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Using Digital Dashboards and KPIs for Visually Managing a Consulting Company with Shared Ownership

Abstract

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The case company of this thesis has a business model where all employees are or will be owners (shared ownership). This is not a business standard for how companies are run, and there is a knowledge gap in how companies like this should be managed and measured. This study investigates how to implement Visual Management and re-think KPIs to run a company with shared ownership.

The thesis relied on using qualitative research methods such as conducting interviews, workshops, observations, and analysis of internal documentation. The study was conducted in five phases which are setting the objective, conducting the current state analysis, exploring existing knowledge and best practice, the proposal building, and validation of the proposal.

The current state analysis revealed that there were missing a KPIs which would guide the company as a whole and a common way to present observe the KPIs. The theoretical framework focused on the topics of Benefiting from Visual Management & Building a Dahsboard, Distinguishing Metrics & KPIs and Selecting KPIs for a consulting company with shared ownership

The proposal was built for the needs of all stakeholders including employees of the mother company and its subsidiaries, and it included Chief Executive Officer and Chief Technology Officer from the mother company. From the subsidiary there were multiple employees conducted during the thesis. The digital dashboard shows the measurements of the business targets and guides the case company on its development journey. During the study, the first version of the Digital Dashboard with KPIs was implemented and the first round of feedback gathered and analyzed. The development work will continue to keep Dashboard and KPIs relevant to all stakeholders in the company to improve company's day to day operation.

Keywords	Shared ownership, KPI, digital dashboard, visual management, IT consulting company

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1   Introduction

The Finnish law about limited companies states that "The reason for a company's existence is to make profit for the owners" (Osakeyhtiölaki, 2006.). When companies are organized in a way that there are owners and employees, there may be a friction between these groups, as stakeholders do not have the same end goal. The owners are typically aiming for the maximum profit for themselves, where others are optimizing their own salary and wellbeing.

There might be different compensation models which are trying to solve the problem of the stakeholders not having the same target. Some companies are breaking the boundary between the owner and the employee with their models (Kortepohja, 2021.). These other models may differ strongly from normal conventions, where there is no strong ownership of the company on the employees´ side. The assumption is that, when everyone has the same goal, there should be a different approach to how to manage a company. This is what NorthCode´s, the case company of this thesis, model is trying to solve with shared ownership.

Next, there is a question how to manage such a company. Normally, KPIs are indicators which are guiding a company on its path. When there is a different paradigm in how a company is organized, a set of KPIs, which are normally used, are not suitable in this context. Due to the different ways of structuring the company, there may be no uniform Key Performance Indicators (KPI) which bring value to all stakeholders. (Reh, 2020.) They need to be selected by those sharing the ownership of the company.

Finally, managing the company with shared ownership presents the challenge to find new ways to provide strong leadership. By nature, shared ownership brings more self-management in the organization, and it cannot be led by traditional management practices.

This study is seeking ways to address the above mentioned challenges and help the management of the case company owned by its personnel via KPIs and dashboards which would are radiating those KPIs.

1.1   Business Context

The case company of this thesis, NorthCode, is a consulting company which offers DevOps (Atlasian, 2021) services for their clients. NorthCode (hereafter referred to as "the company") is based in Finland, but it is working globally and has clients and associates globally. In most cases, services are sold on a Time-and-Material basis.

DevOps are a widely used practice in modern software development. DevOps´ core idea is to move code change as fast as possible from developers´ machine to production and give feedback about the quality of the change. This is called the delivery pipeline. In DevOps paradigm not only the delivery pipelines are automated and handled as a code, but also infrastructure is seen as a code and heavily automated. Nowadays in the world of cloud computing this is more and more natural.

Customers are everything from listed companies to small startups, including a wide range of different businesses, from telecommunication, medical companies to the banking industry. Clients are mostly in Finland but the company has served also clients in North America and Near East.

One of the most characteristic aspects in the case company is its disruptive business model where all employees are or will be owners and still have the benefits of normal employees. This shifts the normal company structure where there are owners, management and employees who do the productive work, to everyone being the owner.

1.2   Business Challenge, Objective and Outcome

The company which is structured in a way that there are only owners is significantly different from a company where there is a more traditional company structure. Employees are more responsible for their own work, and the information about the financial situation is more important to everyone and gives a better possibility to see where the company is at the moment, and what kind of steering maneuvers the company needs to do.

In the current ways of working, the case company's management gathers relevant information for all associates and presents it monthly, mostly manually. This is, however, an inefficient and ineffective way of gathering data and creating reports. Manual work to gather this information is not a modern way to do it, and once a month is not frequent

enough. Also, the data represents only those KPIs that management sees as important ones to show.

The discussions in the company show that the company would benefit from a relevant set of KPI, which should be visible, while data collection should be automated and visualization of these KPIs should be available to everyone, so they can be checked whenever needed. It should help to create a self-managed organization, where data is presented self-explanatory and in a self-guiding way.

Accordingly, the Objective of this Thesis is *to identify, select and present those KPIs those KPIs which are relevant to all associates in order for effective visual management*. Relevant in that sense, that it brings insight into the current position and guides employees in their day-to-day work.

The Outcome would be *a proposal on how to select and present those KPIs which are relevant to all associates in order for effective visual management*. When those KPIs are defined, data collection should be automated, manual work should be minimized as much as possible, and information should be presented in real-time. As a final outcome, there should be a *web page which shows those selected KPI as a dashboard*.

1.3   Thesis Outline

The scope of the thesis is the case company, with all stakeholders included in the development. The scope was selected with the idea that the KPIs should be visible to every stakeholder and provide relevant information, which would guide the whole company.

This Thesis is written in 7 sections. Section 1 is the Introduction. Section 2 is Current State Analysis. Sections 3 reports on the results of the current state analysis. Section 4 explores available knowledge and best practice on Visual Management and KPIs. Section 5 presents the initial proposal. Section 6 reports on the results of validation and presents the final proposal. Section 7 is Conclusion of the thesis.

2   Method and Material

This section gives details of the research approach, research design and data collection and analysis, which are used in this thesis. Nature of the thesis is that it presents a development project that brings change to the organization during the thesis work. The thesis data is collected accordingly.

2.1   Research Approach

There are multiple research approaches for conducting research and studies. Traditionally, *research families* are divided into two different types when doing academic work: fundamental research and applied research. Fundament research deals with theoretical level and is used for solving scientific problems. On the contrary, the *Applied research* is used for understanding particular business or management problem and for solving practical and developmental issues which are affecting a group or an individual (Saunders, 2019, 44-46)

The research families are also divided into *quantitative research* and *qualitative research*. Quantitative research focuses on collecting the numerical data, analyzing and making conclusions out of that data. Qualitative approaches collect descriptive and behavioral data from the subject under study. Conclusions are made from that data. (Saunders, 2019, 269-271)

In terms of the *research strategy*, there are several approaches that are popular in business studies: applied research, case studies, and a more recent variant, applied action research. Action research aims to solve an organizational problem when during the research and the subject under research is changed in an iterative way. (Coughlan and Coghlan 2002) Case Study examines detailed way of certain real-world case, where context is something which occurs in the sense individual, group organization event, or in action (Coughlan and Coghlan 2002) In the Applied Action Research (AAR) aims the change of the system during the process. Findings of the research are applied to the system which it is researching and make the system better (in the sense of Kananen 2013).

This thesis relies on using the Action Research approach and iterating as many times as necessary, AR is an interactive approach, where there are different stages. When one iteration has gone through, the next iteration starts. In every iteration the system is going to be changed and changes are analyzed and the next iteration will make actions from this analysis, in the sense of Coughlan and Coghlan 2002) as shown in Figure 1 below.
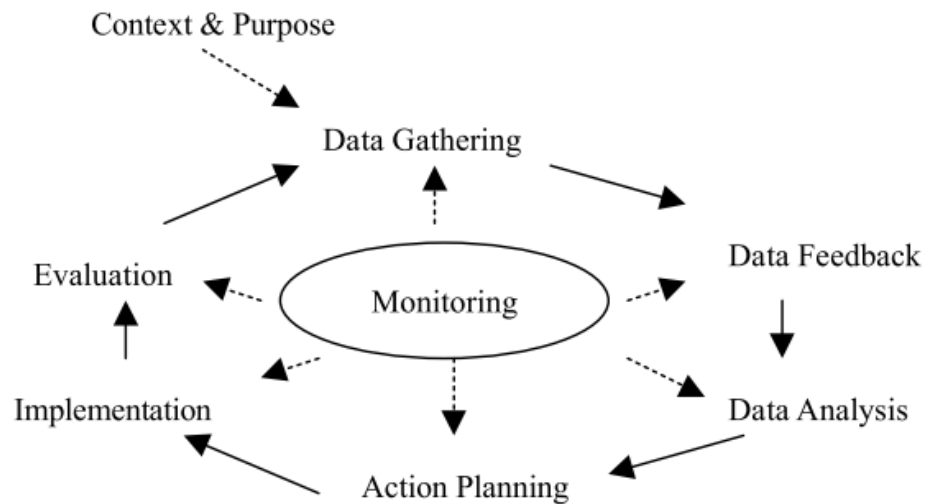
Figure 1. Action research cycle (Coughlan and Coghlan 2002).

This study is conducted using qualitative research methods and data is collected with interviews and workshops. The interest of the company is to make continuous improvements during the study and after the study. Even the solution which this study is providing is not ready by the end of the thesis, because the environment changes and the company itself is changing, the company is interested to continue iterating this development.

Next, Figure 2 presents the Research Design of this thesis.
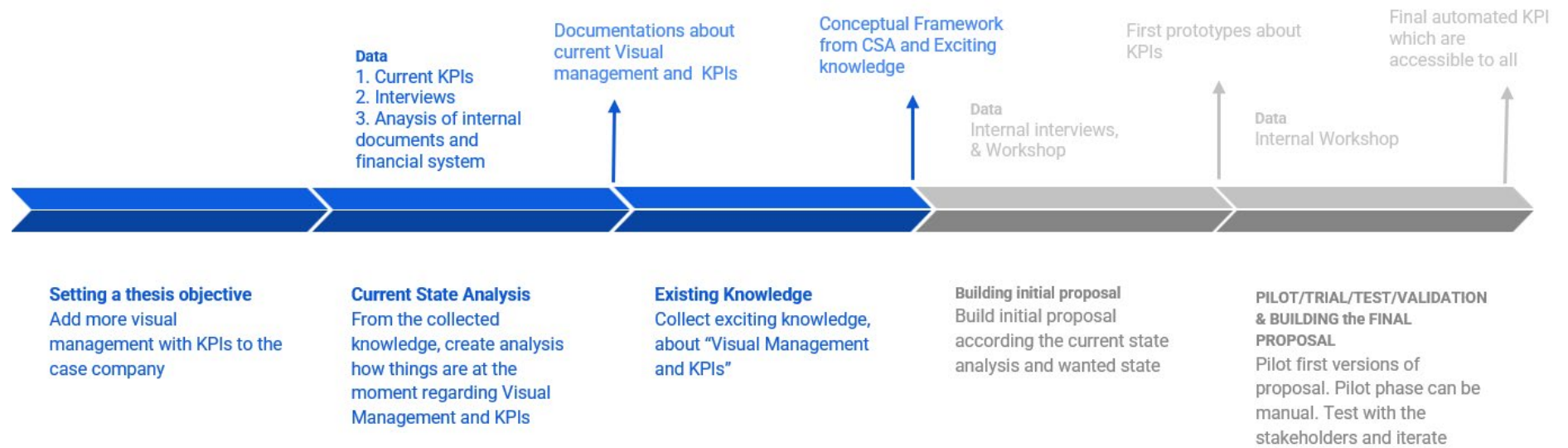
Figure 2. Research design in this thesis.

2.2   Research Design

Figure 2 below shows the research design of this study.

In Step 1, the research design starts with setting the objective for the thesis. This objective is to apply Visual Management to selected KPIs at the case company.

Step 2 creates a holistic view through the whole organization how things are now regarding KPIs: what is visible to whom and what is not; what are the strengths and weaknesses of KPIs in general and how stakeholders are consuming those and how their work is guided by KPIs. This is done by interviewing employees and looking in the documentation which is created around KPIs. On the weaknesses part, CSA looks into improving the current state and identifying which are the fears around KPIs in general to understand what to avoid.

Step 3 includes the literature and best practice review about the Visual Management and selecting KPIs that ends in a conceptual framework. All this was done to find best practices to support the case company.

Step 4 includes the proposal. The proposal is based on the data collected from the co-creation with the stakeholders. The outcome is a concrete plan of the set of KPIs and how they are presented, so everyone in the company is guided by them.

Step 5 reports on the results of the pilot of the first version of the chosen KPIs and a way of presenting those. In this phase, the company is still doing things manually. The automation part will happen later, when KPIs are got steadily used and their maturity level is high enough and there is an agreed way to present those to the stakeholders. The emphasis in this phase is on how to apply concrete KPIs which will guide employees in the company in their daily work.

From the CSA and existing knowledge, the prototype of the first digital dashboard is created. In the proto version of the dashboard, data collection and visualization are not automated. Those would be manually updated. From the prototype trial, the feedback is collected and the KPIs iterating sets are started. Also, the ways of presenting these KPIs are gradually improved. When the sets of KPIs will start to be on that level that it is relevant and gives insights, data collection and visualization will be automated.

2.3   Data Collection and Analysis

As seen from Table 1, data for this Thesis was collected first for the CSA.

Table 1. Details of Data collections 1-3 used in this study.

	Topic, description	Participants / role	Data type	Date	Documented as
	Current State Analysis				
1	Collecting data about the Current State	CEO	Online Interview	March 2022, 1 hour	Field Notes
2	Collecting data about the Current State	Specialist Owner 1	Online Interview	March 2022, 1 hour	Field Notes
3	Collecting data about the Current State	Specialist Owner 1	Online Interview	March 2022, 1 hour	Field Notes
4	Collecting data about the Current State	Specialist Owner 1	Online Interview	March 2022, 1 hour	Field Notes
5	Collecting data about the Current State	Specialist Owner 1	Online Interview	March 2022, 1 hour	Field Notes
6	Collecting data about the Current State	COO of Luoto & Company	Online Interview	March 2022, 1 hour	Field Notes
	Proposal				
1	Drafting Proto version of the Dashboard	CEO and CTO	Workshop	April 2022	Draft of dashboard
	Validation				
1	Validation and iteration 1	2 participants for the mother company. 3 specialist owners	Workshop	January 2023	Table of improvements

Table 1 above shows that, there was diversity in the roles of the stakeholders involved in all three rounds of data collection. In the CSA (Data 1), the input was asked from the Chief Executive Officer (CEO), who was representing the mother company. Then there were four employees from the subsidiary (specialist owners) and COO from the Luoto company (Luoto). Luoto has been using the same company model for a longer time. This approach allowed a sufficient representation of all stakeholder roles. During the CSA phase, the study investigated current KPIs and how they are affecting employees. It was

done mostly through interviews and workshops, as well as observations and data from the systems, reports and meetings.

When conducting interviews for the CSA, multiple stakeholders in different roles were interviewed. A set of questions which were asked from every individual. Those questions aimed to create an overall picture of how KPIs are seen in the company. The interviews were conducted using Telco meetings and every interview was captured in the interview document (field notes). After the interview sessions, data was transcribed and analyzed and key findings were found. The following questions were asked from the stakeholders who were interviewed.

Table 2. Questions asked in CSA.

	Topic(s) to interview	Question
1	**Starting point experiences in view of the topic problem**	What is your role in the company?
2	**Identify business needs**	For what does our company need Key Performance Indicators (KPIs)?
3	**Key Concerns**	What are the concerns regarding KPIs?
4	**Key Strength**	What are the strengths regarding KPIs?
5	**Current KPIs**	What KPIs are currently in use? What are the strengths of the current KPIs? What are the weaknesses of the current KPIs?
6	**What we are missing**	What data/information should be more visible?

Table 2 shows the questions asked during the CSA in more detail.

1. What is your role in the company? This question gives an understanding of the person's role inside the company. The more diversities are the roles, the wider is the understanding about the KPIs which company needs. The thesis aimed to involve all roles in the company in order to have a wide understanding about the current state.

2. For what reason does our company need Key Performance Indicators (KPIs)? The question aims for understanding in general how employees are seeing KPIs. Where do the companies really need them and why do the companies need them? In the company context, KPIs should be relevant for the wider audience and should guide the stakeholders towards the company's goals.

3. What are the concerns regarding KPIs? The question aims to understand what KPIs the company should not implement and why they should not be implemented. What are the fears included in KPIs in general? The company wants to understand why employees see KPIs as a threat to avoid those pitfalls. KPIs should be seen as a friendly thing.

4. What KPIs are currently in use? Different stakeholders want different KPIs. The question aims to understand how different stakeholders see what the company is measuring; what kind of information they are getting from the KPIs and how KPIs are guiding them in the company.

5. What are the strengths of current KPIs? What are the strengths of the company at the moment? The company is creating the first set of KPIs and it is important that nothing needful is thrown away.

6. What are the weaknesses of current KPIs? Is there something which is not needed, or even harmful? The company needs to remove or modify those which are not helping or can be even harmful.

7. What data/information should be more? What KPIs are the company missing? What information presented should be more visible to guide us further.

In the proposal building phase, Data 2 was also collected using a workshop. The workshop was held with the leadership team. Collecting data happened when looking into best practices and also reflecting on the results from the CSA. During the workshop, the team wrote down all ideas for the KPIs which arose and voted for the ones it saw as most important and collected reasoning for each KPI, what KPI measures and why it measures it. A dashboard with the KPIs was created based on that workshop results. First version of the dashboard was created using Google Slides and data was collected manually to different Google Sheets. Everyone has access to this dashboard, and it was also used in the monthly meetings.

In the validation phase, Data 3 was collected using the workshop where the proposed dashboard was analyzed and the value for each KPI for the observer was measured. The workshop was conducted online. There were two employees from the mother company and three specialist owners.

3 Current State Analysis of Company's KPIs

This section talks about the results of exploring what is the current state of KPIs in the case company.

3.1 Overview of the CSA

The goal for the CSA was to understand the strengths and weaknesses of the current KPIs, what company´s KPIs are currently in use, and what kind of KPIs the company needs.

In the beginning, the CSA describes how KPIs are shown to the different stakeholders and on what kind of occasions, in order to give an understanding of the overall picture of how the case company is using KPIs. From the current KPIs point of view, it becomes clear how they are guiding the work.

In the next phase of the CSA, interviews are conducted to observe how different stakeholders are experiencing the current ways of using KPIs. In the interviews, many stakeholders in different roles inside the company were approached. Also, as an external benchmark, a Chief Organization Officer (COO) from a company with a similar operation model was interviewed who had executed the similar operation model (Luoto Company, 2022).

The CSA demonstrated that different stakeholders see different KPIs which are guiding their work from their point of view. During the interviews, strengths and weaknesses were found in the current KPIs. Then, the study took a closer look at the development needs in relation to the current KPIs: what the company should achieve with the KPIs, what are the threats of the company and what the company is lacking. The results of the CSA pointed out that, in the model of the case company, it is important to have a set of KPIs which are relevant for the wider audience.

3.2 Description of Case Company's Business Model

The case company's general business is IT-consulting where experts' work is sold to customers on a time-and-material basis.

Currently, the case company is in a process of change. It prepares to change its structure. In the future, the case company will have a mother company which has its own owners and then there will be the subsidiaries (as explained below, it will happen as soon as the first subsidiary is established). These companies will have different roles. The mother company has a role to run the business itself. It performs all administrative functions such as recruiting, sales, marketing, bookkeeping etc. The subsidiaries serve the customers, usually paid by hours, and subsidiaries are the companies that generate the work where sales comes from. In the following figure, the company structure is presented.
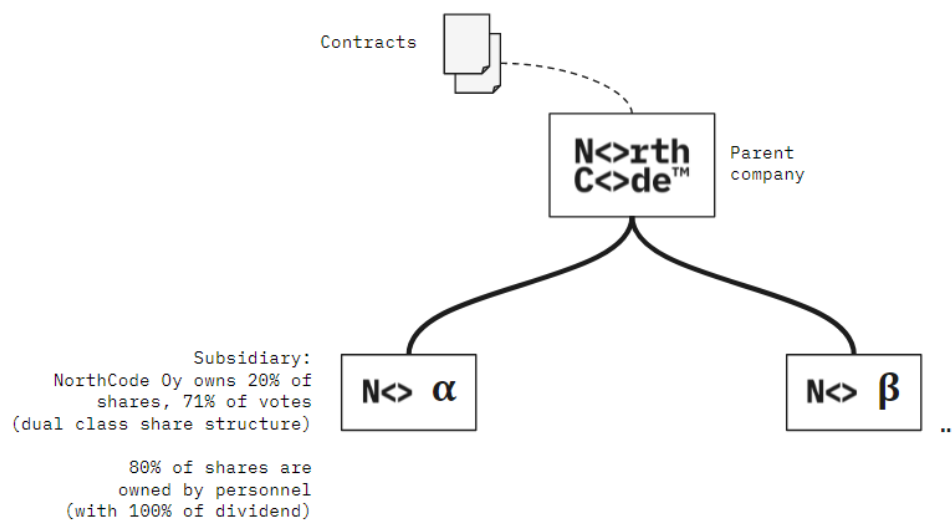
Figure 3. The company structure of the case company (Source. Company Introduction slides).

Customer contracts are made between the customers and the mother company, so the sales are generated first to the mother company. After the sales happen, 20% of the net sales stays in the mother company and 80% of the money flow goes to the subsidiaries. The subsidiaries are paying only their own employee costs, such as salaries, side costs, health care, tools etc. All the other costs are paid by the mother company. Those costs are things such as sales, recruiting, marketing, bookkeeping etc. This model is called Luoto Company's business model and it is described more thoroughly in Section 4.3.2, *Differences between owning models in Limited Companies*

When this thesis was written, the company did not have its first subsidiary yet. The plan is that the company gathers 20 people who are aiming to be a subsidiary to the mother

company. When it has those 20 people the company will establish a brand-new company, and a corporate structure is created. Before the organizational changes, the company is sharing the profit as a bonus with the same principles as if the employees would already be owners of the subsidiary. The only big difference is that money is shared as a salary, not as a dividend.

In a nutshell, subsidiaries are providing the services with their employees' time and professionalism, and the mother company is providing everything which is needed to run a business around that service.

3.3   Description of Current Ways of Using KPIs

This subsection elaborates how the case company is using its KPIs currently, and what are the occasions when KPIs are seen, and who is seeing them.

When talking about different stakeholders, these are the types of stakeholders in the case company: the stakeholders who are working for the mother company and stakeholders who are working for the subsidiary (specialist owners). These roles in the case company are different. Employees in the mother company are responsible for how the operations of the case company are running, and the specialist owners are doing the work for the customer where the sales are coming from.

The employees of the mother company are observing their KPIs on a daily basis, but more concentrated during the weekly leadership meetings. These KPIs direct the work of the leadership team. In the leadership meetings, operational decisions are made using the information from the KPIs and other information such as sales cases and available specialist resources. The leadership team consists of all the employees of the mother company. Currently there are two people in the mother company, Chief Executive Officer (CEO) and Chief Technology Officer (CTO).

Currently, the main KPIs are *the cash flow estimation* that tells how stable the operation is and what are the risk levels. Also different scenarios are shown. The scenarios include different *estimations about sales* and *recruitment*.

Figure 4 below presents Cash flow estimation (over the period of 4 months).

Skenaario 1   kassa 2021-01-27

Skenaario 2
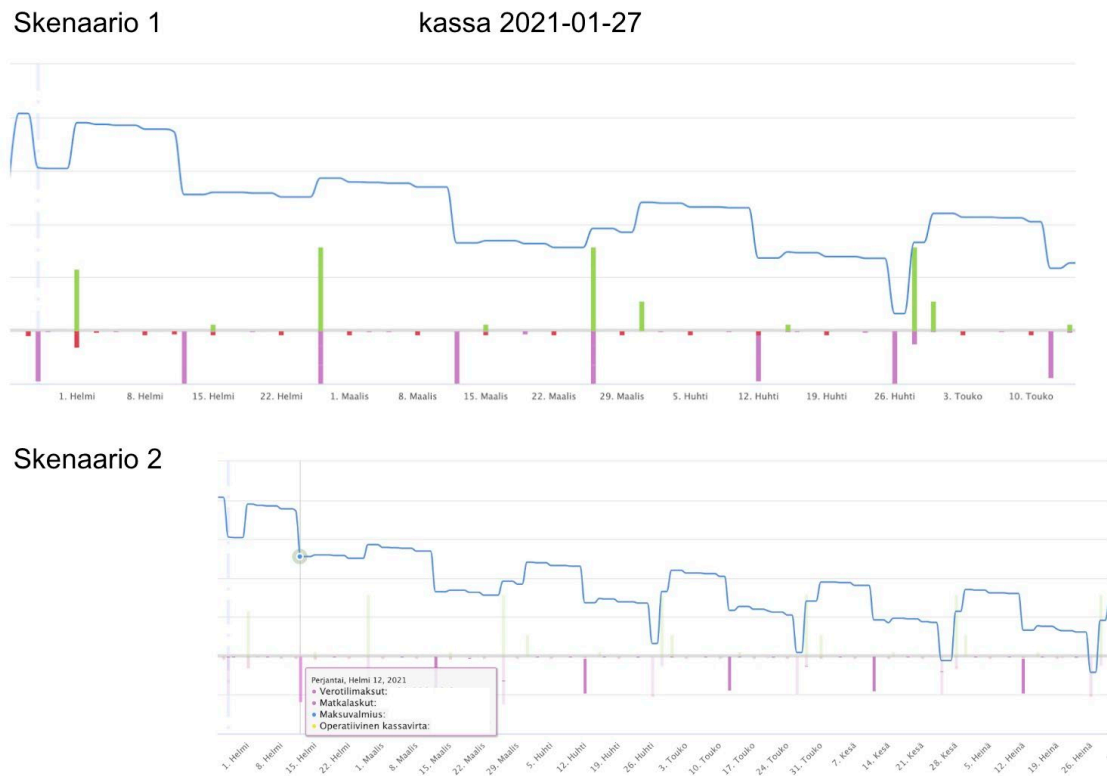
Figure 4. Cash flow estimation (Source: Internal documents from the company's finance system (Severa).

The case company arranges monthly meetings where all employees are present. In the monthly meetings, information about the current state of the company is shared to the specialist owners. This information is gathered and presented by the leadership team. During the meeting, not only the current state is shown, but also decisions are made.

In the leadership meetings, decisions are more operational and in the monthly meetings they are at a higher level.

Another type of KPIs used in the case company are the *data on how the subsidiary is performing*. In the monthly meetings, hard data on how the subsidiary is performing, in financial terms, is shown. The data is collected to a separate google sheet from the financial system and the subsidiary financial status is simulated there. It is just *a profit and loss statement* and no higher level KPIs are not derived from there.

Figure 5 below is the financial status of the subsidiary, and report is formed to the google forms).

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Tili**	**02-2020**		**03-2020**		**04-2020**		**05-2020**		**06-2020**		**Yhteensä**	
2	Myyntituotot	0 €		2 €		0 €		6 €		4 €		2 €	
3	**L I I K E V A I H T O**	0 €		2 €		0 €		6 €		4 €		2 €	
4	**Henkilöstökulut**	0 €		4 €	−59%	9 €	−66,19	6 €	−84,20	0 €	−130,6	8 €	
5	Palkat ja palkkiot	0 €		0 €		0 €		0 €		0 €		0 €	
6	Henkilösivukulut	0 €		4 €		9 €		6 €		0 €		8 €	
7	**Liiketoiminnan muut kulut**	1 €		2 €	−11%	0 €	−1,64%	8 €	−1,91%	5 €	−21,15	6 €	
8	Vapaaehtoiset henkilösivukulut	0 €		5 €		9 €		6 €		3 €		4 €	
9	Atk-laite ja -ohjelmistokulut	1 €		1 €		0 €		0 €		1 €		2 €	
10	Muut kone- ja kalustokulut	0 €		0 €		0 €		0 €		0 €		0 €	
11	Matkakulut	0 €		6 €		0 €		0 €		0 €		6 €	
12	Muut hallintokulut	0 €		0 €		1 €		1 €		1 €		3 €	
13	**L I I K E V O I T T O (- T A P P I O)**	1 €		6 €	30%	1 €	32%	2 €	14%	1 €	−52%	7 €	
14	**Yhteisövero -20%**	4 €		3 €		0 €		8 €		6 €		1 €	
15	**Voitto/Tappio**	7 €		3 €		1 €		4 €		5 €		6 €	

Figure 5: Financial status of the subsidiary (Source: internal documents source data is from the company's finance system (Netvisor)).

Also, the data on how the subsidiary is performing includes the data of the current number of the employees aiming to the subsidiary.

Figure 6 below shows the number of employees aiming to the subsidiary, from the first hiring to the current date.
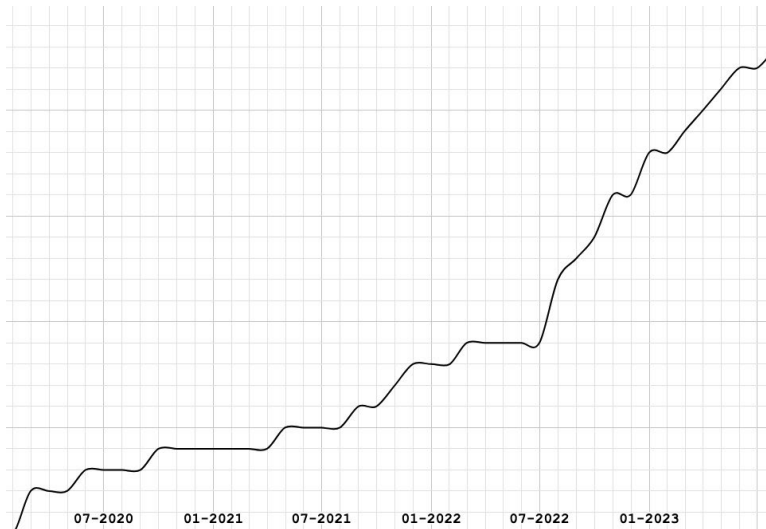
Figure 6. Number of employees aiming to the founding of the subsidiary (Source: internal documents created manually to the google forms).

This was the starting situation. No other KPIs were in place such as customer or employee satisfaction rates.

Thus, currently in the company there are KPIs that already create value to all stakeholders. KPIs are shared once a month in the monthly meeting. KPIs are financial KPIs, including the Profit and Loss statement of becoming subsidiary, the company as a whole, and the mother company. Also the estimation of profit is shared. There are also leadership team meetings where more operational KPIs are used.

However, there are currently no KPIs used that would measure more soft values, such as employee satisfaction rates. Also, shorter term KPIs are missing. The Profit and Loss statement is showing the things that have already happened. There are no KPIs for measuring shorter term success such as new sales cases won and/or estimation of successful sales.

Moreover, the KPIs are not shown in an easy understandable format, and they are scattered all over the company and to the different stakeholders. The KPIs are also mixed with data that has a lot of noise, when the company wants to have a good overall picture easily. The KPIs out of the company context were also investigated as well as

current KPIs used in the company. Also concerns regarding KPIs were identified: what are the current KPIs which are guiding the employees, what KPIs the company is missing, and what are the weaknesses regarding KPIs.

3.4   Analysis & Key Findings from the CSA

After conducting the interviews, the data was examined, and the analysis of the data and key findings was done. In the analysis phase, the study created understanding about the current situation, and identified the key findings of the CSA.

3.4.1   Which KPIs are currently in use

From the CEOs point of view, the current KPIs were clear. The company is using Severa as its Customer Relation Management (CRM) system. In the CRM, *every sale* is a ticket which has a status. Every ticket has *an estimation of the value of the sale*. From the sales point of view, the number of estimated sales per sales ticket is observed. The company sales manager is following this, the purpose is to tell about the effectiveness of the sales, it describes the explicit amount of how much the company has in the sales pipeline.

The core KPI is *completed invoicing per month* divided into parent, subsidiary sales and subcontracting. This is updated once a month. This is monitored by the company's operational management in their daily work. This is reported to the rest of the owners once a month.

Most finance KPIs are one month late. Table 3 above shows current KPIs:

Table 3. Current KPIs.

	KPI	Update frequnecy	Stakeholders (who are mostly interested)
1	Cash flow estimation	Real time	Mother Company
2	Income statement	Monthly	Whole Company
3	Revenue	Monthly	Whole Company
4	Cost of employees	Monthly	Whole Company
5	Operating costs	Monthly	Whole Company
6	Profit	Monthly	Whole Company
7	Profit per employee	Monthly	Specialist owners
8	Hourly rate.	Monthly	Specialist owners
9	Number of employees aiming to the subsidiary	Monthly	Specialist owners

Table above show the current KPIs into use, including update frequency and the stakeholders who are mostly interested in about them,

These KPIs are reported during the weekly leadership meetings and during daily operational work for the leadership team.

For the specialist owners, the picture was not that clear. Currently there are not that many KPIs in use, nor any clear KPIs that the company is following. On the organizational level, there are no KPIs that tell the rest of the employees what and how the company is following. During the monthly meetings, the company is checking revenue, profit, cash, sales pipeline and headcount. But it is unclear what the actions are that affect those KPIs and how those actions change the measurements. The goals are missing.

On a personal level, there is a cost assumption and there is a KPI for how much the company is generating revenue, but not what its utilization is.

In a comparison, the company's ecosystem partner has the KPIs which are in the table 4 Luoto's KPIs

Table 4. Current KPIs.

	KPI	Comments
1	Amount of the customers	
2	Number of recruitments	
3	Satifaction of partners.	
4	Satisfaction of customers	This is collected by asking during the customer meeting

Table above show KPIs which are used in Luoto Company. Notable thing is, that there is a objective behind every KPI, which can be shorter or longer term.

Summing up, currently there is no holistic approach to the KPIs that would satisfy both the management and the specialist owners. There is also no clear place where the KPIs are stored, and no understanding how those are used to lead the company. The management level had a clearer idea what those KPIs are, but for the owners of the subsidiary it seemed to be quite vague.

3.4.2   What the company´s KPIs need to measure: concerns about the current KPIs

KPIs give an ability to predict changes in the operating environment. Therefore, as the interviews revealed, the stakeholders expect that KPIs should be as clear as possible and they should be used to see the status of the target area. Such KPIs would give a holistic view about the situation. As the specialists stressed, KPIs should be used to ensure that the company sees the business on a solid ground and that the company is making profit; they also want to know what the company utilization is and what is in the sales, and in recruiting pipelines.

"If you cannot measure it, you cannot improve it." (Specialist Owner 1).

The specialist owners believe that KPIs should form an overall picture, a 360 view to help to understand a wider scope. For example, currently, looking only at the growth of turnover, the company can be attracted to bad recruitments. Hiring persons for fulfilling certain customer cases and overlooking other criteria are bad choices in the long run. At the moment, the company is measuring the company's financial status. The specialist owners believe that KPIs can also be used to measure sales and production. Currently, KPIs are used to measure financial performance. Yet, the specialist owners believe that they need a good understanding of how much money the company is carrying in and how much profit is being made.

> *"Acquire the ability to anticipate changes in the operating environment."* (CEO)

Presently, KPIs are also used to measure employee's productivity, performance and wellbeing. Yet, it would also be possible to measure how much money would be under the line on an individual level. In this case, the leadership team would not be the only one who observes KPIs. It is the responsibility of individuals. Everyone should see where the company is heading.

> *"The whole team should understand where we are going."* (Specialist Owner 2)

The specialist owners believe that KPIs should start with a baseline (historical data). Without this, it can become challenging to measure whether the company has gone in the right or wrong direction. The specialist owners are concerned that wrong KPIs and wrong culture around KPIs can play against the system. The company started to optimize the KPIs, not the operational model. The specialist owners believe that KPIs give only a partial truth. They raised such questions as: "does the company see only the wrong side of the truth?" The specialist owners are concerned that if the company is measured through the KPIs that which are wrong, the company starts to make wrong assumptions, which leads to optimizing wrong things. In the previous companies that the interviewed employees had worked for, they had felt that management was using KPIs to make things look good, rather than provide a true, realistic picture.

The specialist owners think that, if the company is using a non-holistic set of KPIs, and there is a danger of starting to optimize sub areas instead of the whole. The specialist

owners believe that the problem of current KPIs is that they are narrowed down too much and thus the company is not able to see out of the box.

> *"If KPI is set badly, it can lead to play against the system." (Specialist Owner 2)*

As seen from the statement above, the specialist owners believe that KPIs should be accurate enough and KPIs should measure the right things. If a KPI is on a too high level, they cannot be sure they are really affecting that KPI. KPIs should be something that they can really change.

Also, the specialist owners believe that KPIs should not be used to evaluate the individual. That would harm the whole system.

> *"KPIs should not be used for individual evaluation. It could damage the whole system. For instance. if an individual consultant has a billing rate, then the responsibility falls on him. It depends on the individual's situation. Let's try to get over a hundred, even if it would be more reasonable to be lower, e.g. 90%" (Specialist Owner 4)*

As seen from the statement above, the specialist owners believe that the utilization of one´s individual responsibility falls on the individual's shoulders. This would also be seen as measuring the value of the individual and this out scopes the humanity part from the organization. The specialist owners are especially concerned about the utilization rates. The company is trying to optimize and reach nearly 100% utilization of resources, when 90% would be better when the big picture is observed. There would be room for the studies etc.

3.4.3   Current KPIs in the benchmarking company

The benchmarking company, Luoto, is relying on a Vision and Mission statement. KPIs were built around that statement to measure the success of it. Vision draws a big picture of what a company wants to achieve. Missions generally define how to achieve that Vision, and Strategies are the ways of achieving the Mission. The mission and the strategy set goals and those goals can be measured.

Luoto is using the following approach to the KPIs. Those who want (max. 10 persons) choose topics for strategy work. The parent company brings insight, but the employees from the subsidiaries participate. The strategy work is done in a workshop and the subject areas are prioritized. This helps employees in understanding the goals and targets on a corporate level.

> *"We strongly believe in the path that the company should have a vision (attractive future goal), mission (why we exist), and strategy. The strategy is broken down into projects. These projects must have metrics that can tell when we have reached the goal."* *(Luoto's COO)*

Thus, KPIs give the benchmarking company an understanding where the company is coming from, where the company currently is, and where the company is heading at. Luoto has the KPIs built around Vision and Mission statements where strategies are measured. Strategies are something that are changing, so KPIs are also changing.

Luoto's COO also points out that the core idea is to raise blue collars (Parietti, 2022) to a level where they can have a more holistic view of the company. This means to understand the revenue, balance sheet, salaries, sales, customer management and different types of customer partnerships. Employees from more traditional companies still have the traditional way of thinking about how a company is operated. When a company brings information that helps to understand the business as a whole, it is a team-building and professional development factor.

> *"In our model the core idea of KPIs is to raise specialists to a level where they can understand the company more holistically." (Luoto's COO).*

In contrast, the case company of this thesis sees the KPIs more like constant variables which measure the company´s status continuously and thus believe that KPIs should not change often.

3.4.4   Strengths of current KPIs

From the CEO point of view, with the current KPIs the company can observe its current operating environment from a financial point of view quite adequately. These KPIs help to make different kinds of decisions, such as should the company make the decision to

invest or not. *The income statement* shows whether the company is on solid ground or not, and if employees still have work after tomorrow. Also, *the number of candidates* in the recruiting pipeline tells a story about the continuity.

The analysis revealed that financial KPIs were something new to specialist owners, because in their previous workplaces they were not visible to employees. These KPIs are very important and interesting for all, because everybody in the company is an owner and financial visibility is relevant for the whole company: the company knows where the company is and what it can do about it. *The sales KPI* must be taken with limitations, however, as it tellsl only about the rough magnitude of sales.

> *"It is very motivating to see how much we are receiving bonus from the profits. This one is the most motivating." (Specialist Owner 2)*

The analysis also revealed that it is very motivating for the specialist owners to see how much they are receiving *bonus from the profits.* This one KPI was seen as the most motivating because there is a direct impact on personal income. Financial KPIs also help to make own personal decisions.

The company is also measuring *the headcount* of the company. This KPI tells how close the company is to organizational change and when the subsidiary is going to be founded. Organizational change was discussed above in Section 3.2.

In summary, the strength of the KPIs was seen differently. The management is used to seeing the KPIs as the instrument to lead the company. From the specialist owner's point of view, the KPIs are seen more on a personal level, as an instrument to measure things are going and how the situation will affect the specialist owners on a personal level.

3.4.5 Weaknesses of current KPIs

There was again a different point of view to the weaknesses of current KPIs. The CEO of the mother company thought that it is *hard to do forecasts* with the current KPIs. *The sales KPIs* give some insight, but still the future is blurry. Nevertheless, the KPIs are used to navigate the whole company.

> *"A prediction with these KPIs is weak. Sales metrics can be used to predict in some degree only."* (CEO)

The specialist owners saw that the company was lagging in *a more holistic approach* to the KPIs and that it is missing. They believe that the company needs a more organized approach to KPIs, including answering such questions as *why* the company is measuring, what the company is measuring and *what* it really wants to measure. When the company decides to take new KPIs in use, it needs to be explained to the specialists why and how things are measured.

> *"A more systematic approach to KPIs is missing."* (Specialist Owner 1)

Also, some specialist owners want *to see these KPIs more regularly*, while for some specialist owners once a month would be enough.

While the company level KPIs are accurate enough, *the personal level KPIs are missing* which would help individuals to make right choices. From the current KPIs, it is hard to estimate, for example, how good *one's individual sales transaction was*. The sales price is visible, but *the length of the sales transaction* not. A couple of small sales can be more profitable than a larger one.

Also, it is not known how much *the common billing rate* is. *The invoicing rate* of the mother company must be distinguished from the invoicing rate of the subsidiary. The invoicing rate of one subsidiary is more important than the invoicing rate of other subsidiaries. It would be possible to prioritize whether to do more or less. Good practices can be shared between different subsidiaries and balance those.

> *"We don't know how much the billing rate is for the subsidiary. The billing rate of the mother company must be distinguished from the invoicing rate of the daughter company."* (Specialist owner 4)

Luoto did not see that there are many weaknesses in their KPIs. There would be no harm to have more KPIs, but time runs out.

Summing up, the holistic approach was strongly brought up. It was clearer to the CEO of the mother company what KPIs are to be followed and why, but for the specialist

owners it was vaguer. The company has KPIs, but those are detached from day-to-day work, and they are not guiding the employees enough on a personal level.

3.4.6 Development needs: what data/information should be more visible

From the CEO's point of view, because the company is selling employees´ competence, it would be worth seeing *the competence needs of recruiting*, i.e., what is needed from the customer's point of view. The company is never in a balanced situation with sales, and it often faces a dilemma of what is the correct level of *customer cases coming* vs. *candidates for recruiting*, and how to define these correct levels.

> *"You will never reach a stable state with the right number of cases and the right amount to sell. Can this be solved?"* (CEO)

From the sales and customer management point of view, the company is missing measurements related to customer feedback, e.g., the company is not doing customer analysis, and *customer experience measurement* is missing, as well as *the number of reclamations.*

> *"We are not measuring customer satisfaction."* (Specialist Owner 4)

Also, there should be more *Human Resource (HR) KPIs*. The company is not measuring its employees´ soft values such as *employee satisfaction levels*, nor hard values such as *individual utilization rates* or *individual hour rate*. There were different opinions expressed about the soft KPIs such as general satisfaction. Some specialist owners thought it was needed, and there was also an opinion that during the daily operations the satisfaction was shown already at a correct level. When talking about the team building and team development in the operations, there are some activities that can be measured, e.g., these are currently fully virtual sessions that the company´s employees have together, such as daily coffee breaks.

Utilization rate is a KPI that is more useful on a company level. There were various opinions expressed about whether utilization should also be shown on a personal level. Showing *a person's own result* can be perceived as distressing. For example, specialist owners cannot influence *own hourly price rate*, and these can affect the way of working and how an individual is operating.

On a personal level, things have gone mostly right, but there have not been KPIs to help to navigate. Not only was utilization interesting, but also *own profit* was seen as interesting too. This would not be visible to everyone, and only for the individuals in question, but there was still interest expressed towards this KPI among the specialist owners.

On a general level, there is an assumption in the case company that, if KPIs are well set, they would unite the whole team (company). *Good concrete goals* at the annual level would give a good boost to the joint efforts. e.g., acquiring a bigger number of customers. The company also believes that KPIs should be *explicit.* KPIs should show significant information, and they should tell the truth about what is being measured. The company also believes that KPIs, which are set *right,* would lead to right choices, both on the company´s level and on an individual level. There is an assumption in the case company that right KPIs would bring the team together and directs them in the right direction.

> *"If KPIs are set right, they are telling the truth in the purest form." (CEO)*

For example, there are expectations that, with measuring and demonstrating *the trends*, the company can make assumptions about what is the direction where the company is going. For example, via showing its *utilization rates,* the company can optimize its operations and adjust its work. There are also expectations that Specialist owner could react on a personal level, e.g., make more hours to the customer, or start to do sales work, for example, or consider searching for a new job, as an extreme example. There are expectations that, on a personal level, a good set of KPIs can direct individual career development and help in evaluating if the personal development is going in the right direction. There are also expectations that KPIs could also be used to plan personal finances; e.g., when the company is doing good, bigger investments can be made from a personal financial point of view.

> *"We know where the company is going and we can see the future, what the situation is. How much does it affect your own income for the year?" (Specialist Owner 5)*

There are also expectations that KPIs should be as *automatic* as possible in data collection and presentations point of view. This would reduce manual work and add a

real time element to the data and information presentation. Again, more *transparency* is expected, and also KPIs should be something which are *more relevant to everyone*.

3.5   Summary of the CSA Results

Table 5 summarizes the KPIs currently used in the case company and points to the stakeholders that who are especially interested in these KPIs.

Table 5. Current KPIs in detail.

	KPI	Description (what it measures)	Location (where stored)	Stakeholders (who are mostly interested)	Comments
1	Cash flow estimation	How much cash the company as a whole possesses and estimation how it will be in the near future	Severa	Whole company	Observed in leadership meetings and monthly meetings
2	Income statement	Detailed level about company's financial status	Google forms	Whole Company	Observed in leadership meetings and monthly meetings
3	Revenue	Total income to the company	Google forms created from Netvisor	Whole Company	Observed in leadership meetings and monthly meetings
4	Cost of employees	How much cost are direct employee costs like salaries and side costs of salaries	Google Forms created from Netvisor	Whole Company	Observed in leadership meetings and monthly meetings
5	Operating costs	All other cost from running the business excluding employee costs	Google Forms created from Netvisor	Whole Company	Observed in leadership meetings and monthly meetings
6	Profit	How much company is making money, after all expenses are accounted	Google Forms created from Netvisor	Whole Company	Observed in leadership meetings and monthly meetings
7	Profit per employee	How much money individual specialist owner is making	Google Forms created from Netvisor	Specialist owners	Observed in monthly meetings

8	Hourly rate.	What is average hourly rate what is billed from the customers	Google Forms created from Netvisor	Specialist owners	Observed in monthly meetings
9	Number of employees aiming to the subsidiary	How many people are aiming for the subsidiary	Manually updated Google Forms	Specialist owners	Observed in monthly meetings

Table above shows which KPIs are currently in use in the case company. There is also description about the KPI what it is measuring and stakeholders who are mainly observing those.

In the case company, there are already KPIs in use and they were shown to the stakeholders. However, we identified a strong division in perceptions between the mother company and specialist owners. Division in perceptions relates to how those KPIs were used. Employees from the mother company use them more on a daily basis, even though there are KPIs which are not present publicly. Specialist owners saw KPIs more detached from their daily work.

Even though they felt detached, Partners of Subsidiaries saw the KPIs as a different approach to the companies they had worked for previously. KPIs were perceived as relevant to their work and gave guidance. From the CEO's point of view the set was more covering than for the Partners of Subsidiaries for whom KPIs were perceived as not clearly shown and they were perceived as coming from many different sources.

The specialist owners felt that KPIs were not stored in one single place, and therefore they were hard to find. It would be beneficial to have one certain place, easily accessible and visible for every stakeholder, although different information is relevant for different stakeholders.

It also became obvious that the benchmark, Luoto, and the case company had a different approach to the KPIs. In the case company KPIs were used to measure the company continuously, while Luoto was measuring more strategic goals and those goals were set for a certain time.

Table 6 summarizes missing KPIs.

Table 6. Missing KPIs.

	KPI that is missing	Description (what it should measure)	Stakeholders (who are mostly interested)
1	Competence needs	Are there enough resources to serve customers.) Sales vs. recruitment pipeline vs. current available resources)	Leadership team
2	Customer feedback	How we are serving our customers, from the customer point-of-view	Whole company
3	Human resource KPIs	KPIs which are measuring our employee's wellbeing. E.g., Satisfaction index	Whole Company
4	How good is one sales transaction	How good was individual sales transaction. Main attributes are length and hourly rates	Whole Company
5	Individual KPIs	Measure individual against the average. E.g., employee hourly rate against average hourly rate	Individuals

Table above reveals missing KPIs, or areas where should be KPIs. There are also stakeholders who are interested in of those KPIs.

3.5.1 Strengths, weaknesses and other observations of current KPIs

At the moment, the company has KPIs to operate the company. There are both company level KPIs and individual KPIs. The company level KPIs are used to operate the company in order to see if the company is going in the right direction. Individual level KPIs help employees to plan their personal and work life.

Table 7. Summary of the Strength and Weakness of Current KPIs.

	Strength	Weakness
1	KPIs are everyone's concern, not only management´s	It is causing frustration, if employees have a feeling, that they are evaluated trough the KPIs. Especially, if there is no clear picture how they are evaluated and how they can affect the KPI which are evaluated.
2	The company level KPIs give enough understanding about the general direction of the company.	Specialist owners do not have that wide view to the KPIs that owners of the mother company have.
3	Number of recruitments is visible, which is critical for business	Forecasting of sales and revenue is hard with current KPIs, because there are no KPIs which are forecasting the future. KPIs are showing only the past and present.
4	KPIs are giving relevant information about current financial position of the company	From the specialist owners' point of view, KPIs are detached from their daily work. There is no clear picture how to affect to KPIs an individual level. Which action does change which KPI.
5	The individual level KPIs help to manage personal and work life	Sales KPIs should be separated to multiple subareas (mother, subsidiary, subcontracting).
6		A KPI is missing which is measuring the balance between sales and recruiting.

As seen in Table 7, what is missing is the holistic and transparent approach to KPIs. They should be the same to the owners in the mother company and the owners in subsidiaries. The company needs to show KPIs to everyone, and to show those KPIs in a way that directs the company as a team. It means the company needs to choose which KPIs would help it to navigate to the right path. KPIs are in multiple places and there is a noise around those. Yet, the company is not fully able to see with one look how it is doing.

3.5.2   Selected focus areas

After analyzing the CSA result, the company's strengths, weaknesses and other observations, the following areas were found to require improvement.

1.   Visual Management

2.   Selection of KPIs.

In the current state KPIs are not visible enough and they are not guiding the company sufficiently. They are hard to find, and they are mixed with data which is not relevant from

the KPIs point of view. The company also needs to find a way to share KPIs on a company level regardless of where the employees are located. These are the reasons why the company should add more Visual Management in the company.

The company is clearly missing KPIs that are relevant to its business. The company needs to find KPIs that are measuring things of importance. There is probably a myriad of KPIs existing that are designed for a more traditional way of running a business, or they are made for public companies. However, those are not fully relevant in the company´s business model. Thus, those KPIs that are relevant to the case company should be found that would meet the business and individuals´ needs of the company.

4 Existing Knowledge on Visual Management and KPIs

The end result of the CSA was that there should be relevant KPIs to address the needs of different stakeholders and those KPIs should be more visible to be useful and relevant for day-by-day work. This section discusses existing knowledge and best practices around Visual Management and KPIs.

4.1 Visual Management

According Galsworth (2017), the definition of visual management is to tie operations to the real work. This is done by using visual devices and visual systems. This will bring a new level of performance and it improves the company capability in the areas of precision, sustainability, and self-leadership. It is a management duty to create an environment which that is Visually Managed. Some examples of the tools for sustaining Visual Management activities are Story Boards, Posters, Photo Exhibits. Newsletters, Pocket manuals and Department tours. (Hiroyuki 1996.)

Tezel et al. (2016) argue that Visual Management does not have one clear terminology in literature. For the same practice, different names are used such as Visual Management, visual workplace, visual control, visual factory, visual tools and visual communication.

Galsworth (2017) points out that Visual Management is used to connect organization´s culture, vision, and goals with the work itself. Visual Management is one of the cornerstones of, for example, managing Lean manufacturing. The idea is to lead operations on all levels with the visual and audio manner. Visual monument at Toyota, for example, includes different dashboards for different stakeholders with all the relevant information about the operations. (Galsworth, 2017.)

In a Visual Management company, processes and stakeholders are connected by using human vision. Greif (1991) tells that the information the company is providing should be relevant for the stakeholders and **it** should give an understanding of how the organization works. Tezel et al. (2016) underline**s** that Visual management gives mutual understanding to everyone and removes the need **for** command-and-control structures. It helps to emphasize a stronger self-management culture inside the organization. When

Visual Management is done well, it gives a clear picture about expectations, performance, standards and warnings.

Bell and Davison (2012) emphasize how visual management has been growing besides linguistic management. Visual media which can be used for visual management can be two-dimensional like static pictures, cartoons, photographs, maps, graphs, logos, diagrams, two-dimensional moving film and video, interactive web pages and other multimedia.

According to Galsworth (2017) linguistic communications leaves room for various interpretations. Therefore, according to Galsworth (2017), visual and audio signals on the shopfloor are more effective than written instructions. Visual and audio management is easier and faster to understand and therefore prevents accidents and guides work more effectively. Those signals can be in the form of sound signals, signs, labels and markings. Figure 7 shows the advantages of Visual Management.
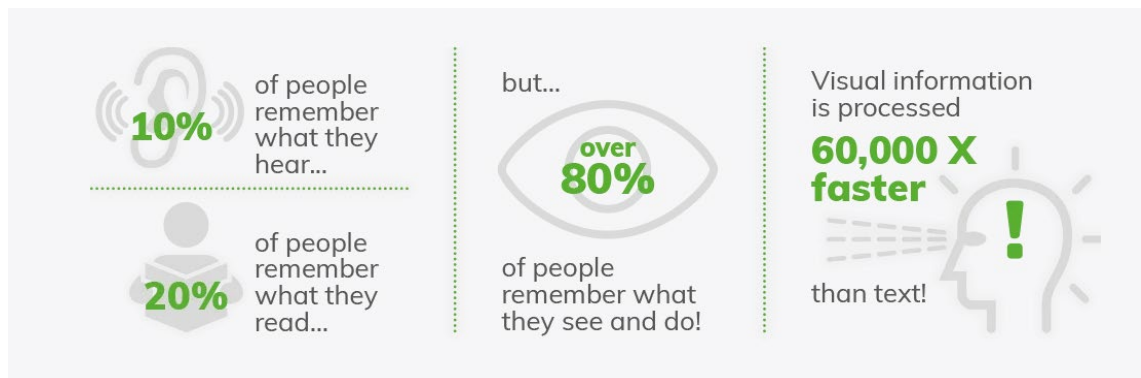
Figure 7: Advantages of Visual Management (Clarity, n. d.).

From a historical point of view, Tezel et al. (2009) tells that there is a long history behind Visual Management. The Egyptians used Royal Cubit as a measuring standard. The Chinese General Sun Tzu used gongs, flags, and signal fires for communicating and managing his army. In more modern times when Gants Charts were invented by Henri Gant, they have been used to visually manage the production. In more recent times, Toyota has been famous in the era of Lean about Visual Management. They have used it in the Toyota Production system. (Tezel et al. 2009.)

4.1.1   Functions of visual management

Tezel et al. (2009) argue that from the management point of view, there are different functions that Visual Management serves. These functions are mostly focused on directing an organization's day-to-day operations and ensuring that everyone has the right goal. Table 8 shows different functions that Visual Management has.

Table 8. The Functions of Visual Management (Tezel et al., 2009).

Function	Definition	Alternative Practice
Transparency	The ability of a production process (or its parts) to communicate with stakeholder (Formoso et al., 2002).	Information held in stakeholder's minds and on the shelves.
Discipline	Making a habit of properly maintaining correct procedures (Hirano, 1995).	Warning, scolding, inflicting. punishments, dismissing etc.
Continuous Improvement	An organization-wide process of focused and sustained incremental innovation (Bessant and Francis, 1999).	Static organizations or big improvement leaps through considerable investment.
Job Facilitation	Conscious attempt to physically and/or mentally ease employ ees's efforts on routine, already known tasks by offering various visual aids*.	Expecting employees to perform well at their jobs without providing them any aid.
On-the-Job Training	Learning from experience (Mincer, 1962) or integrating working with learning (Sumner et al., 1999).	Conventional training practices or offering no training.
Creating Shared Ownership	A feeling of possessiveness and being psychologically tied to an object (material or immaterial) (Pierce et al., 2001).	Management dictation for change efforts, vision, and culture creation.
Management by Facts	Use of facts and data based on statistics (Gunasekaran et al., 1998)	Management by subjective judgment or vague terms.
Simplification	Constant efforts on monitoring, processing, visualizing, and distributing system wide information for individuals and teams*,	Expecting employees to monitor, process and understand the complex system wide information on their own.
Unification	Partly removing the four main boundaries (vertical, horizontal, external, and geographic) and creating empathy within an organization through effective information sharing*.	Fragmentation or "this is not. my job" behavior

Firstly, Tezel et al. (2009) point out that transparency for all stakeholders is an important part of Visual Management. Visual management offers the tools to provide the same information for everyone, from the top management all the way to the shopfloor. This gives employees a sense of aiming towards the same goal. In the command-and-control environment where company data and information is hidden from all employees, a sense of driving in the same direction is missing. Visual Management drives towards to more

self-managed organizations, where decisions are more coherent, and they are made faster. This makes the whole organization more flexible and faster in their moves, thus adaption to the business environment happens faster. Visual management empowers employees to company processes and aids to make them better. (Tezel et al., 2009.)

Secondly, Tezel et al. (2009) emphasize that discipline is increasing when visual management is being used. Visual Management helps employees to see abnormalities in the process faster. Especially when an employee is a newcomer in the company, Visual Management helps the person to get into the company´s processes and work faster. Visual Management creates an organizational pressure not only to the management, but for everyone. This gives a notion that everyone is having the same target and the pressure of the organization is not only on the shoulders of a small number of employees. (Tezel et al., 2009.)

Visual Management also reflects organizational reality. The information can be used as a tool of power inside the organization. If someone knows something that others do not, there is a leveraging power for the first one. Visual Management shows things exactly how they are, and the information is spread equally across the organization. When Visual Management is used on all levels and all work phases are measured and visible to everyone, it shows to the employees that management is interested in the work results and care about the output. This should not be used to blame any employees, but instead for the management to see problems and support employees with those problems. (Tezel et al., 2009.)

Thirdly, Tezel et al. (2009) state that Continuous Improvement is facilitated with Visual Management. When things are visible to all employees, they are more easily improved. When improvement measures are taken into use it is also easily seen whether an improvement happened or not. This gives more power to the employees to improve the quality of their company. Visual Management removes bureaucracy in the organization. When employees are more responsible, they can be more innovative, because they are not tied to the rules, documented processes and guidelines. They can really make innovative choices about how they are doing their job and how to improve it. For example, when a deviation is observed, employee can immediately act on it and make needed changes to fix it. (Tezel et al. 2009.)

Fourthly, Tezel et al. (2009) point out that Job Facilitation becomes easier with Visual Management. Visual Management helps to create work routines. When things are explained as explicitly as possible with different kinds of visual signals, like dashboards, markings on the floor, signs and labels, it is easier to understand the job routines. With the linguistic way to guide the work, employees will forget the guidance more easily and repetition of the guidance may be required. This needs to be repeated vocally again or then the instructions need to be read again. When work is guided through visuality, stakeholders on different levels get a holistic picture more easily of the whole operation. Employees also understand the requirements of the work easier. When things are told in vocal or written format, there is still plenty of room for interpretations. When guidance is presented visually, this possibility is remarkably smaller. (Tezel et al. 2009.)

Fifthly, Tezel et al. (2009) state that On-the-Job Training happens faster when Visual Management is in place. When Visual Management is used, there is a strong connection between the guidance and the work itself. It makes it easier for employee to jump into the work and understand it. Visual Management articulates tacit knowledge to be far better than linguistics. Where linguistic communication tends to be more implicit, visual ways to communicate are more explicit. The meaning of the instructions is clearer for employees and misunderstandings tend not to happen. Visuals also ease employee's mental load. Linguistic communication loads brains more and visual communication is easier to digest. With visuals one can tell more and faster which enables additional information around the work to be added. When additional information is consumed there is a wider perspective about the matter on hand. It allows employees to have a more creative approach to the work and this gives a base for new innovations. (Tezel et al. 2009.)

Sixthly, Tezel et al. (2009) tell that by Visual Management a psychological ownership is tied from a person to the object, both material and immaterial. Visual Management creates concrete physical borders and areas where employees are tied to physically. When management is visual and easily understandable, it gives the employee a feeling of support and workplace signals give a clear picture of what is required from the individual. When the goal of the work is told in a clear manner and when the process on how to achieve this goal is clear, it creates a sense that the employee masters his or her own work. A sense of achievement is a booster for motivation and gives a great feeling of getting things done. Visualization also creates a sense that the company is working towards a common goal and welds the team together. When customers visit a Visual

Workplace, they also have an impression of being a priority, because the products that are creating value for them are on the display. (Tezel et al. 2009.)

Seventhly, Management by Facts is increased by using Visual Management. Visualization is reflecting the reality of the situation or the work phase to the right employee. When things are easy to see and information is also relevant, decisions can be made more easily and there is no room left for interpretations. Information and data can be used as political tools in non-Visual Workplaces. Stakeholders can create a personal bias around the data and put the data to tell the story they want. If visualization happens correctly, the data is in a form where insights are the same to everyone. Openly shared data dismisses information monopolies. Not one person or people are using their own translation about the data for a tool power. Everyone sees the same information and it becomes common knowledge. A dialogue about the data can happen cross organizationally. (Tezel et al., 2009.)

Eighthly, Tezel et al. (2009) point that Simplification happens with Visual Management. Normally organizations possess huge amounts of data and interpretation of the data is hard. There is a lot of noise, which is not relevant for the masses. That data can be relevant for a smaller number of stakeholders, but if it is shown to a stakeholder who is not specialized in that specific area, it can be confusing instead. Visualization should distil this data to information easily consumable by different stakeholders. Then the information can be discussed by different stakeholders in a more understandable form. (Tezel et al., 2009.) Lastly, Tezel et al. (2009) point to achieving Unification of the workplace with Visual Management. Workplaces are complex places with a huge variation of stakeholders and roles. Work processes and products vary from company to company. Visualization creates a sense of a common goal. When everyone is consuming the same information and discussing the same things then unification of employees can happen more easily. (Tezel et al. 2009.)

Summing up, Visual Management functions give a base of how Visual Management should affect to the applied target. The basis of this Thesis is to obtain the desired outcome using Visual Management.

4.1.2   Types of Visual Management

According to Tulip (n. d.), Visual management comes in many forms. Forms are meant to guide employees in different roles, so different types of visual management is needed. Visual management can be used on the shopfloor to manage employees working on the factory level by e.g., different dashboards, and for the management level other visual management types can be used, which are managing the business itself. Table 9 shows The Types of Visual Management.

Table 9: The Types of Visual Management (Tulip, n. d.).

	Type	Definition
1	Factory Layout	End-to-end flow layout and FIFO lanes to understand which part of the production which state of work is
2	Tools and Parts	Show where a certain tool should be or is it missing. Shadow boards and kaizen foam are used
3	Markings	On a shop floor warning signals, labels, signs and walking paths
4	Data Displays	Different kinds of Dashboards and Andons to show relevant information for the employees who are near those.

Table above show different types of Visual Management. Most of the Visual Management types are for managing factory environments where physical work happens with machinery and tools. This causes most of the different types of visual management to be obsolete in the company case, where employees are consultants in the IT-business working with the customer. This is the reason that this thesis is focusing on Data Displays and especially Dashboards. With the Data Displays many other things can be also presented, not only KPIs, but the thesis is focusing how to present KPIs on the Dashboards. Displays as part of data displays are discussed next.

4.1.3 Visual Management Using Data Displays (Dashboards)

When talking about Visual Management, literature speaks mostly about the environments which are physical manufacturing domains, such as a factory or shop floor environments where physical work happens, with machinery and physical tools. In many cases in literature, when information is presented on dashboards, digital aid is not used. Usually, they are displayed and updated in an analogue way, like white boards pen. An example of analogy Dashboard is Renault´s plant at Sandouville. The team's board summarized defects observed during inspection of assembled work in Figure 8 below.

Figure 8: Weekly Quality Indicator (Greif, 1991).

Nowadays, employees are working with different customers and most of the time remotely, that means employees are not working in the same premises and use a lot of PCs, electronic and online resources. Therefore, Dashboards should be accessible online.

Figure 9 below makes an example of a digital dashboard which gives relevant information the stakeholders.
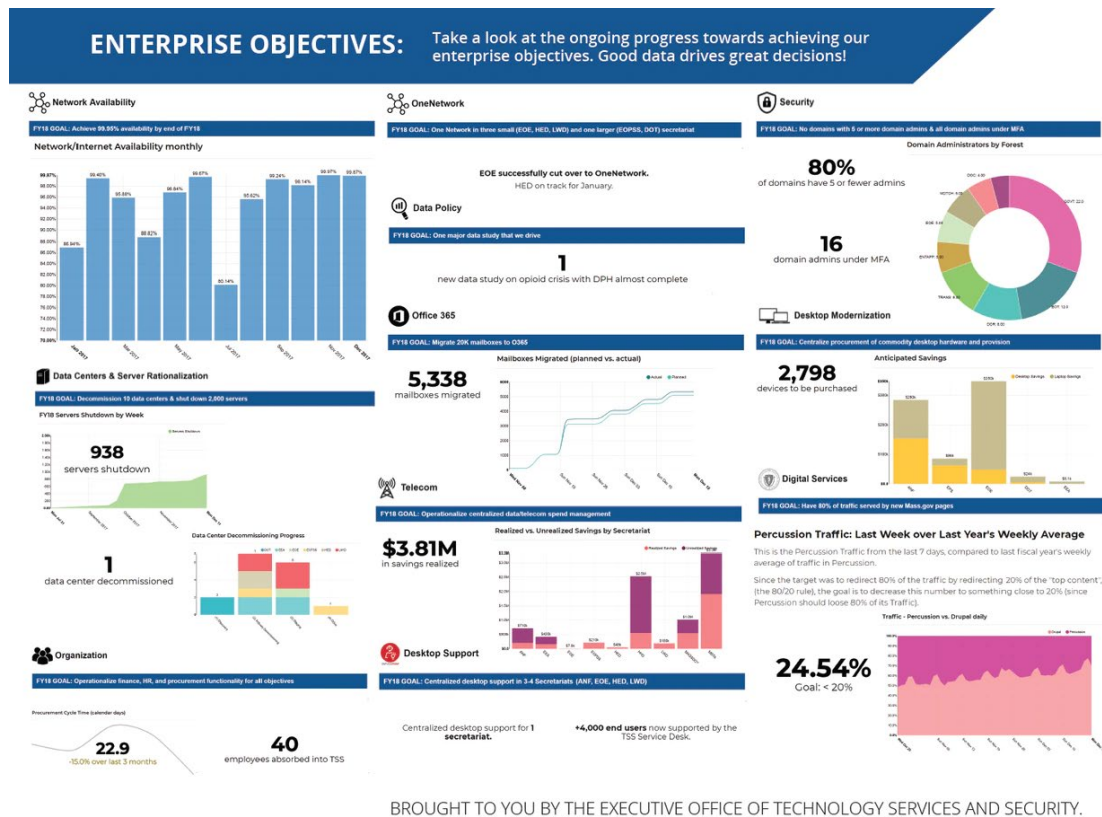
Figure 9: Online dashboard (Massachusetts Digital Service, n. d.).

Ingram (2022) believes that the goal of a dashboard is to provide information to the decision makers. It should be easily understandable and it should contain only high-level information, combined into charts, graphs, numbers, and other graphics as seen in Figure 8. This should be information that matters to the audience and people who make decisions based on it. On the other hand, in a physical point of view Tulip (n. d) believes that Dashboards are like monitors that are placed all over the workplace to gather meaningful information on that spot. It shares real-time information to the employees. These dashboards should be as self-explanatory as possible and built in such a way that the observer gets the relevant information with just a brief glance. These displays are called Andonds and dashboards. (Tulip n. d.)

Ingram (2022) advices to choose the following data visualizations: Numbers, Gauges, Line Charts, Column Charts, Bar Charts and Leader board visualization. More about these and how to organize a dashboard in Section 4.1.4, *How to Design a dashboard*

According to Few (2013), the dashboard should contain the most important information and for the viewer it should be shown in an easy and understandable way. Dashboards are visual presentations about the information, and it should appear on one screen, which makes it the easiest way to absorb the information. On these dashboards information such as KPIs and/or facts should be shown. Dashboards should show specific goals for the stakeholders and information to aim towards those goals should be easily understandable with a single look. (Few 2013.)

To summarize, literature on visual management is usually focused on manufacturing business. Some good examples are the shop floor markings for safety, and other Metrics and KPIs

4.1.4   How to design a Dashboard

Sundström (n. d.) points out that when dashboards are created it is important to understand what information the company should show and to whom. The information needs to be something helps or guides employees on their daily basis. The company needs to connect business critical information from different sources to create an overall picture. The data should be as much in real-time as possible, so that the decisions based on them are the right ones. The dashboards should be clear and easy to use, so that the conclusions made based on them are as accurate as possible. (Sundström n. d.)

It is important that Dashboards have accurate and meaningful information. If the information is not accurate, it can cause severe problems and wrong decisions. Non-meaningful information disrupts the ease of interpreting the dashboards. If the relevant information is hard to find, it makes the data of the dashboard irrelevant. This is important when collecting the KPIs and facts to the Dashboards. (Calzon, 2021.)

Calzon (2021) also stresses that Dashboards should be easy to understand. If the visual presentation of dashboards is not easily digestible, understanding the relevant information becomes hard. Stakeholders should understand the information that is presented at one glance. If the dashboards are too complex, the presented information is hard to read. This is an important part of designing the visualization of dashboards. (Calzon, 2021) Ingram (2022) points out, that data should be presented clearly and efficiently, so that not only the data itself should be understandable, but also the
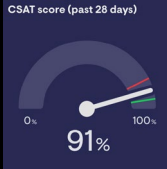
visualization should be done in such a way that it is easily consumed using colours, patterns and charts.

At the same time, Calzon (2021) warns that companies should not rely on only one Dashboard. There should be as many dashboards as needed. The need comes from the stakeholders' needs. There are different goals for different contexts. For example, dashboards can be project dashboard, division dashboard and company level dashboards. If a company is trying to fit everything in one display, the stakeholders can feel overloaded about the information. One dashboard should show information for one context. (Calzon, 2021.)

Next, as stressed by Eckerson (2021), Dashboards should have a real purpose. If the goal dashboard existence is vague, then they are not directing the work itself. When you start to design dashboards, the first thing to consider is what to achieve with them, after that start to add information and present it in a clear and understandable way. (Eckerson, 2010.)

Finally, Ingram (2022) is pointing out, that dashboards should have correct visualisations to support correct decision making. Well-chosen visualisations help the observer to understand current situation with just one look. Table 10 below shows different presentations of data visualisations.

Table 10: Data Visualisations (Ingram 2022).

	Visualisation	Definition	Example
1	Number	Displays a metric which can be presented as a single number. This visualization is simple and shows one piece of information without history or forecasting	
2	Gauge	Show a single data point and high and low boundaries for the data. There is also a needle, that shows the number on a right range.	
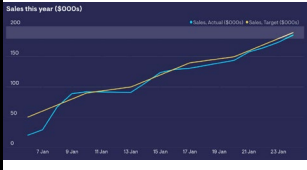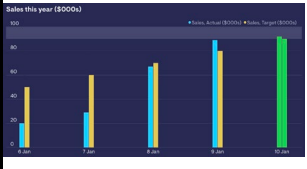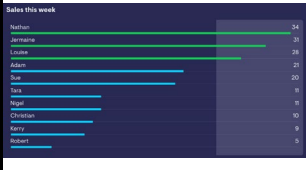
	Visualisation	Definition	Example
3	Line chart	Shows data in a series of data points. There is usually an interval of time when data is taken and it is shown in x-y axis	
4	Column chart	Show the data in vertical bars. Length is the amount of their values.	
5	Bar chart	Presents the data as a horizontal way. Bars are drawn from the values.	
6	Leaderboard	Ranks items in a list. Items have values, which are ranking the items on a list. Leader board can also show if ranking has changed	

Table 10 above shows different visualisations that can be used on digital dashboards.

In this section, metrics and KPIs are discussed, how they differ from each other and how to choose correct metrics and KPIs to the relevant contexts. There are different opinions on how metrics and KPIs differ. This section shows that approaches can be different, for example, that metrics measure the company's overall performance while KPIs can measures the company's performance towards a certain goal. Other approaches are also possible.

4.1.5   Metrics & KPIs

According to Perez (2021), *metrics* measure overall business health. When KPIs have a more targeted goal, which is tied to a certain goal or objective, metrics can have a wider angle. Bialobzeskyte (2022) points out that metrics are quantifiable data which is relevant for the company´s performance. Everything which can be measured inside the company

can be a metric. Which means, that metrics can be a really high-level measurement, like the revenue of the company, or it can be a really small piece of data such as how many visitors have been on a web page.

Perez (2021) reminds us that when everything can be measured, there is a danger that it leads to vanity metrics. Vanity metrics means that the company is measuring something irrelevant to business and can lead to the wrong path. It is important to understand what the company measures, so the company is not sidetracking. A few examples of metrics by Read (n. d.) and Bialobzeskyte (2022) include, for example: (a) Revenue, (b) Profit, (c) Profit margin, (d) Website traffic, (e) New signups.

According to Read (n.d.), *"a key performance indicator (KPI) is a measure that tells you how well business is progressing towards one of its most important objectives. However, a KPI is not the objective itself."* (Read, n.d.)

According to Bialobzeskyte (2022), when a company has set its own Objectives and Goals, those objectives and goals should be tracked. Company objectives and goals should be something which are measurable. Without tracking the goal, it is not possible to tell if the company achieved it. Here is when the KPIs step in. KPIs might be something which is one measurement if it contributes to the objective the company is trying to achieve. Again, it can be a compound of multiple suitable metrics when walking towards that pre-set goal. Tracking the goal should be constant and continuous, so there is always an insight where the company is heading in terms of the goal. A KPI tells whether the objective or goal criteria are met.

Read (n. d.) points out that KPIs can be something multiple stakeholders or teams can contribute to. If the target is a cross function target, it is natural that also the KPI that measures the success should be shared with multiple stakeholders.

> *"For example, let's say a software company has a KPI of "increasing new trial starts by 20% in Q2. In order to achieve this, multiple teams will need to work together:*
>
> - *Marketing might focus on growing website traffic*
>
> - *Product might focus on shipping new and valuable features*

- *Finance might look at creating an offer to entice conversions*

All of this work combined will help the business achieve its KPI." (Read n. d.)

Next, this section discusses Metrics and KPIs, the differences between them and areas of use. This is essential for this thesis when KPIs are decided. If the wrong KPIs are chosen or the KPIs are missing, the company cannot see is it achieving the goal what it has decided for itself.

4.1.6   Differences between metrics and KPIs

According to Perez (2021), KPIs are a subset of metrics. Where metrics can measure anything inside the organization KPIs are measuring a certain goal of the organization.

> *"While KPIs measure progress toward specific goals, metrics are measurements of overall business health. While they may be loosely tied to specific targeted objectives, they are not the most important metrics and may not be good guides as to whether you're on track." (Perez, 2021.)*

Table 11 shows Metric vs. KPIs to presents the differences of the concept of those.

Table 11. Metric vs. KPIs (Read n.d.).

	Metric	KPI
1	Measures the performance of different parts of business	Measure of the most important objective of team or business
2	Usually have an industry benchmark	Usually set by the company based on the objective(s)
3	Driven by a tactic, and individual and/or group in a team	Driven by multiple strategies and metrics (sometimes cross-teams in a company)

Table above reveals differences between the metrics and KPIs (Read, n.d.). According to Bialobzeskyte (2022), metrics can be something which are broad, and they are not focused on a certain goal. Revenue of the company can be used as a KPI, but many times it is used as a metric without a certain target. Read (n.d) points out that KPIs are something which are focused on the goal of the company, and it is something that tells whether the company is achieving that goal or not. On the other hand, metrics do not need to have a direct link to the business objective.

Bialobzeskyte (2022) has a point of view on the topic, that all measurements which are measuring the company are metrics. Only a few of them are tied to the business goals, which leads them not to be KPIs.

4.1.7   Categories of Metrics and KPIs

Twin (2022) separates KPIs and Metrics in four different categories. Each category has its own users, timeframe and characteristics.

Strategic KPIs are on the highest level. KPIs are showing high-level information and that information rarely exceeds that. In most cases it is the top-management that follows these. Examples of these KPIs are revenue, profit margin and return of investment. (Twin, 2022.)

Operational KPIs have a tight timeframe in Operation KPIs. They can be month-over-month or even shorter, like day-over-day. These KPIs measure operations of different segments, processes or geographical areas. These KPIs are meant to manage staff and are usually derived from strategic KPIs. An example of an operational KPI is when a company's revenue is dropping, and the assembly lines throughputs are checked, whether there is a problem on the shop floor. These KPIs are usually for the whole staff. (Twin, 2022.)

With *Functional KPIs* departments measure their own performance. These can be strategic or operational KPIs. For example, the sales department can check how many customers leads they are getting each month. The marketing department can follow how many visitors they are getting to their web page. These KPIs create value for the specific users. Example staff inside the department. (Twin, 2022.)

Leading/Lagging KPIs have a connection to each other. With these KPIs you can follow causality inside the company. For example, if overtime raises revenue should rise. On the other hand, this should affect the quality. (Twin, 2022.)

Information on different types of KPIs will help to create correctly targeted KPIs for this Thesis. The KPIs abstraction, target, timeframe and characteristic should be correct in order to serve the company in a right way and help the company to aim to the decided target.

4.1.8   Dashboards for tracking metrics and KPIs

Perez (2021) points out that both metrics and KPIs are essential to how you are observing the information from company. Data should be in such a way that is easy to consume. Dashboards are the key element to present information in an easy and understandable way.

Regarding Marr (2012) KPIs are performance measurements of the organization. Measurement happens on a different level and information shown should be relevant for the persons who are observing it. KPIs are like a dashboard which shows how a company is performing. That dashboard is used to steer the company in the right direction with correct speed.

The core of this theses is to build a dashboard that shows correct and understandable measurements. They need to guide in steering the company's day-to-day operations and show the progress towards the pre-decided targets. This information should be easily available and visible to all stakeholders.

4.2   Choosing KPIs and metrics for organizations with shared ownership

When choosing KPIs, it is important that they are aligned with the business goals. KPIs should also be relevant for the industry where the business operates, in other words the company should measure itself against relevant matters. KPIs should be something that are measuring the success of the company. This is a general piece of advice, but companies are like snowflakes, one size doesn't fit all. (Bialobzeskyte, 2022.)

4.2.1   KPI perspectives how companies are measured

Perez (2012) points out that companies are measuring themselves with their own business goals, which leads to the fact that there are not any specific set of KPIs, that can be implemented in every company. However, there are recommendations for KPIs which can be chosen to measure the company. These KPIs need to be tied to the business targets of the company. Marss (2012) points out that KPIs should have different perspectives. These perspectives have different viewpoint of how the company is performing.

Table 12 below shows the KPI perspectives in the company which is measured.

Table 12: KPI perspectives (Marss 2012.)

	KPI perspectives	Definition	Examples
1	Financial perspective	How the company is performing financially	Net profit, Net profit margin and Gross profit margin
2	Customer perspective	How the company is managing from the customer point of view.	Net promoter score (NPS), Customer retention rate and Customer satisfaction index
3	Marketing and sales perspective	Measurements from Marketing and sales operations	Market growth rate, Relative market share and Brand equity
4	Operational processes and supply chain perspective	Measurements of how company supply chain is performing. From the raw material to the customer.	Capacity utilisation rate (CUR), Process waste level, Order fulfilment cycle time (OFCT)
5	Employee perspective	Measurements from the employee's performance and. wellbeing.	Human capital value added (HCVA), Revenue per employee (RPE), Employee satisfaction index
6	Corporate social responsibility perspective	How responsible the company is	Carbon footprint, Water footprint and Energy consumption

The table above shows different perspectives of KPIs. Different type of KPIs are needed to measure different areas of the company. In this table those areas separate as a perspecitves, with examples how those areas can be measured trough KPIs.

4.2.2 Differences between owning models in Limited Companies

It is stated in Osakeyhtiölaki (2006) that limited companies are owned by the shareholders. These shares can be traded privately, or company can be public limited company, when stock are publicly traded through the stock exchanges. Stock owners have the highest power in the company and limited companies are aiming to generate profit to the owners if not stated otherwise in articles of association.

Corporate governance is hierarchical presentation about the company power structure. Highest level is the shareholders who are using their power in the general meeting. In the general meeting, board of directors are chosen and chairman among them. Board of Directors nominates the CEO who is a supervisor for the rest of the employees. CEO can nominate other C-level persons to aid his work. There is usually deeper

organizational structure with different layers of supervisors and subordinates, but in the end every employee in the company is a subordinate to the CEO. (Peterdy, 2023.)

Figure 10 below show a Corporate Governance strucuture
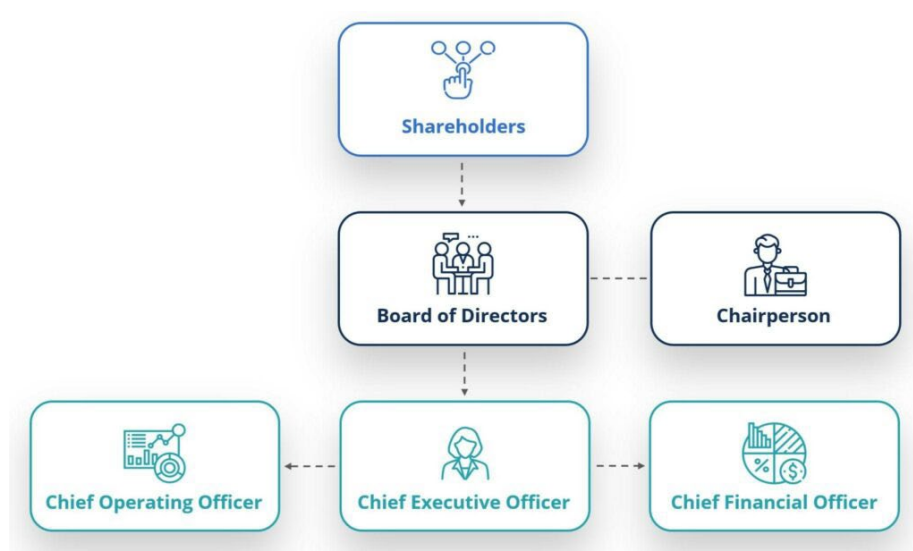
Figure 10: Corporate Governance (Peterdy, 2023.)

A Company can hand over their stocks to employees. When stocks are given to the employees, employees become owners of the company. Ganti (2023) describes a popular way to do that. The way is called Employee Stock Ownership plan (ESOP). In ESOP company employees have an opportunity to get company shares. Company allocates a certain amount of its shares which employees can get or buy. If a person leaves from the company, the company will buy those shares back. This is an engaging plan to hold employees in the company.

> *"An employee stock ownership plan (ESOP) is an employee benefit plan that gives workers ownership interest in the company in the form of shares of stock" (Ganti 2023.)*

Regarding Ganti (2023). There are also other commonly known employee ownership models: (1) direct-purchase programs, (2) stock options, (3) restricted stock, (4) phantom stock, and (5) stock appreciation rights.

As a Summary, companies where employees are also owners have a dissimilarity against those where employees are only workers. The key difference is in the absence of a division between the interests of the owners and employees in the former. Since both groups have a financial stake in the company's success, they share a common goal of maximizing profits. On the other hand, in companies where employees are not owners, the owners' primary objective is to make a profit, while the employees' focus is on performing their work. This creates a divide between the two groups, which can lead to potential conflicts of interest.

4.2.3   Typical KPIs to measure a consulting company

Regarding Brudan (2012), there are KPIs which can be used for measuring consultant companies. Table 13 shows KPIs for measuring a consulting company.

Table 13: KPIs to measure consulting companies (Brudan 2012).

KPI	Subcategory	Definition
Realization rate %	Business Consulting Revenues	Measures the percentage of revenue actually earned relative to the potential revenue represented by list prices
Labor Multiplier #	Business Consulting Revenues	Measures the revenue earned per each euro spent to employees
Bill Rate €	Business Consulting Revenues	Measures the average value of a bill issued to clients
Revenue by practise €	Business Consulting Revenues	Measures the amount of revenue generated by a particular service provider by the professional firm.
Consultants generating revenue %	Business Consulting Revenues	Measures the percentage of consultants involved in projects, hence generating revenue at a particular moment in time out of the total number of consultants in the team
Hourly fee €	Business Consulting Revenues	Measures the average fee the company charges per hour, considering the types of services it provides and its position on the market
Net revenue by technical staff €	Business Consulting Revenues	Measures the value of the net revenue achieved on a per technical staff basis.
Backlog of commissioned projects €	Business Consulting Revenues	Measures the total value of contract commitments yet to be executed.
Net Fees €	Business Consulting Revenues	Measures the net value of the fees billed.
Billable hours #	Business Consulting Revenues	Measures the volume of the work hours billed in period.

Consulting hours sold #	Business Consulting Revenues	Measures the total number of consulting hours sold by a service firm during a defined period. It applies to a range of industries, from business consulting to engineering and legal practices
Consulting hours generating revenue %	Business Consulting Staff	Measures the percentage of consulting hours that are charged, thus generating revenue.
Days of consulting #	Business Consulting Staff	Measures the number of consulting days, on average, per month per each consultant.
Employee utilization rate %	Business Consulting Staff	Measures the time employees actually used in project-related work relative to their availability
Chargeable ratio %	Business Consulting Staff	Measures the time spent performing chargeable world relative to total labor time.
Cost of service delivered €	Business Consulting Costs	Measures the overall cost of delivering the service to customer. It includes all costs directly related to the service (cost of labor plus delivery overhead costs)
Delivery overhead costs €	Business Consulting Costs	Measures the overhead costs (fringe benefits for the consultants, recruiters or lawyers, travel expences etc.) that are integral part of anyconsulting project or service delivery
Load cost €	Business Consulting Costs	Measures the value of the costs that are not directly related to the service delivery.
Billable fees write-downs	Business Consulting Costs	Measures the value of the produced billable fees that were not billed.
Profit per project %	Consultancy Projects	Measures the profit achieved by a specific project.
Profitable projects %	Consultancy Projects	Measures the ration of profitable projects from total project completed
Adherence to schedule estimate %	Consultancy Projects	Measures the actual time neede to complete a customer project relative to the initial estimated time of completion.
Project assignment of work package duration #	Consultancy Projects	Measures the average duration of work for a project of work package
Potential new clients contacted #	Business Development	Measures the number of potential new clients that were contacted in order to generate a sale.
Consultant retention by client %	Business Development	Measures percentage of consultant working for the same client in a new consultancy project.

Table above shows Top 25 Business Consulting KPIs of 2011 – 2012, which can be used to measure consulting company. These are important because they provide a framework for measuring the performance and effectiveness of such companies. By utilizing these KPIs, stakeholders can assess how well a consulting company is performing.

4.3   Conceptual Framework of This Thesis

The Conceptual Framework of this thesis is constructed from the relevant elements of selected knowledge discussed in this section. There are three parts of the Conceptual Framework. These are (1) Visual Management tools, (2) Metrics & KPIs, and (3) recommended KPIs for a consulting company with shared ownership.

Firstly, the Visual Management part of the thesis explores ways to do Visual Management and from there Digital Dashboards were distilled. Generally, how Digital Dashboards are created, but especially how Digital Dashboards can aid the company which is distributing and produces mainly code for the customers.

In the KPI part, this thesis presents what are the differences between Metrics and KPIs to understand what the company should show and why. In the latter part, the thesis explores more deeply how to choose correct KPIs for the company's purpose.

In the third part, this thesis investigates what are the differences between different Limited Company owning models and how Luoto Company's ownership model differs from them. This part also investigates what general KPIs are to measure companies and especially consulting companies. Table 14 shows Conceptual framework of this thesis

Table 14: Conceptual framework of this thesis

Benefiting from Visual Management & Building a Dahsboard	Distinguishing Metrics & KPIs	Selecting KPIs for a consulting company with shared ownership
1. Defining a digital dashboard (Tulip n.d.), (. Tezel et al, 2009), (Eckerson, 2010) 2. Elements in the digital dashboard (Ingram, 2022) 3. How to build an effective digital dashboard (Few 2013), (Calzon 2021), (Sundström n. d.)	1. KPIs and Metrics (Bialobzeskyte, 2022), (Read, n .d.), (Perez, 2021) 2. Definition of KPIs (Twin, 2022), (Marr 2012)	1. Specifics of the shared ownership model (Osakeyhtiölaki 2006), (Peterdy, 2023), (Ganti. 2023), (Luoto, n. d.) 2. KPIs to measure a consultant company. (Brudan 2012)

In next phase of this thesis, based on this guidance from existing knowledge, a proposal is built for initial Metrics and KPIs are chosen for the case company. As Calzon (2021) is guiding, Metrics and KPIs should be visible to all stakeholders, in a form that it is easy

to understand, and right decisions can be made from those. When choosing the metrics, general perspectives should be taken into consideration. For instance, how companies are measured in general (Marss 2012), but even more important is to understand how consultant companies are measured and take suitable KPIs from there (Brudan 2012).

Above all, the Conceptual framework gives a basis for guiding *any company* with a *stakeholder ownership model* for visually managing their company by selecting and displaying relevant KPIs. In the next section, this guidance will be discussed and selectively applied to helping the case company to overcome its challenges.

5   Building Proposal for Selecting the Relevant KPIs and Presenting them with the help of Digital Dashboards for the Company

This section merges the results of the CSA and the conceptual framework towards the building of the Proposal based on internal co-creation and discussions.

5.1   Overview of the Proposal Building Stage

This section presents the steps in the Proposal building for this study. This section focuses selecting the main areas are those KPIs that help in achieving the goals of the case company and Virtual Dashboards to present them to the stakeholders. When choosing the KPIs literature is consulted, but also because of the unique nature of the business model of the case company, there were also some KPIs discussed which are completely new. When KPIs are chosen, Virtual Dashboard design and technology is decided using exciting knowledge as a base.

CSA revealed that Specialist owners did not have the same information on the company state as owners of the mother company. They felt that the KPIs were detached from their daily work and did not guide their daily decisions. Also, forecasting from current KPIs were missing. As it was pointed out in literature, Visual Management should bring a mutual understanding of where the company is, with a well-chosen visualization. From the KPIs point of view, existing knowledge shows that KPIs should aim to the well-decided company goals and there are already KPIs which can support to achieve those goals.

The Proposal was built in a workshop and followed by the discussion with the leadership. The workshop was conducted by the leadership team. The leadership team had two people, CEO and CTO. The result was presented at to a monthly meeting and taken into use companywide in the Development of the proposal phase. The following themes were decided using a Conceptual Framework in the workshop.

1. Company Goals where KPIs are aiming at

2. KPIs to aim at those Goals

3. A Draft for presenting them in a Virtual Dashboard

5.1.1 Data 2 (selecting the KPIs for a shared ownership company)

This section explains how KPIs were chosen based on CSA and Conceptual Framework of this thesis. The case company's business is to sell employees' work in a time-and-material manner (i.e. it is a consulting company).

Table 15 shows Key stakeholder suggestions for the KPIs (findings of Data 2) for Proposal building in relation to findings from the CSA (Data 1) and the Conceptual framework.

Table 15: Key stakeholder suggestions for the KPIs

	Key focus areas from CSA (from Data 1)	*Inputs from literature (CF)*	*Suggestions from stakeholders for the Proposal, summary (from Data 2)*	*Descriptions of their suggestions (in detail)*	
1	Specialist owners do not have that wide view of the KPIs that owners of the mother company have. And From the specialist owners' point of view, KPIs are detached from their daily work. There is no clear picture how to affect KPIs at individual level. Which action does change which KPI	Differences between KPIs and Metrics (Bialobzeskyte, 2022), (Read, n.d.), (Perez, 2021) Definition of KPIs (Twin, 2022), (Marr 2012)	KPIs should be something. Which are guiding towards the common goal.	CEO and CTO agreed commonly that the company should avoid vanity metrics and KPIs should aim towards company common goal.	
			A company should measure itself against strategic goals instead of tactical ones	The CEO points out that now the company should aim for higher-level goals. The CTO agrees and points out, that maybe later more tactical level KPIs will be needed	
2	Human Resource KPIs are missing	KPIs to measure consultant companies. (Brudan 2012) Perspectives of how companies are measured. Marss (2012)		Add Human Resource related KPIs	Both CEO and CTO agreed, that company needs these.

As can be seen in Table 11, the discussion at the case company started with presenting the recommended KPIs derived from literature. In this discussion, the key points were opened and discussed with the stakeholders.

Firstly, it was discussed that, as stated by Perez (20219), KPIs should be created in such a way that they will guide towards *a certain business goal*, so KPIs should be something that is relevant to the case company. It was also discussed, as Perez (2019) warned, that the company should avoid *vanity metrics* and KPIs which would mislead the stakeholders. From the KPIs, the team needs to monitor the fulfillment of the objectives and goals of the company. These should be relevant to the company's context and to the field of business where the company operates. KPIs should be tied to these objectives and goals. At least one KPI should measure whether the company is achieving the goal or not.

> *"The Company needs clear goals and KPIs that guide towards those"*
> *(CTO)*

Secondly, it was discussed, as Twin (2022) suggested, that it could be *separated into KPIs and metrics,* as different categories. Based on this discussion, it was recommended that the company should choose more *strategic level KPIs* which guide the whole company, rather than *tactical level KPIs* which measure smaller targets. The goals where KPIs are aiming at should be broad and tell the case company if they are on the right track and performing right. If a KPI shows that the case company is not performing right, some counter actions should be considered. Maybe later, when the case company identifies more tactical level goals, the company should start to measure those as well.

> *"First we need to understand our strategic and holistic goals to aim for."*
> *(CEO)*

Thirdly, the company goals and the KPIs suggested for a shared ownership company were discussed.

The case company in this thesis is using the shared ownership model which differs strongly from the more traditional way of sharing the ownership. This model is called *Luoto Company's ownership model*. Regarding Luoto (n. d.) in their model entrepreneurship and being a normal employee without commitment of the

entrepreneurship is combined. In *Luoto Company's ownership model* there are two different types of companies. Parent company and the subsidiaries. 20% of the subsidiary is owned by the parent company and 80% is owned by employees in the subsidiary. Value adding work for the customer is done from the subsidiaries and the parent company takes care of all administrative and other costs which are generated when the company is doing its operations. 20% of net sales lands to the mother company which funds all its operations with it. 80% of the net sales lands to the subsidiary that is paying only the costs caused by the employees and work itself, like salaries, side costs of the salaries and tools. Profits from the subsidiary are shared among the owners of the subsidiary as dividends. This unique model has a strong track record to create good growth. (Lehtinen. 2023)

> *"Behind our growth is our unique ownership structure, which affects our customer experience. It increases people's motivation, team-based decision-making and overall commitmen -Tuomas Nousiainen (CEO of Luoto & Company"* (Lehtinen, 2023)

The stakeholders discussed the company's goals and the KPIs suggested for a shared ownership company were discussed. Among them, the Goals and KPIs in Table 16 were selected as the most relevant for the case company.

Table 16: Goals and KPIs to aim those goals

	Company Goal	Stakeholders (who are mostly interested)	A proposed KPI	Description (what is measured)	Why?
1	Profit for the specialist owners	Specialist Owners	Profit / employee specialist	How much profit each specialist owner makes to the subsidiary.	Concrete number on how much employees are making extra money to the subsidiary
			Subsidiary hard utilization rate	How many hours have been invoiced from the maximum capacity	Show how much time employees are spending in activities that bring money directly. Can be used to measure if too little is done, which can cause problems to cash flow. On the other hand, a high level can tell that employees are not studying new things.

			Average billing rate	Average amount of hourly rate from the customer.	This should be high enough to ensure good cash flow, but not that high that the company is overpricing itself.
2	Risk level	Everyone	Liquidity factor	How many months would the company have cash if no money is coming in.	Shows company risk level. The higher the factor, the lower is the risk level.
3	Employees wellbeing	Everyone	Employees satisfaction index	How satisfied employees are in the company.	Measures how happy employees are in the company. Too low a level tells that something is wrong, and something needs to be done.
4	Visibility to outside	Everyone	Website, total viewing time	How much time the visitors are spending at the company's website. Visitor * visiting time	Total attractiveness of the company's website, including two factors. How many visitors are visiting the company's website and how long they are spending time on the website.
			Linkedin total followers	Number of followers in Linkedin	Our footprint size in LinkedIn. More people mean more visibility.

Table above shows the KPIs and Company Goals where these KPIs are aiming for.

This table was presented to all stakeholders in monthly meeting, and it was agreed to proceed with that to the proposal building state.

5.1.2   Data 3 (building a dashboard that fulfills the case company needs)

In this section, it will be explained how Virtual Dashboard was planned based of CSA and Conceptual Framework.

The company is spread around Finland, so dashboards need to be digital and available online. The case company's business model is built on self-management. Visual Management is an important tool to drive us there. Showing relevant information to all of us directs us to make right decisions. A sense of a common goal is equally important, especially when the company is not sharing the same physical location. A major part of

the communication has moved from real-time vocal communication to online communication such as chats and emails. Visual Management should be a backbone to the whole operation. Decisions are also easier to understand when everyone has the same data where the decisions are based upon.

The case company works mostly remotely, and employees are scattered in many places. In that sense, radiators which are in one physical location do not work. The company needs to find a way to show this information easily and it must be accessible. Accessibility is not the only concern, the type and relevancy of the visualization of the information is also important.

Table 17 shows Key stakeholder suggestions for the dashboard (findings of Data 2) for Proposal building in relation to findings from the CSA (Data 1) and the Conceptual framework.

Table 17: Key stakeholder suggestions for the dashboard

	Key focus areas from CSA (from Data 1)	*Inputs from literature (CF)*	*Suggestions from stakeholders for the Proposal, summary (from Data 2)*	*Descriptions of their suggestions (in detail)*
1	From the specialist owners' point of view, KPIs are detached from their daily work. There is no clear picture of how to affect KPIs at individual level Which action which KPI And Specialist owners do not have that wide view to the KPIs that owners of the mother company have	Defining a digital dashboard (Tulip n.d.), (. Tezel et al, 2009), (Eckerson, 2010) Elements in the digital dashboard (Ingram, 2022) How to build an effective digital dashboard (Few 2013), (Calzon 2021), (Sundström n. d.)	Dashboards should guide the company's internal work.	CTO pointed out, that Virtual Dashboards should be one corner stone of the management of the company
			Dashboard should be something which is available for everyone everywhere.	It was our mutual understanding between CEO and CTO that Virtual Dashboards should be available to everyone everywhere and presented online.
			All information should be available to everyone.	CEO brought up, that information should not be siloed, and everyone should be able to access the information on dashboards.

As seen from Table 17, the discussion at the case company started with presenting the steps recommended for building the dashboard derived from literature. In this discussion, the key points were opened and discussed with the stakeholders.

First, it was discussed that, as stated by Eckerson (2010), dashboards should be something that guides the work itself. Therefore, it was discussed that the case company would benefit from shared dashboards, because the case company employees are distributed to different customers and locations. Also, the company model, where everyone will be an owner of the company, benefits from a shared dashboard. It was pointed out by the stakeholders that the dashboard should be something which is available for everyone and everywhere. The dashboard should also be something that is guiding the company, no matter what the role of the stakeholder is in the company.

> *"Virtual Dashboards should not be something which is detached from the work itself" (CTO)*

Secondly, it was discussed that, as suggested by Tulip (n. d.), Dashboards should be everywhere where they are easy to absorb. Therefore, it was discussed that, since the work of the case company is not happening in one place dashboards should be online and easily accessible. Since the company's employees are scattered around different locations and different customers, a dashboard located physically in a certain place does not support the case company.

> *"These Virtual Dashboards should be online and easily accessible by every employee" (CEO)?*

Thirdly, it was discussed that, as suggested by Calzon (2021), the information on the dashboards should be relevant and accurate. It was discussed that, as revealed by the CSA, the current information is too siloed, and the mother company is mainly using it to guide their work. Therefore, it was recommended that the information in the dashboards should be relevant for the stakeholders and no information which is meant to other stakeholders should be hidden. This gives a more holistic view to everyone about the company operations and leads us as whole. The case company is doing consultant business and its employees are working for the customer. Most of the Visual Management types are irrelevant in the company's way of doing business. The company is not using physical tools and the company is not usually operating any dangerous

machines, so floor markings are obsolete and if employees of the case company are operating those, they are usually customer owned, thus the markings are provided by them. On the different types of data displays the only relevant versions for us are digital dashboards, which means that the thesis needs to focus on those.

> *"In the sake of transparency, same information should be available to everyone. Even people are not using it in their daily work" (CTO)*

Summing up, the case company is using *Luoto Company's ownership model* which is a unique way to organize the company (Luoto n. d.). Model where employees are generating monetary value for their own company, instead of one monolithic one. Thus. there are KPIs which are not generally used and those KPIs were proposed in this study.

5.2   Initial Proposal: Selected KPIs for the first Digital Dashboard

This Proposal summarizes the suggestions for the upgraded KPIs based on the proposal-building discussions that happened by looking into best practices in the field and from the CSA. During the workshop, the team wrote down all ideas for the KPIs which arose, and the team voted for the ones it saw most important and collected reasoning for the KPI, what KPI measures and why it measures it. During the Proposal phase, an updated set of KPIs were proposed and voted. Every KPI was selected and implemented from that phase. Table 18 below shows : Initial Proposal: KPIs to be included in the dashboard prototype

Table 18: Initial Proposal: KPIs to be included in the dashboard prototype

	A proposed KPI	Reference	Description (what is measured)	Stakeholders (who are mostly interested)	Why?
1	Profit / employee specialist	Own	How much profit each specialist owner makes to the subsidiary.	Specialist Owner	Concrete number on how much employees are making extra money to the subsidiary
2	Liquidity factor	Marr 2012	How many months would the company have cash if no money is coming in.	Everyone	Shows company risk level. The higher the factor, the lower is the risk level.
3	Subsidiary hard utilization rate	Marr 2012	How many hours has been invoiced from the maximum capacity	Specialist Owner	Show how much time employees are spending in activities that bring money directly. Can be used to measure if too little is

					done, which can cause problems to cash flow. On the other hand, a high level can tell that employees are not studying new things.
4	Average billing rate	Brudan 2013	Average amount of hourly rate from the customer.	Everyone	This should be high enough to advance good cash flow, but not that high that the company is overpricing itself.
5	Satisfaction index	Brudan 2013	How satisfied employees are in the company	Everyone	How happy employees are to the company. Too low a level tells that something is wrong, and something needs to be done.
6	Website, total viewing time	Own	How much time visitors are spending on the company's website. Visitor * visiting time	Everyone	Total attractiveness of the company's website, including two factors. How many visitors are visiting the company's website and how long they are spending time on the website.
7	Linkedin total followers	Own	How many persons are following us in Linkedin	Everyone	Our footprint size in LinkedIn. More persons mean more visibility.

Table 16 shows the KPIs which the team chose during the first workshop. There were not any KPIs from proposal phase that should have been dropped off. This is because it was easy to implement and the feedback from specialist owners was positive. Mainly first set of KPIs were aimed for everyone and some KPIs which were strongly related to the subsidiary profit was aimed for the owner specialists.

5.3   Initial Proposal: First Version of the Digital Dashboard

After the data was collected, the next phase was to plan, design and build the first version of the dashboard, including KPIs which the team collected to the table shown previously. The way the KPIs were formed was decided by the leadership team from the mother company and implementation was made by the company CEO. Data was collected to google sheets and diagrams were drawn there. Dashboards were implemented using google presentation.

Table 19 shows the implemented KPIs with data sources.

Table 19: KPIs with data sources

	KPI	Original Data Source	How it is calculated
1	Profit / employee specialist	Company financial system	From the profit and loss statement. Subsidiary profit divided by the number of employees. Actual / month and three months average
2	Liquidity factor	Company financial system	The team created its own google sheet for this. As a measure the average amount of liquid assets is calculated, and it is divided by the total costs of the company.
3	Subsidiary hard utilization rate	Company financial system	This is calculated in the profit and loss statement. This is hard utilization, which also takes into account sick- and annual leaves.
4	Average billing rate	Company financial system	This is calculated in the profit and loss statement. It shows the average billing rate from both the mother company's and the subsidiary's point of view.
5	Satisfaction index	Survey in slack	There will be a poll every month to measure satisfaction. The question is: How well is NorthCode treating you? (1. Badly, 2. Something to fix, 3. This is fine, 4. Over expectations and 5. It's heaven on earth). Mean value / month is collected to the google sheet
6	Website, total viewing time	From the webpage analytic tool.	A tool called Plausible is used for web statistics. At the end of every month the total visit and time spent on the web page / visit is collected and multiplied. There will be a separate google sheet for this.
7	Linkedin total followers	LinkedIn administration tool	This will be taken from LinkedIn and put in a separate google sheet.

The KPIs were formed as above with following original data sources.

The Next step was to implement this list of KPIs into a meaningful dashboard. From the data which was defined in the previous phase (all the data was collected from different sources), the team created the first version of the dashboard. In some cases the team needed to create a new measurement for KPI, because it did not exist yet. and in some cases the team used the existing ones. The dashboard itself was implemented using Google Slides. Updating the information makes another manual step.

The workshop team chose to show trends using the line chart visualization, so it is not only the current situation, but also the history. The reason for this is that the company can see where the company comes from. In one case, the company is also predicting the future. Figures 9 - 10 show the prototypes of the proposed dashboard.

Figure 11: Proto version of dashboard, page 1
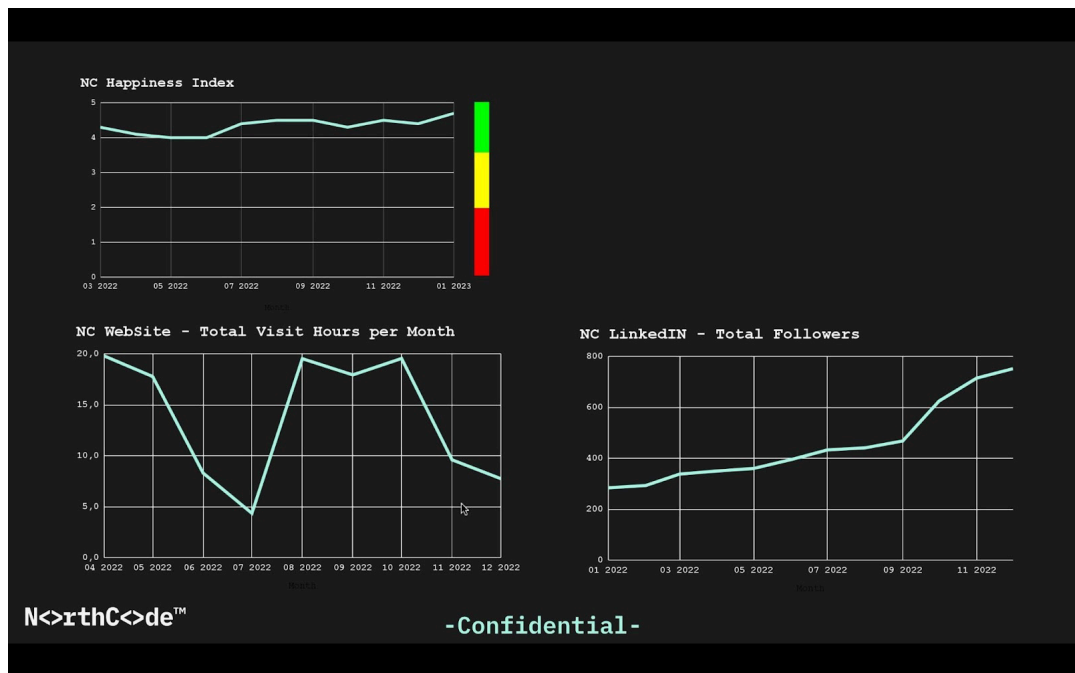
Figure 12: Proto version of dashboard, page 2

The First version of the Virtual Dashboard was immediately taken into use in daily work. In the next section, the first iteration will take place to improve the dashboard where the team is having a workshop with employees from the mother company and from the subsidiary to iterate the dashboard for the first time. Happiness index was wrongly named in the dashboard and happiness index is referring to satisfaction index, which is commonly used in business.

6 Validation of the Proposal

This section reports on the results of the validation stage and points to further developments to the initial Proposal. At the end of this section, the Final proposal and recommendations are presented.

6.1 Validation Stage Overview

In this phase, the study collected data on how to improve the current first version of the dashboard. The case company has already used the first version of the Digital Dashboard created in the proposal stage, and now the data was collected to improve the dashboard.

First phase was data collection. The data was collected from the employees in the mother company and the subsidiary for further improvements to the digital dashboard itself and the selection of KPIs. The validation phase aims to further improve both. This was done in a workshop.

Second phase was a creation of final proposal. Thatl was created based on discussions in the leadership team and the needed changes were implemented. This is the future, the dashboard improvement iterations will be made on a regular basis in the future.

6.2 Developments to the Proposal (based on Data 4)

First if all, to analyze and measure the KPIs, the company organized a workshop. Questions were on the speard sheet, which was empty. During the workshop the data was collected to the same spread sheet focusing on two questions:

1. How much does this KPI support you to achieve your work-related goals? (1-5)

2. What KPI are we missing to measure your work-related goals?

The workshop was conducted online. There were two employees from the mother company (Mot 1 and 2) and three specialist owners (Sub 1-3) out of 14 specialist owners. Table 18 show the results of the proposal workshop.

Table 20 below show the Result of proposal workshop

Table 20: Result of proposal workshop

	Current KPIs	Value for me (1-5)	What is the target for this measure?
1	Profit / employee specialist	Mot 1: 1, Mot 2: 2, Sub 1: 4, Sub 2: 5, Sub 3: 3	How profitable the business is
2	Liquidity factor	Mot 1: 5, Mot 2: 5, Sub 1: 5, Sub 2: 5, Sub 3: 3	Can we pay the bonuses/ how well the company is doing money wise
3	Subsidiary hard utilization rate	Mot 1: 4, Mot 2: 4, Sub 1: 3, Sub 2: 3, Sub 3: 5	trend for monthly gross margin per employee
5	Average billing rate	Mot 1: 5, Mot 2: 5, Sub 1: 2, Sub 2: 3, Sub 3: 5	Is our hourly rate close to the market price
5	Satisfaction index	Mot 1: 5, Mot 2: 5, Sub 1: 5, Sub 3: 4, Mot 2: 2	How happy the employees are
6	Website, total viewing time	Mot 1: 4, Mot 2: 2, Sub 1: 1, Sub 2: 1, Sub 3: 2	Is our website content relevant and interesting
7	Linkedin total followers	Mot 1: 4, Mot 2: 3, Sub 1: 1, Sub 2: 2, Sub 3: 2	How people are seeing us in the LinkedIn context
9	**What KPIs the company is missing**	**What is the target for this measure?**	**Who requests?**
1	Satisfaction index in project	Are we happy with our projects?	Sub 1
2	Customer satisfaction	to see if our customers are happy, not just NC employees	Sub 3
3	Employee satisfaction to project	How happy the employee is with the current customer case or terminated customer case	Mot 1
4	Sale case volume	Are there enough sales in the sales pipeline	Mot 1
5	Capacity volume	How many people and which part they are in the recruitment pipeline	Mot 1
6	Combination of sale cases and recruitment volume	Are the sales and recruitment pipelines in balance	Mot 1
7	Cost breakdown	To improve cost efficiency - costs by categories	Mot 2
8	Turn-over annual trend	cumulative last 12 months; rolling	Sub 3
9	Total profit annual trend	cumulative last 12 months; rolling	Sub 3
10	Sales monitoring	How efficient is our sales operations (won and lost cases), also monthly sales	Mot 2
11	Turnover Estimate		Mot 2

Table above show the results of the workshop. In the first part, the current KPIs were evaluated by stakeholders against the target. In the second part, stakeholders decided which KPIs are missing.

In the first question, the stakeholders categorized KPIs to different categories, whether it is the KPI relevant for a person in a mother company, subsidiary, or both. The current dashboard mixes all different stakeholders with the same views and relevant information for the role is not that easy to find. This needs to be taken into consideration in the future when the dashboard will be updated.

In the second question, the team discussed what KPIs are missing. There was also a discussion on the target and what the company should aim. There were hard KPIs which measured numerically and business values, such as cumulative turnover. In addition, there also were KPIs which measured soft values, such as how well the employees are feeling in their current projects.

In the workshop, each KPIs target was defined to understand what the company is aiming at with the KPI in question. This part was crucial for the company in order not to have KPIs that are not aiming at anything, or a situation when it is unclear to the stakeholders why this measurement is important and where the company is heading with it.

Secondly, a discussion was arranged with the management team, and it was decided that the first KPIs to be selected for the next iteration should possess two key characteristics: they should add value and be easy to implement. Accordingly, the management team opted to implement the KPIs in the Table 21 KPIs to implement on next iteration below, in the first iteration.

Table 21. KPIs to implement on next iteration

	New KPI
1	Satisfaction index in project
2	Sale case volume
3	Revenue Growth Rate

From the collected data from the employees, the case company needs to iterate their Digital Dashboard with KPIs. There are two main things that need to be done. The first one is that Digital Dashboards need to be categorized for the relevant information for the relevant stakeholders. Employees from the mother company value some KPIs more than others and the same goes for the employees of the subsidiary. There are also KPIs which are relevant corporatewide.

The second matter is to add KPIs which were raised in the workshop. KPIs which the company is missing to guide the case company's work. In the future the company might want to take any KPIs out.

Even though there were many good measurements raised in the workshop, the leadership team proposed that only three new KPIs will be implemented and in the first iteration exiting ones will not be modified or removed.

6.3   Final Proposal

The following KPIs were chosen for next iteration of testing and they are going to be implemented next. They are presented in Table 22 based on the result of proposal workshop and the discussion with the management (Data 4).

Table 22. Final proposal for next set of new KPIs

	New KPI	Description (what is measured)	Reference	Stakeholders (who are mostly interested)	Why?
1	Satisfaction index in project	How happy our employees are in their customer projects	Own	Everyone	Evaluating our employee's wellbeing on their customer cases
2	Sale case volume	Estimation of the amount of money in sales pipeline.	Own	Parent Company	For forecasting is there enough work in the future

3	Revenue Growth Rate	Calculating current ongoing cases and cases from the pipeline to predict the turnover	Marr 2012	Parent Company	Forecast the future cash flow, to predict the volume of the business.

Table 22 above show the next selection of KPIs which are going to be implemented into the next (second) version of the dashboard.

In terms of the Virtual Dashboard, it was decided that there would be a deviation of the dashboard across three different pages where KPIs would be displayed. Each page would show information that is mostly relevant for the stakeholder observing it. The first page is intended for the Specialist Owners and will contain relevant information mainly concerning employees working for the subsidiary. The second page is intended for the mother company, and the KPIs shown will be mainly relevant to the employees of the mother company. The third page is intended for everyone and will display information that is relevant to all stakeholders.

It was also decided that in every quarter, a workshop will be held, where KPIs are going to be refreshed same way as in this section.

6.4   Recommendations

In this study, a Digital dashboard with KPIs was iterated. The recommendation based on the discussion with the stakeholders at all levels included:

First, that there should be *a constant process where the dashboard is developed further.* The process should be something that is easy to use and maintain. The end result of the process is that new KPIs are created and the current ones are maintained and irrelevant are moved.

Second, the experiments with the selection of relevant KPIs should continue. Now, all the selected KPIs are measuring more or less vital functions of the case company and are more constant measures. They have a clear goal, but the goal is not something that when it is achieved it is done. A good example is the liquidity factor. The stakeholders

stressed that *there should also be KPIs that measure temporary and achievable goals.* A good example of the case company is the number of employees aiming for the subsidiary. When this goal has been achieved the KPIs turn out to be irrelevant.

Third, the dashboard should be developed into a more automated solution. The current dashboard is maintained manually. There are google sheets which are updated manually and the google presentation is maintained manually. *There should be more automated ways to collect the data and present it to the stakeholders*. The recommendation is to investigate tools such as Power BI or similar.

7 Conclusion

This section contains the executive summary and reflection about the thesis work itself.

7.1 Executive Summary

This thesis is investigating and implementing visual management to the company based on the selection of relevant KPIs. The case company is doing consultant work for their customers, mainly in a time-and-material manner. The case company business is distributed to multiple customers and employees living in different locations. Most importantly, the case company is using a business model where all employees are or will be owners of the company where they are working. This gives a managerial challenge, how to lead a company with this setup. Also, KPIs which are measuring more traditional companies might not apply.

The Objective of this Thesis was *to identify, select and present those KPIs those KPIs which are relevant to all associates in order for effective visual management*. Relevant in that sense, that it brings insight into the current position and guides employees in their day-to-day work. In this thesis qualitative research method was used and data was collected through workshops and interviews. Because the study was concluded inside the company this was done as a desk study.

In the CSA phase employees in different roles were interviewed to get an understanding about the current situation in the case company about KPIs and how they are presented. The CSA phase revealed that the company lacked a way to present information that is generally accessible to everyone via Visual Management. Additionally, it identified a need to select new KPIs. After the CSA, literature and existing knowledge on the subject was investigated to understand how this has been done elsewhere and find good practices. The theoretical framework focused on the topics of *Benefiting from Visual Management & Building a Dahsboard*, *Distinguishing Metrics & KPIs* and *Selecting KPIs for a consulting company with shared ownership*.

Based on the insights from existing knowledge and expiations of the stakeholders, the study selected the relevant KPIs and created a prototype of the first digital dashboard. The dashboard included the KPIs which were seen as relevant at that time of doing this

thesis. This dashboard was immediately taken into use to guide the daily work of the case company. When the prototype was used for two months, a workshop was organized where the first iteration of improving the dashboard took place. One of the biggest findings was that data should be categorized and there should be more KPIs to guide the case company's work not only measuring the vital functions of the company, but also shorter-term goals. The result of this thesis was a manual version of the dashboards. A big improvement would be the automation of the data collection and presentation of the data.

The dashboard is already guiding the work in the case company, and it is a tool to manage the case company employees in different locations, roles and customers. It works daily, and it is presented regularly in the company meetings like monthly meetings.

7.2   Thesis Evaluation

At the beginning of this thesis, the aim was to have a fully automated dashboard for the case company based on selecting the KPIs relevant to all stakeholders. Automation is a part that is still lacking. Also, finding the right KPIs and finding data for those KPIs was a complicated task and making the KPIs manually gave a good insight on how to do it. The more KPIs there were, the more data digging, and manipulation was needed. The original plan was to use tools such as Power BI or similar, but this part needs to have more thought put into it.

The CSA phase gave a good insight into what was already available and what the company was missing. The CSA gave a good overview about the strengths and weaknesses of current KPIs and in the presentation of those. The literature on the subject gave a good solid ground of the existing knowledge on visual management and KPIs. Finding the existing knowledge of the visual management part was a bit cumbersome, since most of the literature was about a working environment where employees are co-located and doing physical work, like working in a factory. Digital Dashboards were the only suitable way to create the visual management in the company. From the KPI part, there was a good amount of information, and it gave a good understanding about the KPIs. The key finding on that one was that they are not just some measurements, but they are measurements that tell whether the organization is achieving its goals or not.

Choosing the KPIs for the first prototype was an easy task. The company took existing KPIs and enriched some of those and it created new ones to support its goals. Finding a goal should be more underlined in the future and that should be clear at the dashboard level. Making the final proposal gave a good insight into how the company should improve the current Digital Dashboard and what kind of KPIs should be added.

The biggest obstacle for the work was to find the right sources of existing knowledge and to write academic text. I learned a lot during the process. The biggest advantage during the work has been that I am in the highest leading role in the company so there were no obstacles from the organization.

7.3   Closing Words

This has been a very educational journey. The company has a different way to operate and needs a new way of managing it. Visual management plays a big role here. The company has achieved managerial goals during this thesis work, and this is already an improvement.

Improving the organization in a scientific way was interesting. I have had workshops and CSA before but taking them into the process as strongly as during this thesis has never happened. This gave a good structure for the work. In the future the company is taking AR approach into use to improve its dashboards and KPIs, so the work continues.

One of the most challenging parts for me has been writing this thesis. Writing academic text was much harder than I thought. I have communicated in a literal way during my whole career, and I thought that I am a good writer, but this process put my feet on the ground and helped me to understand that there is room for improvement.

Lastly, I want to thank all my lovely colleagues at NorthCode for helping me to make this happen and special thanks go to my wife, who had patience with me and stressing out about the thesis.

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