIs the target company could and should use. In addition, the goal was to gather more specific information of the target company's current state of KPIs and how/what KPIs are used in logistics and other organizations or teams.

The benefit of this research can be evaluated as high because the target company's knowledge of KPIs were on a basic level when it came to the transport unit in question. KPIs have existed in the target company for a while, but they do not yet show the full potential, and some could also be valued as metrics (chapter 4.1) only. As the target company has now decided to improve its KPI's, this research will be a great advantage, helping to ensure that the full potential of KPIs can be achieved.

As a topic, KPIs are a very wide one. This topic can help companies in general to understand the value of KPIs and how they can be utilized in achieving strategic goals. For the target company itself, it would be beneficial to do wider research on the stakeholders' KPI procedures. For example, forwarder companies were left outside of this specific research so it could focus on a more limited totality. It would be worth researching how the data received from forwarders could be improved and how the process itself could be improved.

Another follow-up research suggestion would be the needs and wants of the customers when it comes to KPI reports. This specific research shows that it would be a good choice to discuss KPI reports more closely with each customer separately so that the KPI reports could be tailored to match the needs and wants of each customer. The customers might appreciate separate KPIs, as seen in Figure 20.

The forwarders don't currently provide information separately for the transport units of the target company, what means that the Power BI reports only show shipments for the whole country and cannot be filtered to show the shipments separately for each unit and/or city. It would be highly recommended to take a further look on this "problem" so that the data could be filtered. It would allow the Finnish transport unit to access more specific KPI data that applies for that unit only. (Chapter 6.2.4, 56).

It would also be great to discuss more of the KPI reports that they could provide to the Finnish transport unit with the Polish analytics team. The team leader of the Polish analytics team stated in the interview that the Polish analytics team can probably arrange some more specific reports in 2022 when the target company has finished a project that will help the Polish analytics team to receive more data from the transport units. It would be very interesting to investigate further whether the Polish analytics team is able to tailor complete KPI reports based on the requests of the Finnish transport unit.

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