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IMPROVING PERFORMANCE MANAGEMENT IN FIELD ENGINEERING FUNCTION – CASE STUDY

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ABSTRACT

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Title:	Improving performance management in field engineering function
Faculty:	School of Business and Management
Master's Program:	Accounting
Year:	2020
Master's Thesis:	Lappeenranta-Lahti University of Technology LUT 109 pages, 9, figures, 8 tables, 2 appendixes
Examiners:	Prof. Satu Pätäri, Post-doctoral researcher. Juha Soininen
Keywords:	Performance Management, Performance measurement, Key Performance Indicator

The rapidly changing business environment has forced organisations acknowledge that their competitive advantage might no longer be sustainable. In the last decades effective performance management has established its place as vital management tool to navigate in this competitive environment. The goal of this research was to understand different aspects of effective performance management.

The main objective of the thesis was to identify different issues and challenges the case company's engineering function was facing in the performance management and find ways to improve. The thesis was conducted as qualitative research and the empirical data is based on semi structured interviews and observations from the case company. The empirical data was compared with the performance management literature to further identify areas of improvement.

As a result, this study suggests development ideas for the organisation to overcome the challenges. For effective performance management it is vital to empower effective communication throughout the organisation to support implementing the strategy and to promote co-operation. In addition, there needs

to be structured performance measurement system that considers all important aspects of business to support managers driving the business in desired direction.

TIIVISTELMÄ

Tekijä:	Johanna Koukkunen
Tutkielman nimi:	Improving performance management in field engineering function
Tiedekunta:	Kauppatieteiden tiedekunta
Maisteriohjelma:	Laskentatoimi
Vuosi	2020
Pro Gradu -tutkielma:	Lappeenrannan-Lahden Teknillinen Yliopisto LUT 109 sivua, 9, kuviota, 8 taulukkoa, 2 liitettä
Tarkastajat:	Prof. Satu Pätäri, Tutkijatohtori Juha Soininen
Hakusanat:	Suorituskyvyn johtaminen, suorituskyvyn mittaaminen, keskeiset suorituskyvyn mittarit

Nopeasti muuttuva liiketoimintaympäristö on pakottanut organisaatiot tunnustamaan, ettei niiden kilpailuetu ole välttämättä kestävällä tasolla. Viime vuosikymmeninä tehokas suorituskyvyn hallinta on vakiinnuttanut paikkansa tärkeänä johtamisen työkaluna ja auttaa yrityksiä navigoimaan ketterässä kilpailuympäristössä. Tämän tutkimuksen tavoitteena oli ymmärtää tehokkaan suorituskyvyn johtamisen tärkeitä näkökulmia.

Opinnäytetyön päätavoitteena oli tunnistaa erilaiset haasteet case-yrityksen insinööriosaston suorituskyvyn hallinnassa ja löytää tapoja kehittää sitä. Opinnäytetyö tehtiin laadullisena tutkimuksena ja empiirinen tieto on kerätty case yrityksestä puolistrukturoiduilla haastatteluilla, sekä havainnoimalla. Empiiristä tietoa verrattiin suorituskyvyn johtamista koskevaan kirjallisuuteen tavoitteena tunnistaa kehitysalueita.

Kirjallisuuskatsauksen sekä empiirisen tutkimuksen perusteella, tämä pro gradu tutkielma laatii kehitysideoita organisaatiolle esiin nousseiden haasteiden ratkaisemiseksi. Toimivan ja tehokkaan suorituskyvyn johtamisen edellytyksenä on tehokas viestinta läpi organisaation, joka tukee yhtestyön kehittämistä. Tämän

lisäksi yrityksellä on oltava selkeä ja strukturoitu mittausjärjestelmä, joka ottaa huomioon kaikki liiketoiminnan tärkeät näkökulmat ja tukee johtajia ajamaan yritystä haluttuun suuntaan.

ACKNOWLEDGEMENTS

Master Thesis has been one of the longest and most stressful challenges in my life and I'm happy to say the work is now done! Sending the last versions of the thesis for my friends and to my professor to read was both wistful and inspiring moment. Even though being challenging, the thesis research has also been interesting project and has brought a lot of knowledge for myself to use in my career. I hope that it brings new aspects especially for the case organisation but also for others in the field of performance management.

There are quite many people whom I'm thankful for the support I've received during my university years and especially during my research period. Firstly, I want to thank my big brother Joonas for all the support I've received in my academic career. You have always been there and helped me in times of distress, no matter if the topic was related to my studies, work or personal anxiety. I also want to thank my sister Jenni and friends Tanya and Johanna who have helped me to keep my sanity throughout the thesis project. Thank you for my parents for constantly reminding me of finishing my studies the but mainly giving me the confidence of my ability to do it.

Finally, special thank you Satu Pätäri for her support and especially for her patience during my master's degree, which took few too many years to complete.

Vantaa 7.6.2020
Johanna Koukkunen

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1. Introduction

1.1. Background of the study

The objective of this master's thesis is to form comprehensive understanding of the different aspects of effective performance management through the modern literature. The gained knowledge will be used to support case company in recognizing and overcoming the challenges they are facing in performance management.

The rules of traditional business have changed rapidly in the recent years. The arrival of new competitors and rapid changes in business environments have forced companies to acknowledge that their competitive advantage might no longer be sustainable, and it has created an urgent need for organizations to update their strategies, structures, systems and tools. (Spezialea & Kloviene, 2014) Thus, in the economy today for a company to be able to navigate and even survive in the competitive environment it is crucial recognize its own strengths and weaknesses and to understand how to use this information to improve and drive performance. (Amaratunga & Baldry, 2002; Audenaert, et al., 2018)

Defining clear and explicit objectives and linking them to organisations strategy are necessity for organisational success. In addition, organisation needs to have capability to systematically implement the strategy in each area of the business. In the last decades performance management has arisen to be an essential tool for organisation in implementing strategy and surviving in the competitive market. (Gunasekaran & Kobu, 2007; Amaratunga & Baldry, 2002; Yadav, et al., 2013; Azma, 2010)

Effective performance management enables organisations to make their strategy more tangible and transparent to the organisations and enables organisation to achieve their target and even create competitive advantage. Performance management allows organisation to drive organizational performance, and to recognize challenges and opportunities. It provides information for organization and

tools how to analyze and use the data in a way that it creates value and competitive advantage. (Aguinis, 2013; Neely, et al., 2005; Biron, et al., 2011; de Waal, 2010; Campbell, et al., 2018)

Originally performance management was identified as performance tracking and controlling tool and there was no separation between performance measurement and management. Performance management can be traced all the way back to thirteenth century when double-entry accounting was invented for traders to use in their daily transactions. Even in the early nineteenth century financial measures were the core of performance measurement in the form of accounting. Since then the way organizations operate has changed significantly and financial measures alone are not enough to support organizations in their information need. (Khan & Shah, 2011; Srimai, et al., 2011; Yadav, et al., 2013).

In the 1990's – when the Balanced Scorecard was invented, performance management took a leap towards more strategic approach. Since then the performance management and measurement have been separated, and measurement side has established its place as an important aspect of performance management. (Khan & Shah, 2011; Srimai, et al., 2011; Yadav, et al., 2013; Amaratunga & Baldry, 2002). Already in the 50's Peter Drucker mentioned "*If it cannot be measured, it cannot be managed*" (Drucker, 1954). Even though this might not be entirely solid theory, it gives an implication that managing and measuring go hand in hand and should not be separated.

Performance measurement provides valuable information about the key aspects of the business and supports organisation in creating tangible action plan on how to further improve the performance. In a modern organization there is usually more than enough data available, therefore it is crucial to identify the key performance measures and drives that bring the competitive advantage. Focusing on the valid performance indicators guides organisation and its operations towards desired target. Lack of key measures or high volume of ambiguous measures might lead into wrong conclusions and to insufficient actions. (Kaganskia, et al., 2017; Gunasekaran & Kobu, 2007; Parmenter, 2015).

In the modern literature there is multitude of different frameworks for performance management and measurement. These frameworks have been criticized for their lack of customization and implementation measures. (Yadav, et al., 2013) Therefore, for organisation to be able to successfully implement or improve performance management system, they should not copy specific frameworks, but to design a best approach for the organisation.

1.2. Research questions and objectives

The main objective of the study is to understand what the different elements of effective performance management are and use this information to find out how to improve performance management in the case company's field engineering functions. The background of the study is to support the sustainable growth and value creation of the case company by improving the performance of the field engineering functions. This study is a part of a larger project that reviews the engineering side of the business aiming to find ways to improve to support long term strategy implementation.

The study aims to find out how field engineering performance management is organised in the one of the case company's sales region's different market organisations. The results from different market organisations are compared to each other and to the literature targeting to identify the best practices and tangible steps on how to improve the performance management. Furthermore, important aspect of the study is to find out if the current set up supports the overall organizations vision and strategy.

Research problem:

Establishing effective performance management into the engineering department of the case company

Research questions:

1. *How should performance management be organized to enable organizational success?*
    a. *How to improve engineering functions performance management in case company so that it enables long term success?*
    b. *How should the performance measurement system for the engineers be improved in a way that it supports performance management?*

Research questions support in finding a solution for research problem. The main research question aims to understand what the different aspects of effective performance management are and how it should be organised to enable organisational success trough. The sub questions aim to form comprehensive understanding of the current status of performance management in the case organisations engineering function and seek ways to improve it.

1.3. Theoretical Framework

The theoretical framework of the study is grounded on performance management literature. The framework has three different levels which are displayed in figure 1 from highest to lowest level and from more comprehensive to more focused topics. This is also the order that the topics are discussed in the study. Highest level, and the main focus of this study is *performance management* as a whole. The next level – *performance measurement*, is important part of performance management and the secondary focus theme. The lowest level of the theoretical framework is *key performance indicators*, which is important topic for performance measures. The main literature of the thesis consists of academic research, publications and literature on the three topics raised in the theoretical framework. This chapter will briefly introduce to the main subject areas of the research literature and their previous research.

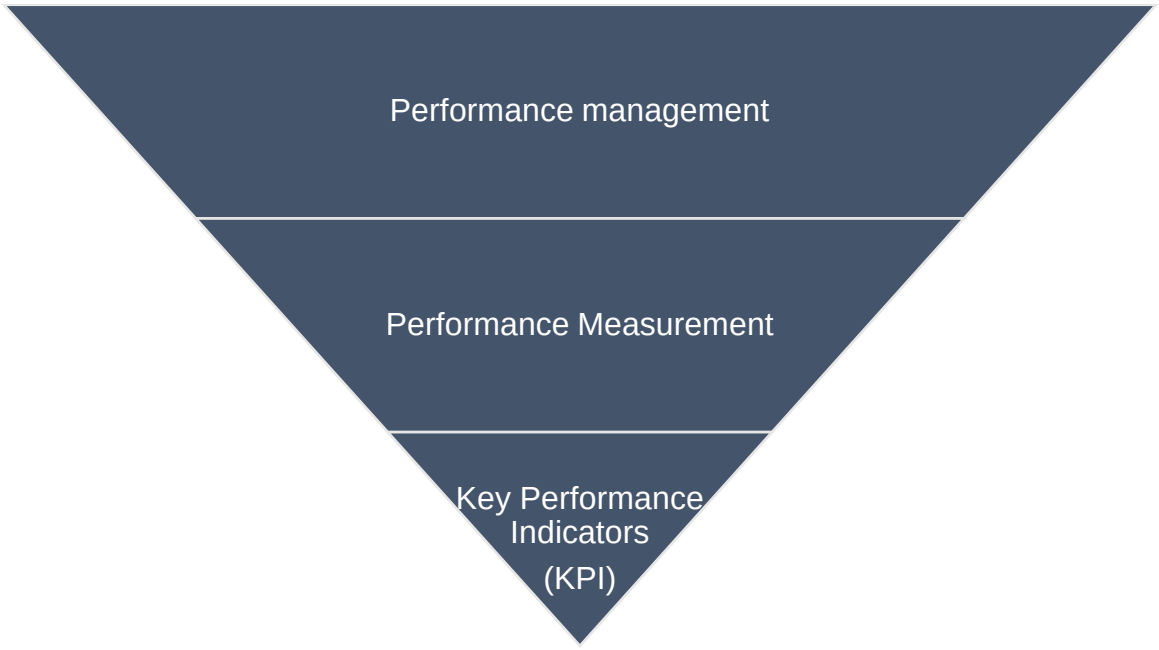

Figure 1. Theoretical Framework

The literature review of the thesis focuses on researches since 1990 until today. This timeline has been chosen as since Kaplan and Norton in 1992 invented Balanced Scorecard (BSC), the focus in performance management drastically changed towards more strategic approach. The literature review of *performance management* shortly reviews the evolution or performance management literature until early 1990's and the change from performance measurement to performance management. The main focus of the study is to review the modern form of performance management through the modern literature. Originally the difference between performance management and performance measurement was not acknowledged and the main purpose of such a system was to monitor. In modern literature these two have been separated and performance measurement has been described to be important part of performance management. (Amaratunga & Baldry, 2002; Yadav, et al., 2013)

The first literature chapter of the thesis the reviews the previously mentioned change from performance measurement to performance management and afterwards examines the role of performance management in modern literature. Aims is to form a good overview of the different aspects of modern performance management without going into close details of a singular framework. The performance

management literature also aims to highlight what makes an effective performance management system.

The second literature review section reviews performance measurement frameworks and performance measurement in modern literature reviews. Many studies in the performance measurement literature refer to Kaplan's and Norton's (1992) BSC and it is still seen as one of the key tools in the field of performance management. (Bourne & Neely, 2002; Neely, et al., 1997; Khan & Shah, 2011; Bourne, et al., 2003; Yadav, et al., 2013; Nørreklit, 2000; Otley, 1999; Bititci, et al., 2018; Srimai, et al., 2011) Therefore the performance measurement chapter considers BCS as one of the cornerstones of performance measurement literature and reviews it in more detail. The performance measurement literature aims to capture different aspects of effective measurement and find key topics that makes it successful.

Performance measures and key performance indicators have been incorporated into performance measurement chapter as it can be understood as one of the levels of performance measurement (figure 6, p. 45). This chapter investigates the difference of KPI and other performance measures and raises different factors that need to be considered when defining the KPIs for organisation.

1.4. Inclusions and exclusions

The thesis is limited only to the case company and aims to find ways to improve case company's performance management. The modern performance management and measurement frameworks are criticized of their shortcoming in implementation or in customization to organisation (Neely, et al., 2000; Yadav, et al., 2013), therefore there is a need for more focused case study. The case company is a global organisation, but the study is restricted to only one sales region, including five market organizations. The empirical data includes only the engineering managers point of view of the level of performance management in the case company and the focus is only on the direct customer facing engineering roles.

As mentioned, performance management literature has been criticized of its lack of frameworks that are easily implemented and customized, therefore the literature review does not concentrate on any particular frameworks. The literature review aims to distinguish key aspects of effective performance management, without going into too much details on different processes. For example the importance of the proper implementation new performance measures and systems is raised by several researches in the field of performance management (Neely, et al., 2000; Amaratunga & Baldry, 2002; Aguinis, 2013). The aim of this study is to review the current performance management process in the case organisation and understand how to improve it. Therefore, the implementation of possible new systems or changes have been left out of the scope. The literature review includes only scientific research about performance management from 1990's onwards. The literature review excludes research evolving around banking, public sector and non-profit organizations.

1.5. Research method

The research will be conducted as qualitative case study and all data will be collected from the case company with interviews and by observing. The aim of the qualitative case study is to form a profound understanding of the current status of the case company's engineering functions performance management and find ways to improve it by analysing the qualitative data collected from the company. The study does not comment on the organisations business model and how organisational structure is organised. The main difference between qualitative and quantitative study is that qualitative study aims to find causalities from the research topic that cannot be discovered with quantitative data and organised in a numerical form. Qualitative research is a better method to be used when research subject is smaller group of people and the aim is to find tangible results and actions and form profound understanding. (Walliman, 2006; Giddings & Smythe, 2007).

The empirical data of the study was collected with interviews and with researcher own observations of the case company. Five different market organisations from the case company attended for the study and one person from each company

engineering department was interviewed. All interviews were carried out during February 2020 using Microsoft Skype for Business app. The interview method was semi-structured meaning that interview structure was provided but interviewees had to answer the questions in their own words and interviewer asked specified questions during the interview session. Semi-structured offers possibility to compose deeper understanding of the topic by allowing flexibility to ask further questions and discuss the answers (Walliman, 2006; Wengraf, 2001). Interview structure was led from the research theory and build to support answering the research questions. Aim of the interview questions was to collect data from different angles. Interview structure was same for all market organisations to enable comparing the result between market organisations. During the interview different additional questions were raised according to the topics the interviewees raised themselves. The observations in the case company have been made by working in the company full time as a performance controller and been part of the project this case study relates to.

1.6. Structure of the Thesis

The thesis consists of two main parts theory and empirical. The first chapter of the thesis is *Introduction* and it is followed by the theory part which consists of *Literature review* chapters. The empirical part of the thesis consists of *Analysis* and *Conclusion.* These are divided further into chapters which are the backbone of the study. The structure of the thesis can be seen in the Figure 2*. Structure of the Thesis.*

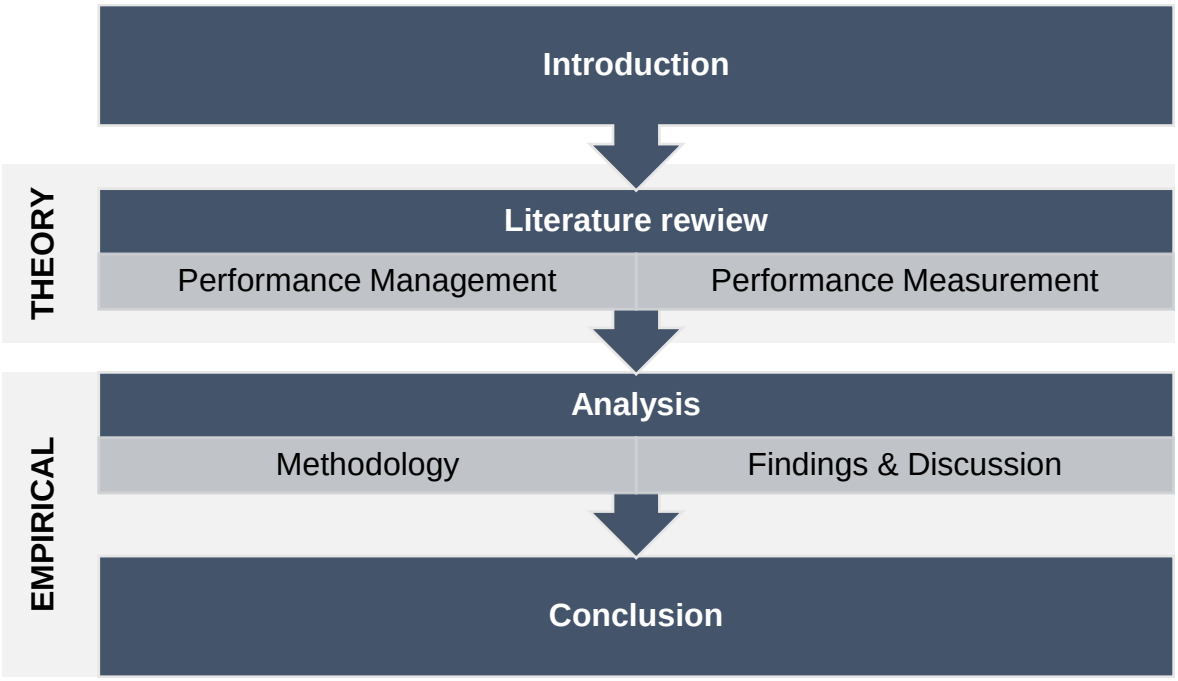

Figure 2. Structure of the Thesis

The Introduction section is the first chapter of the thesis and introduces the thesis topic and the phenomenon behind it. In this chapter all research question and objectives are presented.

The second and the third chapters belong to literature review and form the previously introduced theoretical framework of the study. These chapters are *Performance Management* and *Performance Measurement. Performance Management* reviews the evolution of performance management literature and discusses its role in today's organisations. Third chapter *Performance Measurement* reviews performance measurements role in performance management and in modern literature. This chapter also studies key performance indicators' importance in performance management.

Fourth and fifth chapters forms the empirical analysis of the study which is divided into chapters, *Methodology* and *Findings & Discussion*. *Methodology* explains the research methodology and the different phases of data collection in more detail. Afterwards the interview structure and interview results are presented. The interview structure is yielded from the performance management literature and the questions

are finalised with the case company. *Findings & Discussion* summarises the main findings and compares the different results introduced in the previous chapter. In this chapter the results are discussed further using the observations during the research period and linking them to the previous research in the field.

The research questions are answered in the last chapter Conclusions. This chapter raises recommendations for the case company yielded from the earlier chapters. Lastly the chapter analyses the reliability of the research and raises its limitations and offers suggestions for future studies.

2. Performance Management

There are a lot of studies about performance management and they are aligned with the factors that it is continuous process which should not be separated from organisations strategy and vision. (Kaplan & Norton, 1992; Amaratunga & Baldry, 2002; Bourne, et al., 2005; Yadav, et al., 2013; de Waal & van der Heijden, 2015; Biron, et al., 2011) Where the literature diverges is the definition of performance management. Otley (1999) state that performance is a vague term and does not have one single and simple definition. The term itself does not specify whom in the organisation delivers results and how these bring performance. Yadav, Sushil and Sagar (2013, p. 949) raise that "*performance is case-specific and decision maker specific*". What can be taken from this is that the definition for performance should not be taken from literature as it is. It should be tailored to organisation and its different units and delivered from organisations strategy.

Originally performance measurement systems were developed for monitoring and maintaining purposes and the difference between performance management and performance measurement was not acknowledged. In the last decades the field of performance measurement has taken a turn to more strategic approach and the terms have been separated from each other. Moreover, in modern literature it has been recognised that performance measuring does not bring the result itself and should be used as a key tool for effective performance management. (Amaratunga & Baldry, 2002; Yadav, et al., 2013)

With performance measuring organization can keep track on its current situation but it does not itself answer the question why something happened and what to do about it. Performance management supports organization to understand the measures, to create tangible action plans and to change the strategy enabling to achieve the goal. Thus, for organization to be able to fully take advantage of performance measurement, it needs to move from performance measuring to performance managing. (Amaratunga & Baldry, 2002)

Performance management and performance measurement both play a critical role in organisation in managing their operations to achieve the strategic objectives. Performance management brings the organisational mission and vision to the managers and employees. Performance measures answer the questions of what are the key measures and drivers that bring success to the organisation. (Bititci, et al., 2018) Concentration on only performance management or measurement might bring the organisation into wrong solution and lead to insufficient actions. Therefore, performance measures should be embedded into the organisation's performance management framework. (Srimai, et al., 2011)

The next chapter reviews the transformation from performance measurement to performance management and its key events in the near history. After this the emphasis is on the modern form of performance management and its role in the organisation. Last chapter aims to understand different characteristics and aspects of efficient performance management.

2.1. From performance measurement to performance management

Transition from performance measurement to performance management has happened gradually during the last century. Yadav, Neetu & Sagar (2013) have divided this transition into three different phases: *management accounting perspective, financial perspective and integrative perspective*. In the early 19th century management accounting and cost management set the base for performance management. These traditional measures where considered to measure performance but instead of seeing the big picture and organizational performance they focused on isolated processes resulting insufficient or misleading information of the overall organisational performance. (Khan & Shah, 2011; Yadav, et al., 2013; Srimai, et al., 2011)

1914 DuPont's financial ratio calculations were the starting point for financial phase where the focus was on financial & cost accounting. Return on invest (ROI) and other financial ratio measures are still highly utilized as diagnostic measures to understand organizations financial health, but back then were criticised for excluding

any information about innovation and improvement activities, which were recognized to be important elements of business in highly competitive environment. Nevertheless, it took several decades to move away from reviewing exclusively financial measures. In 1950's the French innovation Tableau De Bord – which combines both financial and non-financial measures, was a key event for moving focus from investors point of view to daily operations. Even though the emphasis was still strongly in measures, the development was going on right direction. (Yadav, et al., 2013)

In the performance management literature Peter Drucker's (1954) quote "If it cannot be measured, it cannot be managed" and its variations are still mentioned often in the performance management literature (Aguinis, 2013; Yadav, et al., 2013; Khan & Shah, 2011) The quote – considering the time, can be understood that the link between managing performance and measuring had been recognized but emphasis was strongly in measuring. Until 1970's the change in performance management literature seemed to happen slowly and the focus was mainly in measures and in organizations past performance. Emphasis shifted from managing processes to managing organizations finance and back to managing daily operations. (Khan & Shah, 2011; Yadav, et al., 2013)

The integrative phase started in the 1970's when organization's actions towards society and environment shaped the discussions and forced organizations to consider the social & environmental aspect in their strategies. In the 1980's performance management shifted further towards strategic management and long-term planning and moved the aspect beyond financial and accounting measures. Main tools to speed up this change were Quality Awards and Business Excellence models. (Khan & Shah, 2011; Yadav, et al., 2013) Performance management started shifting from internal accounting towards understanding consequences of actions and from short-term gains towards long-term strategies.

In the late 1980's the change in the global economy made organizations apprehend that to be able to survive in the competition, they should focus on their strategy. In the 1990's researchers started developing various performance models and

frameworks. The focus drastically changed towards managing performance and creating proactive actions with the support of measures rather than reacting on past performance. In 1992 Kaplan's and Norton's Balanced Scorecard (BSC) is said to have revolutionized the field of performance management bringing operational and strategic measures to the same level with financial measures but also recognizing long-term and short-term measures and different causalities. Furthermore, main reformation in BSC was to move focus from operational to strategic measures. With BSC performance was linked to company's vision and strategy. (Khan & Shah, 2011; Yadav, et al., 2013; Amaratunga & Baldry, 2002; Srimai, et al., 2011)

Since the invention of BSC it has been one of the cornerstones of performance management literature and even today is highly utilized tool worldwide. Even of its popularity, BSC has been criticized of its shortcomings for example clustering of performance measures and lacking stakeholder focus. Therefore, during the last decades BSC has been constantly developed and updated to fix its issues and to fit into the changing economic environment. (Khan & Shah, 2011; Yadav, et al., 2013; Amaratunga & Baldry, 2002; Neely, et al., 2005; Nørreklit, 2000; Spezialea & Kloviene, 2014; Neely, et al., 2001; Kaplan & Norton, 2001a; Kaplan & Norton, 2001b)

2.2. The role of performance management

Herman Aguinis (2013, p. 2) defines performance management as follows "*performance management is a continuous process of identifying, measuring and developing the performance of individuals and teams and aligning performance with the strategic goals of the organization*". In the definition Aguinis divides the performance management in two different components: continuity and strategic alignment. This means that performance management is an ongoing process of observing, learning and actioning and furthermore it should not be separated from organizations strategy and goals. If implemented properly performance management supports managers to ensure that employees' activities and outputs are consistently aligned with the organization's goals. It also supports in creating a

link between team performance and organizational goal and in the end helping organization to gain a competitive advantage. (Aguinis, 2013)

Amaratunga & Baldry (2002) suggest that one the main purposes of performance management is to develop a learning organisation -culture, furthermore the organisation should be able to react and adapt to the dynamic environment. The foundation for performance management is to be on top of organisational performance in the current environment and understand what needs to be changed in the organizations strategic direction and how to implement this change to be able to improve performance. Organisation should be actively reviewing their current activities and outlining on how to refine and improve them to perform better. (Amaratunga & Baldry, 2002).

Yadav, et al. (2013) also emphasize the important role of performance management being the source of competitive advantage in the current dynamic and constantly changing business environment. They combine the two previous roles of being an ongoing process linked to organisations strategy and enabler for organisation to be agile and to be able to adjust to the changing needs of the market. On top they raise the importance of performance measurement in creating this content and outlining what needs to be done. Performance management and performance measurement should not be separated. (Yadav, et al., 2013)

Otley (1999) introduced five key elements (objectives, strategies and plan, targets rewards, and feedback) which need to be considered when planning a framework for performance management. Organisation needs to outline their key objectives in terms of organisations future success and define the processes and actions on how to achieve them. They also need to decide how to assess and measure the set activities to be able to constantly evaluate their achievements. After assessing previous elements organisations can start evaluating what is the desired level of performance and set up tangible targets. To support target achievement, it is important that organisation introduces also different rewarding and feedback systems. Feedback systems are crucial for enabling organisational learning and to be able to assess its current behaviours. Feedback systems give managers

additional information about aspects that affect performance, which might not be discovered with measuring systems. (Otley, 1999)

Aguinis (2013) introduces six common purposes for performance management: *strategic, administrative, informational, developmental, organizational maintenance, and documentational.* Strategic purpose of performance management is to serve managers as a guide to make decision and achieve the strategic business objectives and target. Administrative purpose supports managers in making these decisions by providing them the information they need to create administrative decisions. Informational purpose is more for the employees themselves and provides the information such as targets and other expectations the organisation has set for their performance. (Aguinis, 2013)

Performance management also supports managers in developing and coaching their employees by highlighting the areas of improvement and even providing the tools. Performance management provides managers information about their employees and helps them in organisational maintenance such as allocation human resources. The last purpose of the performance management according to Aguinis is documentational, which is simply to collect information for managers which can be used for different purposes such as previously mentioned administrative tasks or organisational development. (Aguinis, 2013)

2.3. Effective performance management

Even though the importance of performance management had been recognised in the modern literature, the connection between performance management and overall organisation performance is still a bit ambiguous (Khan & Shah, 2011; de Waal & van der Heijden, 2015). There are a lot of frameworks that study this relation and some of them raise different elements that needs to be in place to successfully establish the link (Otley, 1999), some studies concentrate to the implementation of performance measurement systems (Bourne, et al., 2003) and other evaluate the purpose of overall performance management (Amaratunga & Baldry, 2002; Aguinis, 2013). The literature is more unanimous about the implications of a strong relations

between performance measurement and management (Kaplan & Norton, 1992; Otley, 1999; Amaratunga & Baldry, 2002; Neely, et al., 2005; Franco-Santos, et al., 2007; Yadav, et al., 2013; de Waal & van der Heijden, 2015). To understand better how performance management links to overall organisational performance, it is useful to review different aspects and characteristics of effective performance management.

De Waal (2010) divides performance management into structural and behavioural aspects. The structural aspect refers to the key performance indicators, the critical success factors and the design of the actual performance management system and how well it supports performance management. The behavioural aspect refers to the users and usage of this performance management system and how well they can utilise it. Both of these aspects have been divided further into several important dimensions that affect performance - structural*: responsibility structure, content, integrity, manageability and alignment;* behavioural*: accountability, action orientation, communication*. (de Waal, 2010)

The structural aspect of performance management reviews the frameworks organisation provides for its managers to support in steering their teams towards agreed goals. This includes the level of structure in the organisations management systems. To be able to perform, organisations need to consider their responsibility structure to make sure they have defined clear roles and responsibilities for all management levels. They also need to consider the information content used in performance management, to make sure it provides broad view on the key topic and is reliable and consistent with other management systems used in the organisations such as HR systems. Lastly the reports and management systems should be user friendly to able to be used as enablers for performance steering discussions. (de Waal, 2010)

Behavioural aspect of the performance management considers its effectiveness in steering the employees into right direction and desired results. Effective performance management engages employees and makes them feel accountable of their own results. Action orientation in performance management means its

capability to react and take actions towards improved performance. Performance management should be integrated into daily business so that it enables corrective or preventive actions when needed. Effective communication is one of the key enablers for high performance. Communication enables the information flows inside the organisation, and it should be both ways, top-down and bottom-up as well as horizontal. Effective communication is also for informing the organisation on the current performance measures and to make sure everyone interprets the received information in the same way. (de Waal, 2010)

To understand better connections between performance management and actual performance de Waal and van der Heijden (2015) studied the role of performance management in high performance organisations. Their study concludes that there is a positive correlation between performance management system and high performance. They identify five features that are usually linked to high performing organisations (management quality, openness and action-orientation, long-term orientation, continuous improvement, and workforce quality) and suggest that the previously defined structural and behavioural aspects of performance management enable competitive performance, figure 3 models this connection. (de Waal & van der Heijden, 2015)

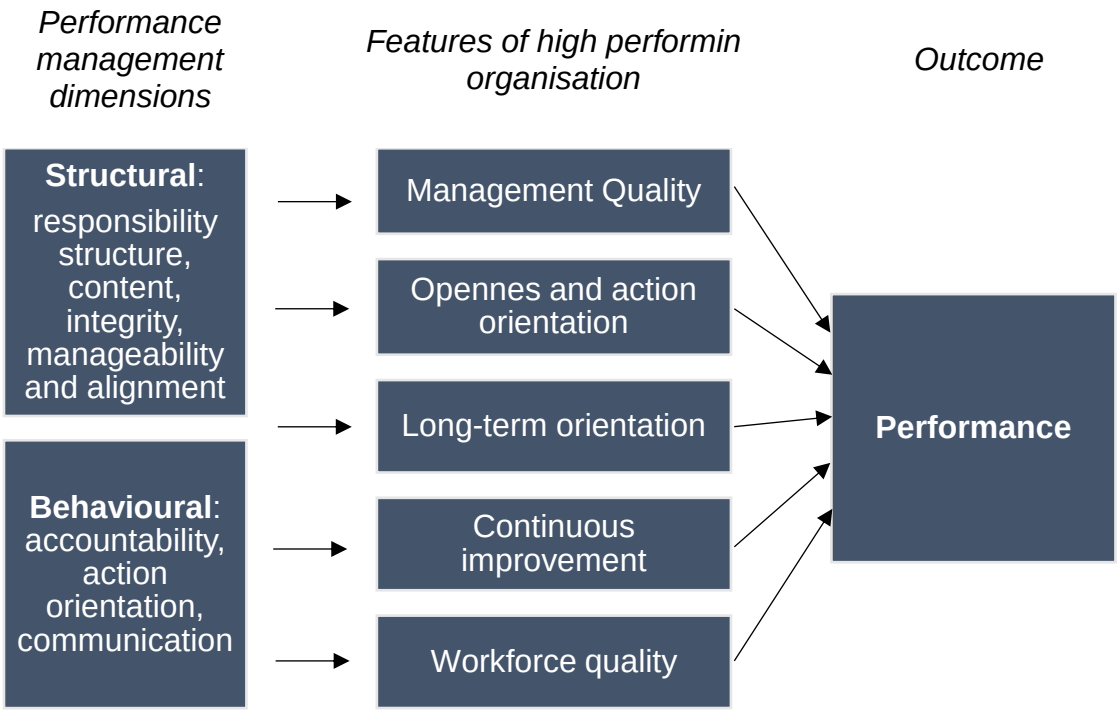

Figure 3. Relation of performance management and performance (de Waal & van der Heijden, 2015, p. 8)

By combining the structural and behavioural dimension of performance management, organisation creates an organisational environment where they enable the features needed for high performing organisation: high quality management and workforce, open and action-oriented culture, focus on long-term decisions, continuous improvement mindset and readiness to change. The analysis also shows that organisations that are performance driven, have management focusing on achieving results, has explicit performance measurement system that includes all important measures (both financial and non-financial), and has inspiring and coaching organisation culture are more prone to perform. (de Waal & van der Heijden, 2015)

In Biron's, Farndale's and Paauweb's (2011) literature review about effectiveness of performance management, they found four different factors that contribute towards effective performance management. Firstly, the strategic and tactical objectives need to be embedded into performance management. Linking daily operations directly to the organisation's strategy brings it closer to the employees

and makes it easier to understand how their own actions contribute to the organisational goal. Secondly middle management should not alone implement the performance management and senior management should be actively involved. Lack of senior managements involvement makes employees see different topic unimportant and even lessen their efforts. Communication was also raised as a key factor in effective performance management. Keeping employees informed of their targets and their performance against the targets motivates them to perform. Open communication, feedback loops, discussion about skills and coaching contributed towards improved performance. Lastly making performance ratings less bias or even showing tangible actions towards reducing biases contribute towards higher performance. All previously mentioned four factors can be perceived as elements of effective communication. (Biron, et al., 2011)

De Waal (2010) mentioned before that effective communication is one of the key enablers for high performance in organisations. Biron et al. (2011) review the characteristics of effective performance management by reviewing high-performance organisations and one of the key finding is that effective communication was a common factor in the organisations. In these organisations, communication was used for feedback loops between manager and employees about performance and to discuss individual development and improvement opportunities. Companywide different communication tools were used to improve the information flows between departments, teams and individual and also to improve the effectiveness of meeting. Crucial was also an ongoing communication from senior and mid management about the important events of the organisation. (Biron, et al., 2011)

In their study Bourne et al. (2005) also discover that communication is one of the key differences between high and average performing business units. Open and frequent communication and the high level of detail was essential for the team’s success. High performing teams were also more proactive in taking actions and were able to balance with both task and people topics at the same time without neglecting the other. (Bourne, et al., 2005)

Audenaert, Decramer, Van Thielen and Vanderstraeten (2018) elevate that the importance of effective communication increases further when organisation functions in difficult environment. In difficult environments the organisational risks rise, and organisations might need to tackle unexpected challenges such as global pandemics or natural disasters. In these kinds of high-risk situations, the managers and employees need further support from organisations to enable to drive the business into desired goal. In high risk situations well implemented and healthy performance management systems supports employees and enables organisation to maintain their functionality. (Audenaert, et al., 2018)

Performance management systems support organisations to perform better in both long and short term by helping it to implement its strategy. Performance management systems can also promote positive behaviours in the organisations. (Micheli, et al., 2018) Aguinis (2013) also mentions that implementing clearly structured performance management systems support the performance management can have a positive impact on employee performance by increasing employee satisfaction, motivation and competence. Having clear view on how employees themselves are performing and receiving feedback and acknowledgments of their performance contribute towards individual's increased motivation to outperform. Performance management also supports managers to have better understanding of their employees' strengths and weaknesses and therefore supports in creating tailored development plans to improve the employee's competence levels. (Aguinis, 2013; Biron, et al., 2011)

Properly implemented performance management systems allows managers to communicate organizations strategy and goal to theirs teams and supports individuals to have better understanding on how their work contributes towards organisations success. This brings more meaning towards individual work and increases their work satisfaction. Employees satisfaction increases employee's commitment towards organization and has been discovered to have positive correlation to decreased employee turnover. (Aguinis, 2013)

Biron et al. (2011) raise that also linking the targets of an individuals into organisational objectives motivates employees to perform. Linking the targets gives employees better view on companywide performance and how their own actions correspond to it. This signals employees better what they need to achieve and why and brings more accountability into their actions. It also promotes employee cooperation as they have better view on how different departments bring value to the organisation and support the performance Targets should be communicated to the employee and the linked to the organisation wide performance, which should always be apparent for example in form of performance measurement system. (de Waal, 2010; Biron, et al., 2011; Campbell, et al., 2018)

Performance measurement is important part of performance management. Without the information that performance measures provide, it is nearly impossible to reach the organisational targets. These measures provide information to organisations management about the performance of entire organisation and work as a guide in deciding actions. Performance measures should be implemented into the management control system, only then they can provide the benefits. (Srimai, et al., 2011) Performance measurement will be reviewed more closely in the next chapters of the thesis.

Managers also need to pay attention to their management styles as when focusing their attention to right topics they enable employees to reach their full potential, but on the other hand limited management styles can degrease employee's motivation. Management steering includes monitoring, feedback loops, agreements, coaching and discussion on employee's progress and development. Commitment for the previous task from managers side does not only guide employees for better performance but also empowers and motivates them. Also providing responsibility and opportunity to influence own results and giving freedom to decide the actions how to get to own targets has been proven to improve employee's accountability and motivation to reach targets. (de Waal, 2010)

When developing targets, organization can use measures to benchmark performance against other organizations. Benchmarking strengths might even lead

to finding best practices to boost performance. (Amaratunga & Baldry, 2002) In their study Bourne et al. (2005) discovered that high performing teams didn't follow companywide targets but used a lot of effort on setting up their own performance targets and managed business using them as reference rather the organisational ones. Locally set targets considered the local markets and their needs and therefore were more relevant for these business units. This helped the business units to put their resources in better use and that way contributed to higher level of performance. (Bourne, et al., 2005) Aguinis (2013) has raised that organizational and country level constraints are often neglected when implementing new performance management systems.

When implementing new or even when changing current performance management systems, there is a threat that organizations neglect significant factors such as importance of training, existing biases or time restrictions and furthermore the locational and cultural differences (Aguinis, 2013). It is important to understand that the implementation of performance measurement systems does not bring the results itself, organizations management should implement performance management into the daily business and manage it systematically. Furthermore, management has a key role in implementing performance management systems and it is crucial that the they are engaged as essentially the system is designed to be a strategic tool for them to execute organisations strategy and gain information to use in decision making. (Amaratunga & Baldry, 2002).

Poorly planned and implemented performance management systems can have excessive impact on organisational performance and have quite the opposite effect than what was expected. Poor communication might lead to confusion and increases the risk of using misleading information followed by incorrect or not relevant actions and decreased performance. Consequently, employees don't understand how their performance effects on the organisations value creation, they don't see performance assessment instrument as fair or they cannot relate to organisations values which all can lead to decreased motivation, employee satisfaction and therefore increased employee turnover. Turnover and job satisfaction can be perceived as indicators for organisation's operational levels

health. Sometimes even managers avoid using the confusing system which can create discrepancy in policies, standard and employee evaluation and result inequality in the organisation. And in the end poor implementation takes a lot of resources such as time, money and human capital without bringing any benefit. (Aguinis, 2013; Campbell, et al., 2018)

3. Performance Measurement

As mentioned earlier performance measurement has its roots way back in history, but its modern form has developed only in the last few decades. There are a lot of studies about performance measurement, and the earlier research was mainly around financial measures which only reflects organizations past performance. In the 1990's the research shifted towards more comprehensive balanced performance measurement systems. Same time performance measurement started developing to be an important management tool for controlling and steering the organizations performance and implementing its strategy. (Bourne, et al., 2003; Khan & Shah, 2011; Srimai, et al., 2011). Lately performance measurement has changed its form into a more dynamic system with multi-dimensional performance measures. These measures are established from organizations strategy and are utilized in implementing and executing the strategy. (Khan & Shah, 2011; Srimai, et al., 2011)

There are three common keywords in performance measurement literature that can easily be mixed together but are important to separate from each other as definitions. These definitions, these are: *performance measurement*, *a performance measure* and *a performance measurement system.* In their literature review Neely, Gregory and Platts (2005) have acknowledged most common definitions for these keywords:

"Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action."

"A performance measure can be defined as a metric used to quantify the efficiency and/or effectiveness of an action."

"A performance measurement system can be defined as the set of metrics used to quantify both the efficiency and effectiveness of actions." (Neely, et al., 2005, p. 1229)

Chapter 2.1. “From performance measurement to performance management” reviews the transition from performance measurement to performance management and also underlines how performance measurement established its modern form as an important tool in performance management. The next chapter reviews performance measurement frameworks since the invention of Kaplan’s and Norton’s (1992) Balanced Score Card (BSC), which revolutionised the field of performance measurement and management. As mentioned before, many of the modern researches mention BSC, therefore the next chapter has more emphasis on, BSCs different perspectives and raises some of the criticism it has faced. After this the thesis reviews modern literature reviews about performance measurement to understand how it should be organised in today’s organisation and what are the key elements of valuable performance measurement. In the last chapter the thesis concentrates more closely on performance measures and how to choose the right ones.

3.1. Performance measurement frameworks

Many studies of performance measurement refer to Kaplan’s and Norton’s (1992) balanced scorecard. (Bourne & Neely, 2002; Neely, et al., 1997; Khan & Shah, 2011; Bourne, et al., 2003; Yadav, et al., 2013; Nørreklit, 2000; Otley, 1999; Bititci, et al., 2018; Srimai, et al., 2011) Norton and Kaplan (1992) criticised traditional performance measurement systems for including mainly financial measures and for been used only for monitoring and controlling purposes. They argue that “*what you measure is what you get*”, meaning that organisations performance measurement system strongly effects on the behaviour of its employees and therefore the performance of the organisation. (Kaplan & Norton, 1992)

Amaratunga & Baldry (2002) support Norton and Kaplans statement and add that a lack of appropriate performance measurement can act as a barrier for change and improvement in the organisation. Thus, focusing on financial measures gives misleading or unclear information for example about innovation and improvement activities, which are also highly important aspects of strategy in today’s competitive environment. BSC has organisations strategy in vision in the centre of the

framework. It aims to set up goals led directly from the strategy and which should be used for improvement and guiding rather than monitoring purposes. The purpose of the measures is to support managers to guide employees towards the organisational vision and defined targets. (Kaplan & Norton, 1992; Amaratunga & Baldry, 2002)

In their study Kaplan and Norton (1992) state that "*there is no single measure that can provide a clear performance target or focus attention on the critical areas of the business*". Managers need to have balanced overview on different areas of the business, both financial and operational. To be able to provide comprehensive overview of performance, Kaplan and Norton identified four main perspectives for performance measures: financial, internal business, customer and learning and growth – which are the foundation of Balanced Score Card (BSC). These perspectives are designed to answer four important questions for the business, which are shown in figure 4. (Kaplan & Norton, 1992)

Figure 4. Balanced Score Card (Kaplan & Norton, 1992, p. 72)

Financial perspective is based for an assumption that organisations financial goal is to increase shareholder value and that the financial strategy consists of two different

components, revenue growth and productivity. Generally, revenue growth can be gained by winning market share from new markets or with new products and customers or increasing sales with existing customers by building customer relations. Improving productivity is also important aspect of financial strategy and it usually has two components: lowering direct and indirect expenses and using resources more efficiently. (Kaplan & Norton, 1992; Kaplan & Norton, 2001a)

Customer-value proposition is in the centre of the *customer perspective*. Organisations should translate their mission statement into specific measures that reflect the actual value created to the customers (customer-value proposition). The customer perspective defines how the organisation differentiates from its competitors in targeted customer segments and how deepens the prior mentioned customer relations by appealing new customer and retaining old ones and answers their concerns. These customer concerns can be divided into four categories: time, quality, performance and service, and cost. Moreover, the perspective also recognises the aimed outcomes from organisations point of view, such as preferred market share in targeted customer segments and customer profitability. Typical KPIs can be linked to customer loyalty, customer satisfaction and customer profitability. (Kaplan & Norton, 1992; Kaplan & Norton, 2001a; Kaplan & Norton, 2001b)

After defining two prior perspectives organisation needs to determine how to achieve these measures and build competitive success. *Internal business perspective* answers this question and captures the critical organisational activities to achieve the financial targets and create customer and shareholder satisfaction. These activities can be internal processes, innovations activities, supply-chain management, resource-capacity management and other processes. (Kaplan & Norton, 1992; Kaplan & Norton, 2001a)

Learning and growth perspective is the foundation of any strategy. Competition forces companies to continuously improve their products, services and processes to be able to gain competitive advantage, thus organisations ability to learn, improve and innovate can be directly linked to their value creation. Learning and growth

perspective creates the base for the previously defined perspectives by linking capabilities and skills, technology and corporate climate directly to the strategy. (Kaplan & Norton, 1992; Kaplan & Norton, 2001a)

BSC has been criticised for its shortcomings in not involving enough stakeholder's perspective. This led to invention of Performance Prism, which integrates five stakeholder perspectives: *stakeholder satisfaction, stakeholder contribution, strategies, capabilities and processes*. Performance Prism aims to effectively meet the expectations of all stakeholders whilst providing structure to organisational performance management (Figure 5). (Neely, et al., 2001)

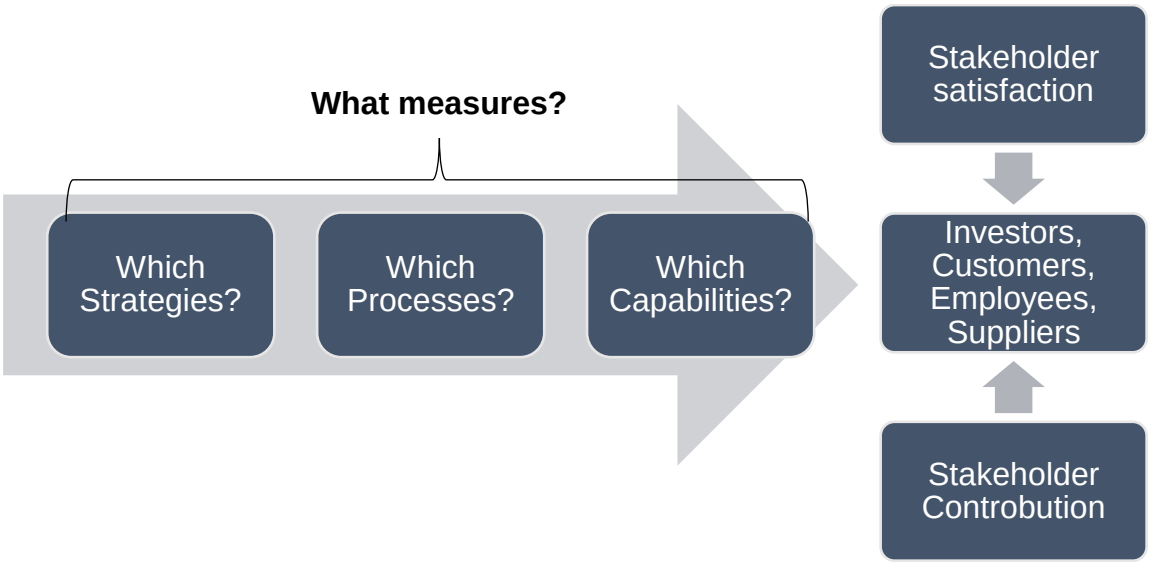

Figure 5. The Performance Prism (Neely, et al., 2001, p. 5)

(1) *Stakeholder Satisfaction* – For organisation it is crucial to identify who are all of their relevant stakeholders and what are the different key drivers that bring value for them. For example, employees' expectations can relate to competitive compensation and development opportunities, but customer is interested on the quality of the services and products. (2) *Stakeholder Contribution* – Organisation must recognise that the relations between organisation and its stakeholders is reciprocal, thus organisation should also set up expectations for their stakeholders. Whilst employees' expectations can relate to previously mentioned factors, organisation should expect productivity and loyalty back. (3) *Strategies* – After identifying all relevant stakeholders and their needs, organisation must design a

strategy on how to deliver these expectations. (4) *Processes* – Different cross-functional processes work as a blueprint for executing organisations strategies. (5) *Capabilities* – To be able to perform previously identified processes, organisation must enquire certain skill sets, policies, infrastructure and technology. (Neely, et al., 2001)

Throughout the 2000's BSC has received more criticism of its limitations to answer the important questions in the world today. This has led for researchers and organisations to add new perspectives into performance measures. Neely, Gregory and Platts (2005) criticised BSC for excluding the external environment (the competitor perspective) and not answering question *"what are our competitors doing?"*. Truly balanced performance measurement system should include two important elements – customers and competitors. Number of organisations have also included social and environmental perspective into the framework taking the analysis even further and recognising social responsibility (Yadav, et al., 2013; Spezialea & Kloviene, 2014)

Furthermore, BSC has been criticized for not recognizing the true causalities between the measures. This might lead to wrong assumption and consequently insignificant actions (Nørreklit, 2000). The critic received for BSC led for Kaplan and Norton to invent BCS supplementing frame works such as Strategy Map. Strategy map aims to translates the organisational strategy into a map that makes it more understandable for the employees. (Kaplan & Norton, 2001a) Since the invention of BSC there has been a lot of other different performance measurement frameworks in the field of performance management. Most of them complement and improve each other rather then bring entirely new point of view into the field. In their literature review Yadav, Sushil and Sagar (2013) have found 26 different performance measurement (PMM) frameworks, identified their limitations and contributions to the field since the beginning of 1990's when performance measurement took a huge leap towards being a strategic tool (tables 1 and 2). (Yadav, et al., 2013)

Table 1. Performance measurement frameworks (PMM) 1990-2000 - adapted from (Yadav, et al., 2013, pp. 953-954)

PMM framework	Author, year	Issue(s) highlighted
Results and determinants framework	Fitzergald et al. (1991)	Identification of leading and lagging factors
Measures for time-based competition	Azzone et al.(1991)	Identification of time as a strategy of competitive advantage
Performance pyramid	Lynch and Cross (1991)	Identification of performance measures for organizational hierarchy
Economic value added	Stewart (1991)	Provides a measure of wealth creation
EFQM – excellence model	European Foundation (1991)	Organizational improvement through self-assessment
Balanced scorecard	Kaplan and Norton (1992)	Complements financial measures with non-financial performance measures
Input-process-output-outcome framework	Brown (1996)	Highlights performance management as a process
Consistent performance management system	Flapper et al. (1996)	Designing of performance management system (PMS) covering all aspects of performance relevant for organization
Integrated dynamic performance measurement system	Ghalayini et al. (1997)	Continuous performance improvement tool
Shareholder value	Rappaport (1998)	Increasing wealth to shareholders
Dynamic performance measurement system	Bititci et al. (2000)	To bring in dynamics to performance measurement systems
Integrated performance measurement framework	Medori and Steeple (2000)	Auditing and enhancing performance measurement systems
Quantitative models for performance measurement systems	Suwignjo et al. (2000)	Quantification of the effects of factors on performance

Most of the modern tools (post 2000, table 2) listed Yadav's et al. (2013) study in are based on BSC, extending it or overcoming its limitations. Some frameworks aim to go beyond BSC approach (Maltz et al., 2003; Neely and Jarrar, 2004; Sushil, 2010; Searcy, 2011), but those usually lack of empirical validation. Yadav et al.

(2013) also criticise frameworks for lacking generalisation and being suitable for only specific situations, for example Sureshchandar's and Leisten's (2005) Holistic scorecard and Barnabe's (2011) "System dynamics based" balanced scorecard. (Yadav, et al., 2013)

Table 2. Performance measurement frameworks since 2001 - adapted from (Yadav, et al., 2013, pp. 958-960)

PMM framework	Author, year	Issue(s) highlighted
The action-profit linkage model	Epstein and Westbrook (2001)	Identify, measure and understand causal links between actions and profit
Performance prism	Neely et al. (2001)	The stakeholder orientation
Kanji's business scorecard	Kanji and Sa´ (2002)	Overcoming the weakness of BSC
Beyond budgeting	Hope and Fraser (2003)	Devolving authorities to employees and making adaptive management process
Dynamic multidimensional performance framework	Maltz et al. (2003)	Thinking beyond BSC and integration of people development
The performance planning value chain	Neely and Jarrar (2004)	Extracting value from data
Holistic scorecard	Sureshchandar and Leisten (2005)	Integrated scorecard for measuring and managing business performance
Total performance scorecard	Rampersad (2005)	Integrating personal and organizational performance
Holistic performance management framework	Anderson et al. (2006)	Holistic performance management
Flexible strategy gamecard	Sushil (2010)	Dual perspective of performance
"System dynamics based" balanced scorecard	Barnabe (2011)	Matching traditional BSC approach with system dynamics principles
Proactive balanced scorecard	Chytas et al. (2011)	Using fuzzy cognitive map (FCM) and simulations
Sustainability performance measurement system	Searcy (2011)	Reviewing and updating of corporate sustainable PMS

Performance measurement frameworks are highly valuable, but their shortcoming is that they are simply frameworks and lack of guidance on how the appropriate measures should be identified, implemented or used to manage the business. Often the expected implementation of these frameworks leans to the assumption that they are fully understood and that the organisations know how to transform them to fit their needs. (Neely, et al., 2000)

These frameworks also lack guidance of how to tailor them into different organisational structures and units. Neely, Mills, Platts, Richards, Gregory & Bourne (2000) also imply in their study that performance measurement literature has been too superficial by ignoring complexity of designing the actual measurement systems. Yadav et al.'s (2013) findings of modern frameworks lacking empirical validation or being too general support these implications. Organisations should move past BSC and scoring the performance and shift towards integrating the performance into their strategic management. (Neely, et al., 2000; Yadav, et al., 2013)

The agenda of this study is to understand how to improve performance management in the case company. Review of Balanced score card provides understanding of the base of different modern performance management frameworks. But as mentioned before, most of the modern frameworks are criticized of their shortcoming in implementation or in customization to organisation. Therefore, rather than further reviewing different static frameworks, the study will review several different literature reviews to have better understanding of the full picture of performance measurement and important characteristics of successful performance measurement system.

3.2. Performance Measurement in modern literature reviews

To have better understanding of the different perspectives of the important factors of performance measurement and what makes it successful, this chapter reviews the performance management literature reviews in the last two decades. Table 3 combines the modern literature reviews reviewed in this chapter in chronological order.

Table 3. Performance Measurement literature reviews

Authors	Published	Topic
Amaratunga & Baldry	2002	Moving from performance measurement to performance management
Neely, Gregory & Platts	2005	Performance measurement system design – A literature review and research agenda
Franco-Santos, Kennerley, Micheli, Martinez, Mason, Marr, Gray & Neely	2007	Towards a definition of a business performance measurement system
Khan & Shah	2011	Understanding performance measurement through the literature
Neetu, Yadav, Sushil & Sagar	2013	Performance measurement and management frameworks – Research trends of the last two decades
Speziale & Kloviene	2014	The relationship between performance measurement and sustainability reporting: a literature review

Amaratunga & Baldry (2002) have defined that the main purpose of performance measurement is to control organisations operations, although performance measurement only provides foundation for the conversations, which are the measures. They have identified five different goals for performance measurement system that enables its effective utilisation. (1) Performance measurement systems should translate the organisational vision and strategy into measurable outcomes. This enables steering employees and supports assigning the correct operations that drive to towards desired targets. (2) The system should include metrics that analyse the health of the organisational strategy which allows on-time actioning on high risk

situations. (3) Organisations should move away from audit-based reporting towards more strategic reporting and the measuring system has a key role in this change. Measurement system should support organisations in the previous transformation and sustaining it by providing measured that are linked to organisations strategy and that are actionable. (4) To enable achieving previous targets, the performance measures should provide thorough picture of organisational performance, therefore the measures should include wide range of different metrics that cover key areas of the business e.g. financial, qualitative and predictive analytics. (5) In case organisation has several evaluation models, they should either combine them or replace them with effective performance measurement model. (Amaratunga & Baldry, 2002)

Neely et al. (2005) have proposed to divide performance measurement literature into three different levels: (1) individual measures of performance, (2) performance measurement system as an entity and (3) performance measurement system and its environment – and to be analysed from different aspects. All these different levels should be considered when integrating performance measurement system. The different levels are demonstrated in figure 6. The first level consists of several individual *performance measures* which should all link directly to organisations strategy. At this level organisation should review which measures they want to use and why, and what are all the benefits. (Neely, et al., 2005) Individual performance measures will be further reviewed in chapter “Key performance indicators”.

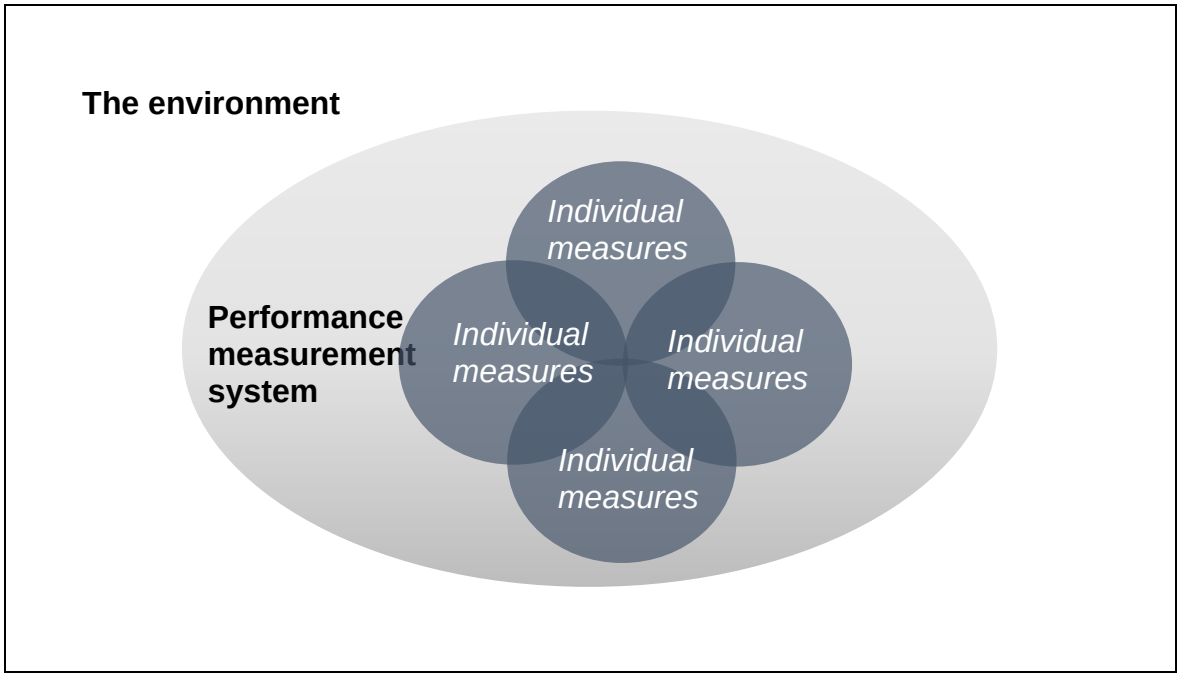

Figure 6. The performance measurement framework (Neely, et al., 2005, p. 1229)

All the individual measures together constitute the *performance measurement system*, which is the next level in Neely et al.'s (2005) context. This level aims to find out if the systems includes all vital elements such as financial and non-financial measures, long- and short-term measures, are they integrated horizontally and vertically and if the measures conflict with each other. Previously introduced BSC is one of the most common measurement frameworks and its perspectives (financial, customer, internal processes and innovation) are still valid today with the additions of competitors perspective. Neely et al. argue that it is nearly impossible to produce unifying a performance measurement that would be complex enough. (Neely, et al., 2005)

The third and highest level "*performance measurement system and its environment*" includes two dimensions: organisations internal and external environments. Performance measurement system needs to be consistent with organisations culture and reinforce the strategy. It should consider aspects such as goal setting, feedback, and rewards or sanctions and review if these are consistent with each other and with the strategy. On the other hand, the performance measurement system should also give information about competitors and customers. Customer

satisfaction is one of the key measures to indicate the relationship with customers and is commonly used measure. (Neely, et al., 2005)

Competitor related measures tend to be easily neglected but offer valuable information that organisation can use for strategic positioning or for example improving processes. Neely et al. (2005) propose four different types of benchmarking that describe measurement of competitor performance; internal, competitive, functional and generic. *Internal* benchmarking consists of reviewing and comparing organisations different business units or plant. *Competitive* benchmarking is the most beneficial form but collecting information about external competitors is usually very challenging. *Functional* benchmarking includes external companies that are most comparable according to their functions but still might not be seen as competitors. *Generic* benchmarking compares smaller and generic business processes such as order entry or invoicing. (Neely, et al., 2005)

Bourne, Kennerley and Franco-Santos (2005) reviewed the context of both organisation's external and internal environment and their impact on performance measurement effectiveness. Even though they found some studies that support statement that there is a link between external factors and performance measurement effectiveness, they state that it is lacking comprehensive framework. However, with internal environment this link is more definitive and there are many proven contexts that impact on performance measurement effectiveness (table 4).

Organisation strategy, structure and size have an effect on the effectiveness of performance management. Thus, it is important to align the performance measurement system with organisations strategy and structure. In large organisations gathering information and benchmarking it is a lot easier than in small organisation. When planning and implementing the system organisation need to consider data quality, its integrity and data collection process as well as the other management systems currently in use. Maintaining high quality information systems might take a lot of resources and need high competence level from the organisations to make it sustainable. Therefore, aligning the process with current resources or organisations ability to bring more resources is vital. Also, to enable simultaneous

use of different management practises and systems, organisation needs to make sure these systems talk to each other or even consider combining them into one. Overall organisations with mature performance measurement systems have proven to be more effective. (Bourne, et al., 2005) We can learn from this is that implementation of performance measurement system does not happen overnight, and it should consider multiple factors from the organisation.

Table 4. Internal contextual factors that effect on performance measurement effectiveness (Bourne, et al., 2005, pp. 4-5)

Internal Context	Implication for performance measurement	Authors
System maturity	Mature systems are more effective	Evans, 2001; Martins, 2002
Organisational structure	Measurement system should be aligned with organisational structure	Hendricks, 1996; Bourne et al, 2002
Organisational size	Measurement is easier in larger organisations	Hoque and James, 2000; Hudson et al. 2001a, 2001b
Organisational culture	It is beneficial to align measurement system with organisational culture	De Waal, 2002; Gates, 1999; Johnston et al., 2002; Lingle and Schiemann, 1996; Lockamy and Cox, 1995; Maisel, 2001; Malina and Selto, 2002; Bititci et al, 2004
Management style	Suitable management style might differ in different situations	Gelderman, 1998; Libby & Luft, 1993; Hunton et al, 2000; Simon 1987; Bititci et al, 2004
Competitive strategy	Measurement system should be aligned with strategy	Kaplan and Norton, 1996, 2001; Lockamy, 1998; Mendoza and Saulpic, 2002; McAdam and Bailie, 2002; Neely, 1998
Resources and capability	Resources are important in implementing or updating measurement systems	Bourne, 2004, Kennerley and Neely, 2002
Information Systems infrastructure	High data integrity and a low burden of data capture are important	Bititci et al., 2002; Eccles, 1991; Lingle and Schiemann, 1996; Manoochehri, 1999
Other management practices and systems	Measurement system should be aligned other systems	De Toni and Tonchia, 2001; Eccles, 1991; Eccles and Pyburn, 1992; Kaplan and Norton, 1966, 2001; Moon and Fitzgerald, 1996; Otley, 1999

There is also behavioural aspect that needs to be considered in performance measurement systems. Performance measures provide information on the performance in different levels – all the way from individual level to, team, business unit and organisations levels. Managers can use this information to steer the business and effect on the behaviours of their teams. Managers need to keep in mind that different situations and people might need different management styles. (Bourne, et al., 2005)

Franco-Santos et al (2007) reviewed and analysed the performance measurement definitions from seventeen different studies and have identified five different roles of a successful performance measures: *Measure performance, Strategy management*, *Communication, Influence behaviour* and *Learning and improvement.* Measuring performance includes both monitoring and evaluation of performance. Performance measurement systems work also as enablers for communication with both internal and external stakeholders. (Franco-Santos, et al., 2007) In the chapter *Performance Management* the importance of the effective communication was been raised several times by different researches (Aguinis, 2013; Audenaert, et al., 2018; Biron, et al., 2011; Bourne, et al., 2005; Campbell, et al., 2018; de Waal, 2010; de Waal & van der Heijden, 2015)

Strategic management considers all stages from defining and planning the strategy, to successfully implementing it and finally aligning organisations operations into the strategy. Performance management systems provide relevant information form management, that they can use to influence employee's behaviour for example through rewarding and compensation. Last role that Franco-Santos et al (2007) identified for performance measurement was the learning and improvement. Performance measurements provide context for feedback conversation and properly utilised can be used as framework for individual improvement and learning. (Franco-Santos, et al., 2007)

Khan and Shah (2011) comply with Franco-Santos, et al. (2007) findings and add that performance measurement systems should be multi-dimensional and integrate all previously defined roles into the system. Yadav, Sushil & Sagar (2013) raise that

performance measurement system needs to align targets and measures with organisations vision to be able to prove feedback to support situational counteractive actions. Moreover, current researches lack to support understanding how to involve causalities analysis and double loop learning (feedback loop) into performance measurement and making the system more dynamic rather than retrospective. (Khan & Shah, 2011; Yadav, et al., 2013)

Bourne et al. (2005) recognized seven focus areas covered in the performance measurement literature which include similar features as Franco-Santos et al (2007) mentioned. Bourne et al. (2005) approached the literature from different point of view and reviewed how the diverse researches in the field could be clustered and organised into underlying process of effective performance management. These seven topics are organised into process stages in table 5.

Table 5. Process stages identified in performance measurement literature (Bourne, et al., 2005, pp. 6-7)

Process stages	Authors
Alignment with strategic objectives	Atkinson (1998); Otley (1999)
Data capture	Lynch & Cross (1991); McGee (1992); Simons (1991); Neely (1998)
Data analysis	Lynch & Cross (1991); Neely (1998)
Interpretation & evaluation	Simons (1991); Neely (1998); Ittner et al (2003); Kerssens-van Drongelen & Fisscher (2003)
Communication and information provision	Bititci et al (1997); Forza & Salvador (2000); Kerssens-van & Fisscher (2003); Lebas (1995); Lynch & Cross (1991); Simons (1991); McGee (1992); Neely (1998); Otley (1999)
Decision making	Ittner et al (2003); Neely (1998)
Taking action	Flamholtz (1983, 1985); Simons (1991)

As mentioned before performance management and measurement should always be *aligned with the organisational strategy* (Kaplan & Norton, 1992; Amaratunga & Baldry, 2002; Bourne, et al., 2005; Yadav, et al., 2013; de Waal & van der Heijden,

2015; Biron, et al., 2011), therefore Bourne et al. (2005) have recognised this as the first and most important process stage. In addition, to establish effective performance measurement system, it is important also to review the *data capture* and *analysis processe*s, including identifying the key performance measures and provide structure how to use the data, so that performance measures support both long- and short-term strategy implementation. *Interpretation & evaluation* -stage makes sure that the data provided by the performance measurement system is frequently reviewed and used to support the business. *Decision making* and *taking action* -stages often blend together as these two actions are difficult to separate from each other. They outline how the different data and KPIs are utilised and finally turned into actions. (Bourne, et al., 2005)

Khan & Shah (2011) and Yadav, et al. (2013) concentrate more on reviewing the history and development of performance measurement literature rather than bringing something new to the table. All of the researches in their study were unanimous of the claim that even though there has been a great interest in the area of performance measuring in the last decades it is still lacking validation from empirical testing. Most of the modern researches have focused on building and evolving various frameworks (tables 1 and 2) or are qualitative studies that analyse the theoretical aspects in the performance measurement field (table 3). This leaves research gap in the field to study the connections of integrated performance measurement system and organizational performance. Furthermore, organisations would benefit from studies that support implementation of frameworks and helps transforming gained information into knowledge and value-adding activities. (Khan & Shah, 2011; Yadav, et al., 2013)

Yadav, Sushil & Sagar (2013) reviewed performance measurement frameworks and suggested dividing them into five different groups according to their themes. *Classical and dominant PMM frameworks* include the most popular and dominant frameworks such as BSC. These frameworks integrate non-financial performance measures and include of most of the stakeholders. *Holistic and integrated PMM frameworks* highlight the future and integrate different aspects of performance (operational, functional, strategic). One of the groups is '*Frameworks updating BSC*

approach', these frameworks are based on the previously reviewed BSC and aim to overcome its weaknesses. *Context-specific PMM frameworks* usually only focus on certain topics e.g. economic value or performance value chain. Last group – *Recently developed PMM frameworks*, includes the most modern frameworks which usually focus on the issues of current (e.g. sustainability) time and how those relate to organisations performance. (Yadav, et al., 2013)

Spezialea and Kloviene (2014) expand the literature of performance measurement by examining relationship of performance measurement and sustainability reporting (corporate social responsibility, CSR). In their study Spezialea and Kloviene identify a lot of similarities between performance measurement and CSR reporting in terms of integrating financial and non-financial measures. They also recognise that in both fields the measures are used as key source of information in different stages of decision making (planning, controlling and reporting). Performance measures allow better understanding of both internal and external processes. Moreover, the integration of performance measurement system has a positive impact on achieving objectives and helps organisation to accomplish their targets. (Spezialea & Kloviene, 2014)

Bourne et al. (2005) compared high and low performing business units of the same company aiming to understand how they differ in terms of performance measurement. In average performing business units the usage of standard scorecards differs from high to low utilisation but in high performing units the usage was consistently noticeably light. Some of the high performing units were using additional tools and own systems to track their unit's performance. These tools usually tracked topics that the unit itself had identified important for example topics that had caused issues earlier and needed therefore closer or constant surveillance. High performing units did not rely on the standard performance scorecards in driving the performance of the unit but used them to check the status and confirm their assumptions. (Bourne, et al., 2005)

When effectively used performance measurement does not only give organization an overview on how it is progressing towards targets but also helps to understand

current strengths and weaknesses. Performance measurements supports in creating tangible action plan on how to overcome issues and better use assets. Therefore, it is important that organisations reviews and design their performance measures from the strategy and that they cover all key topics and areas of the business. (Amaratunga & Baldry, 2002)

3.3. Performance measures and Key Performance Indicators

There are few different levels of measures that organisation can use in their performance measurement systems, and from these key performance indicators are the most valuable ones. Key performance indicators (KPIs) gather information of the business to support finding best ways on achieving organizational targets. KPIs serve as an important source of information for planning, supporting decision making and creating transparency trough the organisation. (Badawy, et al., 2016).

There are several definitions for key performance indicators that either describe the measures or the usage of the measures. Badawy, El-Aziz, Idress, Hefny and Hossam (2016, p. 47) define key performance indicators as follows: "*KPIs act as a set of measures focusing on those sides of organizational performance that are critical for the success of the organization".* Fereydoon Azma (2010, p. 5408) states that "*key performance indicators (KPIs) are the most comprehensive objectives in any organizations that direct the managers activities to make them attainable*". Combining these two definitions into one provides the key elements of KPIs. KPIs are the most relevant and centric measures that indicate the health of the organisation. They are linked directly into the organisation's strategy enabling defining influential actions and operations that correlate directly into the performance of the organisation.

In today's business environment where value creation is key for success, traditional and process-based measures such as hours worked, number of activities or cost – are questioned in terms of their relevance in steering business towards targets. Some of these measures are designed mainly for monitoring purposes or improving functional areas without considering organizations overall mission. Furthermore, in

the modern environment many of the key activities are difficult to identify or track and traditional measures might bring misleading or incomplete message. (Gunasekaran & Kobu, 2007)

Even though KPIs are recognised to be important part of driving performance, organizations still seem to struggle in identifying their key performance indicators out of all the measures provided. Many companies have a set of measures that they call KPIs but only few companies really understand what is the definition of KPI and have managed to define their true KPIs. (Parmenter, 2010; Badawy, et al., 2016; Parmenter, 2015). Incorrectly identified KPIs can result unfunctional processes following by defecting actions (Neely, et al., 1997).

In the past the challenge in measuring was that organizations did not have proper methods for measuring and therefore they concentrated on easily measurable metrics such as financial indicators. Kaplan and Norton (1992) recognised that it is common for companies to add new KPIs every time they identify a new measure. Nowadays the high volume of diverse metrics brings another challenge – focusing on the appropriate metric rather than measuring overload. (Bourne & Neely, 2002; Kaplan & Norton, 1992)

In their study Neely, Gregory, & Platts (2005) conducted a survey on how managers identify KPIs and there was a consensus that managers feel that defining what needs to be measured is very easy. They also found out that many of the companies have over 100 KPIs. High volume of different metrics available cause issues for organizations to identify what are their true KPIs. Inadequate KPIs do not provide necessary information about the considered functions and the matters in hand. (Kaganskia, et al., 2017) Managers seem to undermine the process of recognising their true KPIs and don’t attend the matter with enough criticism. They seem to identify what can be measured rather than what should be measured as a KPI which leads to having too much information and not been able to concentrate on the relevant matters. There are different frameworks for recognising KPIs and the options vary from manual processes to fully automated, although resent literature

proposes that further studies need to be carried out for predicting KPIs (Badawy, et al., 2016).

David Parmenter (2010) has identified four different types of performance measures that companies use: Key Result indicators (KRIs), Result indicators (RIs), Performance indicators (PIs) and Key Performance indicators (KPI). Each measure answers different question, RI's tell you what has been done in the past and KRIs tell you what has been done in the light of critical success factors. PIs gives direction what to do in the future and KPIs tell what to do to increase performance dramatically. (Parmenter, 2010; Parmenter, 2015)

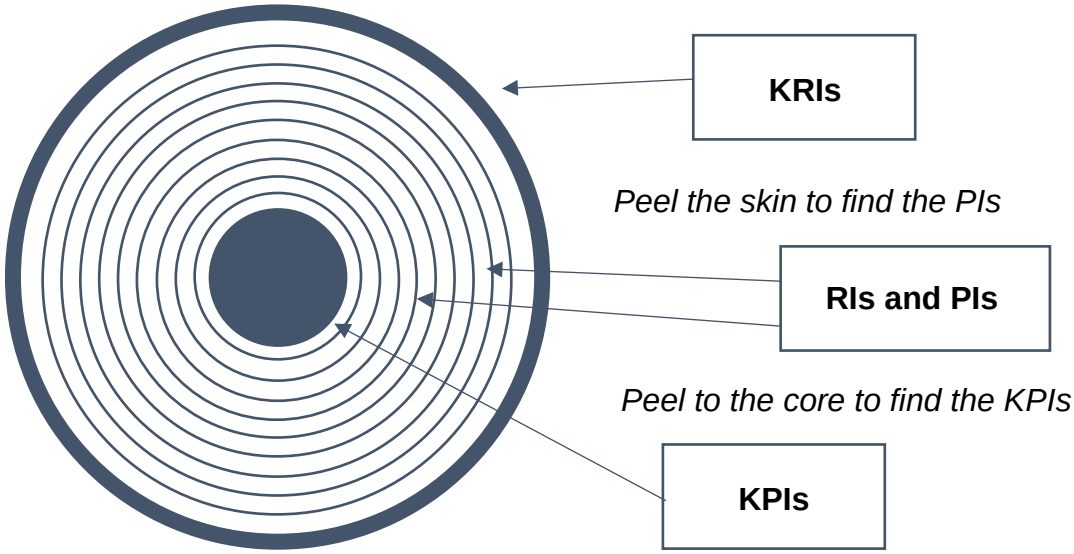

Figure 7. Four types of performance Measures (Parmenter, 2010, p. 72)

To better understand the relation between these four measures Parmenter (2010, p. 71) uses onion analogy (Figure 7): *"The outside skin describes the overall condition of the onion, the amount of sun, water, and nutrients it has received, as well as how it has been handled from harvest to the supermarket shelf. The outside skin is a key result indicator. However, as we peel the layers off the onion, we find more information. The layers represent the various performance and result indicators and the core of the onion represents the key performance indicator."* While RIs and PIs give important information about the business, KPIs focus on topics that are utmost critical for organizations success. KRIs serve as indicators

whether organization is moving toward right direction (e.g. customer satisfaction) but are not actionable themselves like KPIs. (Parmenter, 2010; Parmenter, 2015)

KPIs can be divided into three main categories: leading indicators, lagging indicators and diagnostic measures. *Leading indicators* measure factors that influence performance and they can be identified as root cause for future performing or underperforming. *Lagging indicators* give an overview of what have we done in the past and report only the outcome of certain events. *Diagnostic measures* indicate the health of the various activities and are neither leading nor lagging KPIs. For example, quantity of visited customers per period can be a leading indicator for sales in the same period, sales being a lagging indicator. Diagnostic measure can be a measure of the quality of data collected from these customer meetings. Leading indicators are the most important measures, as they are directly linked to the performance and can give direct feedback on what to do to improve. Efficient performance measurement systems need to combine the different types of performance measures and make sure they complement each other. (Peng, et al., 2007; Kaydos, 1998)

Leading indicators are critical for success of the business as they present the key drivers and can be used as predictive KPIs for lagging indicators. Furthermore, leading indicators are actionable and give insights on future performance. Effective leading KPIs can be difficult to find and should be identified over time by analysing key metrics of the business and discovering the key drivers for performance. Lagging indicators can be used as a target for organisation to define what is the desired level of performance, whereas leading indicators should be set to the level, where there enable achieving the lagging indicator. Diagnostic measures can also be used as a target to support achieving the leading and lagging targets. Diagnostic measures themselves do not necessarily correlate directly to the performance but can provide vital information how to improve the processes. (Peng, et al., 2007; Kaydos, 1998)

Neely, et al. (2005) have identified four main types of performance measures: *Quality, Time, Flexibility and Cost* in the performance measurement literature.

Traditionally *quality* performance measures have focused on product quality, product defects and the cost of sustaining desired level of quality in manufacturing, but in modern service-oriented market, quality of services has arisen next to products. In the competitive environment the focus has shifted toward more strategic measures raising customer satisfaction as one of the key measures in quality. Quality measures can also relate to the quality of the process rather than only measure the output. Performance measures relating to *time* can be seen as measures of manufacturing performance (e.g. production time or development time for new projects) but also the source of competitive advantage (e.g. order processing lead time or service lead time). (Neely, et al., 2005)

Flexibility measures typically measure the process efficiency, how easily they can be changed and how well they react to unexpected situation such as system breakdowns or volume changes (increased demand). Performance measures relating to *cost* include previously mentioned traditional finance measures such as return on investment and production cost. Since the business environment has changed a lot in the last decades, the financial measures should more strategic and aligned with commercial objectives (selling price, value added to the customer, service cost, customer profitability). (Neely, et al., 2005)

Badawy, El-Aziz, Idress, Hefny and Hossam (2016) reviewed performance measurement literature and found several characteristics for winning KPIs. Firstly, the KPIs should be simple and easy to understand by all relevant users. KPIs should also be actionable and have clear correlation to the desired outcomes. When the users understand the KPIs and the correlation towards outcomes is evident it encourages towards the correct actions whereas unclear KPIs might lead to insufficient or even dysfunctional behaviour. The KPIs should have balance of different types of KPIs, such as financial and non-financial to provide full picture of the performance. But, at the same time to enable users to concentrate and action on key topics, there should not be too many KPIs and the KPIs should not be contradicted by each other. The KPIs should be designed in a way that they can’t be neglected but are constantly in the centre of operations. In worst cases KPIs can

be overlooked or form a blockage for cooperation and contradictive KPIs can revoke the benefit of different actions. (Badawy, et al., 2016)

All KPIs should have an owner who manages the big picture and can further accelerate the topics in case needed and in addition KPIs should have distributers who tie the responsibility to different teams and individuals and reviews their accountability. These two responsibilities be the same person, for example the team leader and the responsibilities can differ depending on KPI. From the reporting point of view the KPIs should be measured and updated frequently to provide structure. Depending on the topic, relevance and the actionability the frequency changes. Furthermore, there should be possibility to drilldown KPIs into more detail and review the origin and content where the results emerge to support further understanding the KPIs. (Badawy, et al., 2016)

4. Methodology

The methodology chapter introduces the research methodology of the study and explains the data collection methods. This chapter also gives an overview of the background and current state of the project from which this case study prompts from. After this the interview framework is introduced and linked to the research questions and theory presented in the previous chapters. Last sections of this chapter present the interview results. The interview results are presented in seven different sections, following the interview structure carried out in each of the interviews.

The research results are further discussed in the final chapters of the thesis. The results are combined, summarised and analysed in the chapter 5 “Findings and Discussion”. After this – in the last chapter “Conclusions”, the research questions are answered and recommendations for the case company according to the analysis are presented. Chapter “Conclusion” also includes discussion about the limitations of this thesis and raises suggestions for possible topic for future studies to further deepen the understanding of the research area.

4.1. Research methodology

This research is a qualitative case study and the empirical material of the study has been collected with semi-structured interviews and with observations. Qualitative research approach is well suited for studying situations involving only few people, understanding their interpretations of certain events or topics and for studies where it is not possible to collect precise numerical data and statistics about the research topic. Qualitative research is a method that involves close contact with the topic and the people related to the topic. The method includes observing of the people or the event and the research methods are more flexible as they may evolve during the research based on the observations of the researcher. Qualitative research is a method that aims to capture the causalities that cannot be discovered with quantitative data. Qualitative study is carried out during a certain time period which enables to capture evolvement of the topic. Qualitative research also aims to

compose tangible actions, but even if these are not distinct the research should engage alternative way of viewing the topic. (Walliman, 2006; Giddings & Smythe, 2007).

Case studies purpose is to analyse and form an understanding of a certain event, person or group of people aiming to produce applicable explanations or even solutions that can be generalized. In case studies it is typical that research aims to capture diverse information about the case to be able to understand the topic more profound. Therefore, qualitative case study might include also quantitative data to support the analysis. Typical data collection methods for case studies are researcher's observations, interviews and field studies. (Hamel, et al., 1993; Walliman, 2006)

In this study the methods used are researcher's observations and interviews. The researcher has been working in the case company during the research and all the official meetings related to the research topic during the research period have been documented on the Appendix 2: *"Minutes Catalogue"*. The case involves several market organisations from different countries and travelling to all countries was not possible, therefore there were no field studies carried out to make sure the sampling from each area of the business was similar.

Qualitative interviews are often used in qualitative research and its aim is to gain understanding of attitudes, experiences, opinions, insights and predictions by prompting conversation. These interviews are conducted usually face-to-face or if this is not possible using digital communication methods, such as phone or skype. Interview questions and interview structure should be clearly defined as they will outline the outcome of the interview. Therefore, the interview questions should be constructed from the research objectives to make sure the results answer to research questions and are aligned whit the objectives of the study. (Walliman, 2006; Wengraf, 2001)

Interview questions are usually either entirely structured – meaning that the interview follows predefined script, or it can be semi structured where flexibility

during the interview is allowed and encouraged. Interview questions can also be non-structured, where no precise questions are defined prior to the interview. (Walliman, 2006; Wengraf, 2001) In this research the semi-structured method is used to allow flexibility during the interview to be able to ask in depth questions aiming to understand arising themes and to allow more deeper understanding on the matter. Semi- structured interview method also supports the interviewer in capturing all the important themes during the interview and makes the samplings easier to compare.

In semi-structured interviews the interview questions are predefined open-ended questions, and they might have sub questions to ensure deep enough answer. The question and the order of the questions have been constructed from the research themes and are the same for interviewees. Semi-structured interviews are especially good for situations where the answers might vary a lot, or the results cannot be predicted as it gives the flexibility to ask further questions on these topics. In these situations, semi-structured interview method allows the interviewer to get “in depth” understanding of the topic. This method is also more flexible to the interviewees as it gives them opportunity to fraise their answer, the way they see the best and allows them to raise topics they see important for the research topic. (Wengraf, 2001)

Although the semi-structured method brings a lot of benefits it also demands a lot more effort. Interviewer needs to design the questions in a way that they prompt sub questions from the answers. And as not all the questions are planned some improvisation is demanded from the interviewer to be able to see where additional questions are relevant. This means that interviewers need to have certain level of understanding of the topics and they need be woke and have a high concentration trough out the interview to be able to guide the narrative. This kind of active listening is only possible if the interview is recorded and taking only key notes during the interview. (Wengraf, 2001)

4.2. Data Collection

The empirical data of the study was collected by interviewing five case company employees. All employees are from different market organisations which are all located in different countries. Locations are not revealed in this study, and the market organisations are called as MO1, MO2, MO3, MO4 and MO5 with not meaning in the order. All these market organisations belong to the same market region and have the same regional head of engineering. The names of the interviewees are also not revealed in this study. Table 6. presents all the interviewees, their market organisation (later MO), job title, tenure in the company and current role and the duration of each of the interviews. MOs are numbered in a random order.

Table 6. Interviews

Market Organisation	Job Title	Tenure	Interview duration
MO 1	Engineering Team Leader	5 year in current role, 12 years in total	86 min
MO 2	Engineering Team Leader	4 year in current role, 8 years in total	73 mins
MO 3	Head of Engineering	2,5 years in current role	65 mins
MO 4	Head of Engineering & Key Accounts	<1 year in current role, 15 years in total	60 mins
MO 5	Head of Engineering	>1 year in current role, 13 years in total	76 min

The aim of the interviews was to form understanding of the current status of performance management of field engineers and find ways to improve it. This was done by mapping out the thoughts and experiences of direct field engineering team leaders. By interviewing the direct team leaders, we make sure that the interviewees

have a good understanding of the strengths and weaknesses of performance management and of what works well and what does not in the field engineer's role. Each MO has different engineering structure depending on the size of the MO therefore the job titles are slightly different. In MO's where there is deeper engineering hierarchy and several engineering team leaders the head of engineers of the MO decided who to interview.

The interviews were carried out as semi-structured interviews. The interview structure was draft out before the interview and was same for each interviewee. The interview questions were sent out to all interviewees in advance providing them time to prepare their answers. During the interview the interview questions were asked in same order from each interviewee. Semi-structured interview method allowed going back and forth with the questions following the story line told by the interviewee and asking follow-up questions enabling to have deeper conversation about the interview topics.

The interview questions are divided in two main sections, A) *Organizational structure* and B) *Performance management* (Appendix 1). Organizational structure related questions were asked to fill out and sent back to interviewer before the interview to give an overview of the organisation pre-interview. Performance management includes the actual interview structure with seven different themes and each of them consist of 1-3 main question and from 1-5 sub questions. Organizational structure answers were briefly reviewed at the beginning of the interview and performance management related question were answered and discussed during the interviews.

The interview questions were led from research questions and objectives using the theoretical framework of the thesis and researcher observations from the organisation to support. Before sending the question to interviewees, interview structure was reviewed and discussed with the regional head of engineering and regional head of controlling and adjusted according their feedback.

All interviews were carried out during February 2020 using Microsoft Skype for Business. During the interview, the interview questions were presented on the screen section by section to steer conversation. The interviews were recorded for later review and during the interview only small notes were made. Interviews lasted from 65 to 86 minutes. After all interviews were conducted, they were listened again and transcript and during this phase more notes were made. Overall the transcript was 44 pages and the interview notes around three pages per interview. On top of this, some of the interviewees send out extra material to support their answer either during or after the interview. All communication between the researcher and case company was either in English or Finnish and all interview questions and material were provided in English.

The interviews brought a lot of useful and insightful information about the engineering territory steering and performance management in the MOs'. The interviews highlighted few issues and raised key topics for the engineering function. Before reviewing the interview results, the next chapter introduces the current state of the engineering function and the larger project in which this engineering performance management is part of. After this the interview questions and structure framework will be explained and the linked to the theory. Finally, the interview results are analysed using the observations, the interview notes and the material provided by the interviewees as a support.

4.3. Case Description

The case company will stay anonymous in the study. The case company is a global sales organisation that manufactures tools and provides services, softwares and solutions for the construction industry mainly for professional use. The organisation is a family business that operates in over 120 countries worldwide and employs over 30000 people. The vision of the organisation is to build better future with sustainable value creation and by creating value for customers with more innovative, safer and long-lasting solutions. Employee satisfaction is also centric in the organisations vision. The foundation for organisational strategy is a caring and performance-oriented culture. (Company Report 2019)

The organisation has identified operational excellence along with a high-performing team as key fundamental principals in implementing their strategy. In the last decade the organisation has revisited its sales structures and reviewed operations aiming to consistently to ensure optimum set up. The target of the strategic project is to streamline and improve their processes to enable better value creation and customer experience whilst increasing the employee satisfaction and engagement. This project includes everything from sales planning, organizing, implementing, steering through to controlling and reporting. One part of the project is to create a long-term plan for optimised performance in a specific field and make sure the actions we do today are sustainable and forward looking with real business benefit. During the project the organisation recognised performance management as one of the key factors for organisational excellence in implementing strategy, creating value for customer, engaging employees and building a structure for the performance-oriented culture. (Company Report 2019)

During the last few years there has been more emphasis on reviewing the engineering function specifically. The organisation has been providing engineering services for a long time, but the engineering function has been seen more as a support function rather than a strategic lever for driving sales and growing the customer base. Engineering function has evolved significantly including new products, a specialised customer portfolio and a need to keep abreast of new technological advancements. Even though the evolution is apparent and the function links directly to core strategy, the engineering function has not been periodically reviewed with the same intensity as sales meaning there is opportunity for optimisation.

In 2018 the organisation established a global project team to review the engineering side of the business. The target of the team is reshaping engineering performance management (planning, organizing, implementing, steering and controlling) and bringing it to the same level as sales. During the last few years the concept has developed further utilising some of the key learnings from the parallel project in sales. By the end of 2019 the project team expanded to include different market regions to enable understanding any country level restrictions and meeting

heterogenic organisational needs in the implementation. The aim of this study is to provide clarity on the current status of the performance management in one of the case organisations market regions (including 5 market organisations) and offer recommendations on how to improve. MO 1 is a pilot organisation and is more involved in early stages of the regional project than the other MOs.

4.4. Interview framework

The interview framework and structure has been designed from the research questions and from the key topics that are raised frequently in the performance management literature. The interview framework includes six key topics (1) *Alignment to organisational objectives & strategy, (2) Performance drivers & KPIs, (3) Data collection, (4) Interpreting, evaluating & actioning on the information, (5) Target setting* and *(6) Communication.* The interview framework can be seen in figure 8.

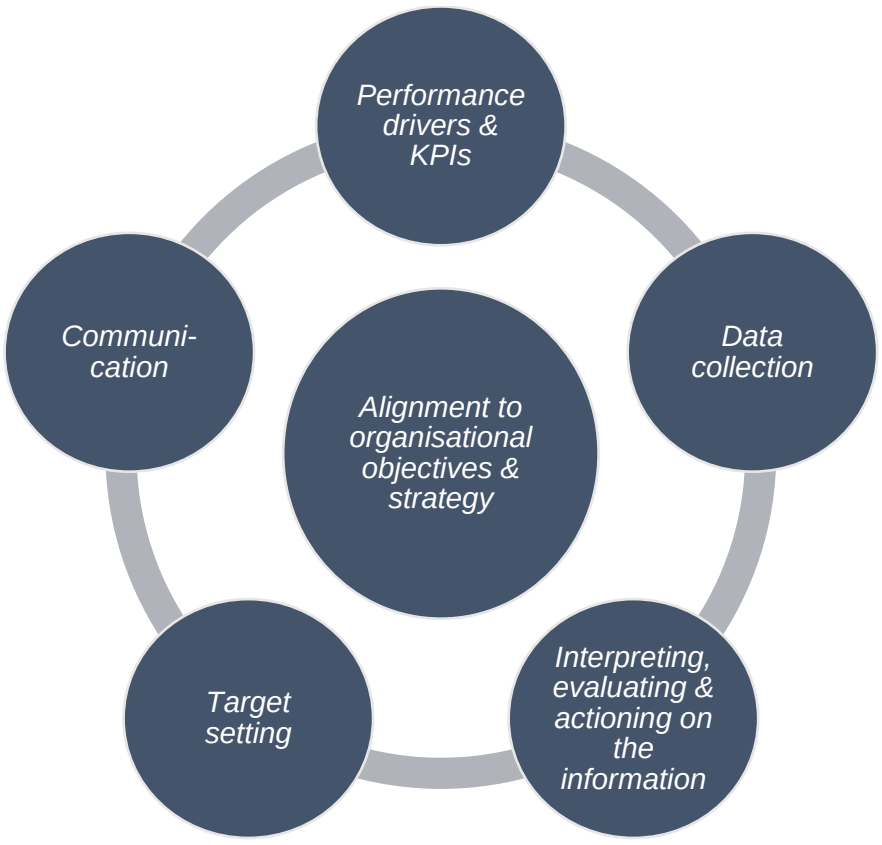

Figure 8. Interview Framework

The performance management literature agrees that the organisations performance management should be yielded from the organisations strategy and used as a tool to implement the strategy (Aguinis, 2013; Amaratunga & Baldry, 2002; Badawy, et al., 2016; Biron, et al., 2011; Bititci, et al., 2018; Kaplan & Norton, 1992; Khan & Shah, 2011; Neely, et al., 2001; Srimai, et al., 2011; Yadav, et al., 2013). Therefore, it is important to capture how the engineering function is linked to overall organisational strategy and review how the function implements the strategy. *Alignment to organisational objectives & strategy* is in the centre of the interview framework as the strategy should be recognised in all aspects of performance management.

Performance measurement is important part of performance management and implementing organisations strategy. It provides information for management and employees on the personal and organisational performance and answer the question “what are the key measures and drivers that bring success to the organisation?”. (Bourne, et al., 2003; Khan & Shah, 2011; Srimai, et al., 2011; Bititci, et al., 2018). *Performance drivers and KPIs* aims to capture the performance divers and KPIs used in the organisation and how these have been identified.

Third topic *Target setting* aims to understand how the organisation has set their targets and how do this link to organisations strategy. Organisation’s targets should be led from the strategy and linked to performance drivers and measures. Targets are good way to motivate employees and drive them to perform. Effective targets are reasonable, tangible and easy to understand. They should also fulfil the information need of both employees and management. Effective targets will motivate employees and make them feel accountable of their performance. (Otley, 1999; Aguinis, 2013; Biron, et al., 2011; Srimai, et al., 2011; Badawy, et al., 2016; de Waal, 2010; Gunasekaran & Kobu, 2007) Targets and performance measurement have been separated in the interview framework to have the emphasis that they are different topics, even though they should be highly linked.

Bourne’s, Kennerley’s and Franco-Santos’ (2005) identified different focus areas in performance measurement literature (table 3., p 43) that could be acknowledged as

performance measurement process. *Analysing data* and *Interpreting, evaluating and actioning on the information* are led from Bourne, et al.'s review. To be able to have the correct picture of organisations, team's or individual's performance, proper KPIs needs to be identified. Important part of identifying the KPIs is to define how to measure and capture them. Organisations needs to be able to collect information and transform it to understandable form and needs to be able to use it in decision making. (Bourne, et al., 2005) *Analysing data* reviews if the case company's engineering department receives enough data and in what form and *Interpreting, evaluating and actioning on the information* considers how often the data is reviewed and how it is used.

Communication has been raised as one of the key elements in performance management. Effective communication is enabler for effective performance management, it allows the information flow inside the organisation and makes sure everyone interprets the received information in the correct way. (Aguinis, 2013; Audenaert, et al., 2018; Biron, et al., 2011; Bourne, et al., 2005; Campbell, et al., 2018; de Waal, 2010; de Waal & van der Heijden, 2015) In *Communication* section the objective is to form understanding of the current level of communication in the inside and outside function. The communication section will concentrate more on the different ways communications is organised and managed rather than the different communication channels.

The interview structure (appendix 1) includes all areas displayed in the Figure 8. *Interview Framework*. Each section includes questions related to the topic and aims to capture comprehensive picture of the current situation. In additions there is two other sections in the interview structure. The first part of the interview structure "Organisational structure" aims to present the overall and different structures in each MO and the last section called "Other" aims to capture topics that were not raised in the interview but what the interviewee sees relevant to raise. All interview questions were presented to the case company and finalized with the regional heads of controlling and engineering.

4.5. Interview Results

This chapter presents the interview results. The chapter is divided into seven smaller sections according to the interview structure (appendix 1). The sections are presented in the same order as they were in the interview structure, even though during the interview the order might have slightly adjusted to follow the conversations flow. Overall the organisation has customer centric strategy and it shows trough out the interview results. The big picture is aligned between the MOs (market organisations) and to the organisation's strategy. The results differ more on the structures and country level adaptation of the strategy. The topics raised in the "Other" section, were all related to the topics discussed earlier in the interviews. Therefore, these answers are incorporated in the earlier sections according to the topic.

Purpose of this study is to review performance management in the case organisation and find ways to improve it. The interview includes question related to the organisation strategy, but the thesis only reviews it only from the performance management point of view. Therefore, the strategy and related topics such as customers strategies are only described in high level.

4.5.1. Organizational Structure

Each MO has different structure to the engineering function, which can be seen in the Figure 9. MOs 1 and 2 are the biggest organisations in the region in terms of the net sales and employee count therefore they have more levels in their engineering function and more segmentation. The different levels are shown in different colours in figure 9, darkest blue being the highest and light blue being the lowest.

In MOs 1 and 2 the engineering management includes head of engineering and engineering team leaders. In MOs 3-5 there is no separate team leaders and the heads of engineering as direct team leaders for the engineers. In MO 4 the head of engineering is also the head of key accounts. The headquarter of the region is located in MO 2, therefore also the regional head of engineering sits in this location.

The regional head of engineering has dual role and is also head of engineering for the MO 2 (see the arrow in figure 9). There is no representation of engineering in the leadership team in any of the MOs or in the regional leadership team.

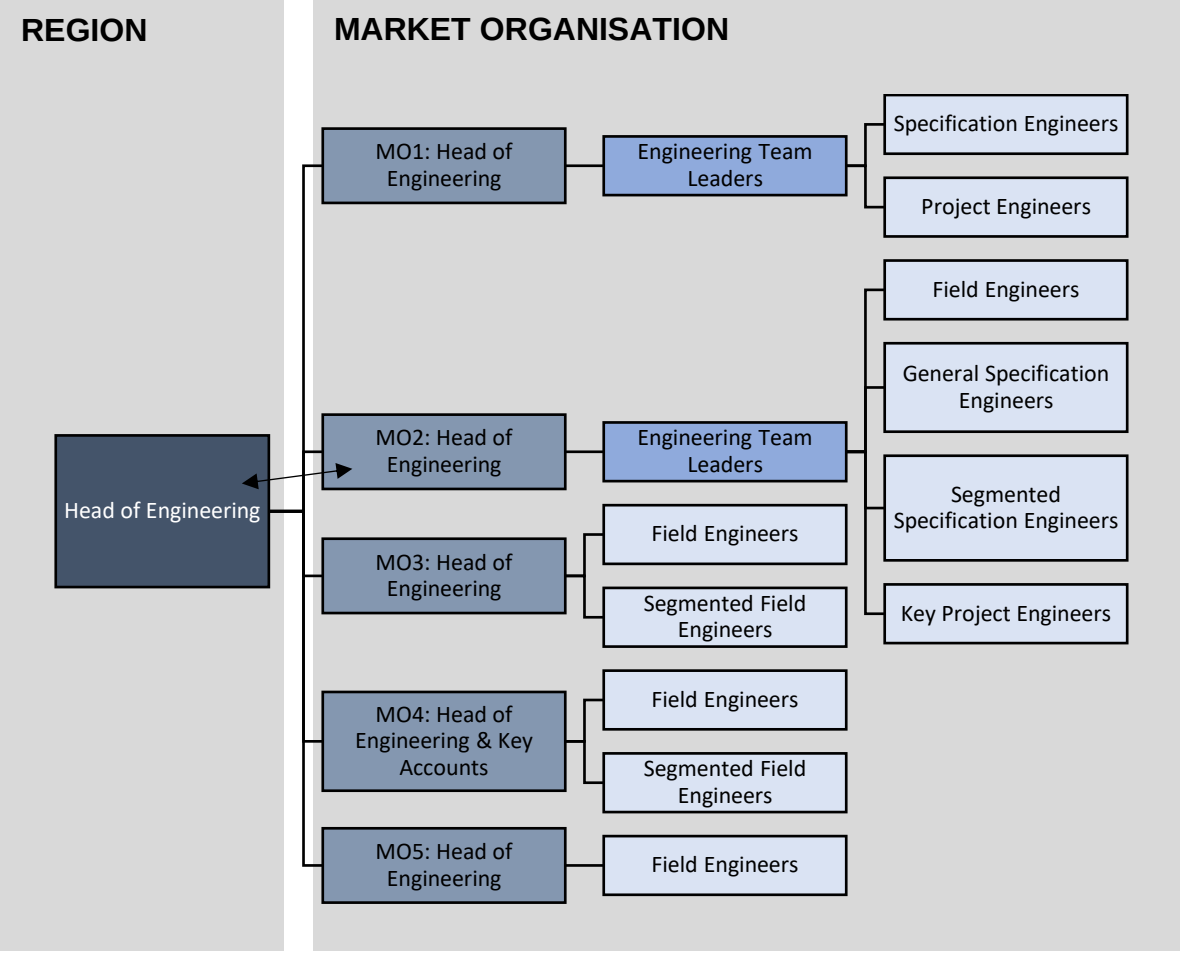

Figure 9. Engineering structure in the Market Organisations

The engineering structure differs also in terms of the segmentation and naming of the roles. The last level in figure 9 can generally be called as field engineers, as all these roles are customer facing. In each MO the naming is slightly different due to the level of segmentation and head count, and the focus areas in different markets. Most of the MOs have had or still faces challenges in organising the structure of engineering or as MO 4 phrases it "*have challenges on finding the optimal way to assigning resources so that they are aligned with sales*" and thus would support co-operation between the departments. Each MO is reviewing the engineering structure and planning more segmented and structured approach in the future. Engineering function has also office-based engineers as engineering support function. Each MO

has their own office-based team, but MO 2 has regional level roles that support all MOs. These roles have been left outside of this study as the main focus is on the customer facing engineers who have ownership of the customers.

4.5.2. Alignment to organisational objectives & strategy

All MOs where unanimous on how engineering function fits into the organisation's strategy and how to execute their mission. Organisation strategy is customer centric and the interviewees saw that engineering function has a clear place in implementing the strategy and creating engaged customers. Historically the place in the strategy has not been this clear, but in the last few years there has been more emphasis on improving the engineering function. Each MO identified two key missions for engineering function: 1) to create enthusiastic customers by being the best partner and 2) building better future for the organisation from engineering perspective by driving engineering product basket (later specifiable products) net sales.

Specifiable products are part of the company's tool portfolio including different key product lines and these products are highly profitable. Main portion of the specifiable sales comes from focus customers and projects. Engineering function facilitates these sales by providing specification for focus customers. Traditionally sales provide standard tools and services and engineering broadens the value stream with more specialised products and services. Engineers works closely with projects and aims to start the cooperation on early stages before the projects start. This way engineering supports sales function on customer relationship building by offering solutions (specifications), increasing the trust and as MO 1 mentions "*engineering gives really good position in projects and opens doors for other opportunities*". Specifications can also be described as sales leads for the sales function and engineering as a tool for market reach. Although, the sales function sometime "*forgets*" to follow up the leads (specifications) which in MO 4 words means that "*the good work engineers do is not always carried through by other departments and therefore all the results don't realize*". Overall engineering was seen as a driver for differentiation and building competitive advantage by offering their expertise.

Engineers have internal and external stakeholders. The main internal and external stakeholders were same for each MO, but the secondary internal stakeholder groups differed in each MO. Main internal stakeholder is sales function. Traditionally engineering has been a support function for sales, but in the recent years there has been a transformation towards being a strategic business partner. Same time the engineering function and some of the engineering roles have changed more sales oriented, although MO 3 mentions that "*Don't want to assimilate engineering to sales function even though it is a sales organisation*". Therefore, this change has demanded a mindset change from both engineers and sales departments. Each MO has recognised that to be able to work well together the departments need establish this change and enhance the co-operation. Even though the relationship has improved, MOs 1 to 4 raised that sales function is still approaching them with the support function topics and this usually distracts them from their own targets. In the MOs 5 the relationship with sales was more advanced and working closely together and, in their words, this was "a *small MO perks*".

Other internal stakeholder groups included marketing, finance, logistics, sales support and customer service. The relationship with these stakeholders was described more reactive and situational. Each MO raised that there is more potential to create better relationship with product managers (marketing) for example in forms of training and product launches. In MOs where the product managers had previously been in working in engineering function the cooperation was on a better level. Finance was not recognised to be an important stakeholder in most of the MOs and there were interactions only when there was a need to review the investment and budged strategies or bonus calculations. MO 5 had different approach with finance and had started cooperation to make engineering more profitable department. MO 5's target was to "*move engineering from cost centre into profit centre*". As mentioned before typically, engineering was seen as a support functions and only bringing cost to the organisation. MO 5 wants to move away from this and has recognised that to be able to do it, they need support from finance to highlight the contribution of engineering and justify the investment made for the future. None of the MOs recognised leadership team as a stakeholder, not even the MOs where the interviewee was head of engineering.

Main external stakeholder are projects and specifier customers. Specifier customers are organisations who make designs and specifications for projects. These specifiers can be divided into two different groups, traditional specifiers, which are independent organisations and inhouse-specifiers which are departments inside an organisation. Relations with these customers are proactive and continuous. Specifier customer are direct customers for engineers, but project and inhouse specifiers belong mainly to sales function. The structure of the engineering territories is linked to the different customer groups.

4.5.3. Performance drivers and KPIs

All MOs raised customer engagement as the main driver for engineering territory performance. Approaching the right customers or the right projects with the right topics has been identified to have a direct link to the specifiable product net sales. The performance drivers link directly to organisations customer centric strategy. When talking about performance drivers with each of the MO, it is clear that they have recognised the linkage between drivers, KPIs and targets. Each MO has a set of KPIs which are mainly led from the performance drivers and were also recognised as targets for the engineers. The target setting will be reviewed closer in the next chapter.

Regionally the organisation has set expectations on what KPIs the MO should follow. These expectations have been set according to the organisations focus topics and strategy and what is the engineer's role in implementing the strategy. MOs can tailor the KPIs according to the local settings and requirements. Each MO has finalised the KPIs themselves according to the topic they want to drive. The development of the KPIs and drivers has included a lot of learning by doing and observing in the last years whilst the engineering function has moved towards being a strategic business partner for sales.

The KPIs have changed slightly over the last years, but in a longer timespan they have changed significantly as the focus has changed more towards sales and focus topics. In a longer time span the KPIs have changed from measuring input to

measuring output, meaning that measures have changed from activity based towards sales, "*measuring input is a remain from the past, when measuring output was not possible*" (MO 1). In a short term there has been a lot more focusing on the key customers and customer engagement related KPIs. In MO 4 there is an 80/20 rule, which means that 80 % of the KPIs should stay the same from year to another and 20 % of the KPIs can be changed. With the rule MO 4 manages the long-term continuity and gets the buy in from the team. In other MOs there was no such a rule but similar principles.

Aim of the KPIs is to bring clarity on the focus topics and to drive behaviour that enable long term success. Each role defined in the figure 9 have their own focus areas and different set of KPIs. Every MO has customer centric KPIs that measure important factors of customer relationship and KPIs for specifiable product net sales improvement. These KPIs link directly to the engineering functions mission defined in the previous chapter. In addition, each MO has KPIs for common key topics such as services and software, specifications and projects. All the main KPIs and measurement focus areas have been listed in the table 7. All MO's also raised that there should not be too many KPIs to enable focusing on the relevant topics.

Table 7. Main KPIs for each Market organisation

MO 1	MO 2	MO 3	MO 4	MO 5
• Customer Engagement & Loyalty • Qty of Services • Coverage • Account development • Call rates • Project development • Project net sales • Overall specifiable product net sales	• Customer Engagement • Account Development • Project Management • Specifiable net sales • Customer Relationship • Customer solutions • Activities • Overall specifiable product net sales	• Customer engagement • Specifiable net sales • Services delivery • Software net sales • Customer activities • Project related KPIs • Overall specifiable product net sales	• # of Engaged customers • Specification values and quantity and conversion rate • Specifiable net sales (actual and pipeline) • Services sales and quantity • Software sales and quantity • Overall specifiable product net sales	• Customer Engagement • Call rates and towards which customers • Specification values and quantity and conversion rate and pipeline • Software sales and usage • Service sales and usage • Project related KPIs • Overall specifiable product net sales & Profit

All MOs drive project coverage as one of the main leading KPIs, but in MO 1 the services are also recognised as leading KPI to drive customer engagement. The aim of these KPIs is to give overview of the future pipeline and support planning. In MOs 1, 2 and 5 activities are one of the main KPIs and MO 5 track also the quality of activities to make sure information is recorded to the system. MO 2 mentions that "*Activities are followed so that can make sure engineers spend most of their time with the customers*" and MO 5 adds that "*traditionally activities were a productivity measure, but now aim is also make sure we have the best information possible in the system* ". MO 3 is the only MO that does not track activities, it was seen as "*micromanagement and mistrust and usually drove to do wrong actions*". Tracking activities and setting targets against them was seen as motion of no confidence for the employees. Tracking activities was also seen to encourage to prefer volume instead of quality in their activities.

The financial KPIs in most of the MOs where related to sales, sales growth and sales opportunity and lacked operating cost and profitability related KPIs. Financial KPIs where seen either as engineering managers responsibility or the engineering function was not recognised as profit creating function and therefore financial KPIs were not seen relevant to follow in team level. In MO 1 the engineering managers follow OPEX related KPIs and MO 5 was planning in implementing these in the future. Although, in MO 5 all the KPIs are related to the profit created rather than the net sales. MO 3 raised that "*engineering function creates only costs, not profit*", which can be seen as a lack of transparency on the profit and revenue that engineering operations enable.

Each MO raised that there has always been a challenge of measuring the actual performance of engineering department. Engineering function and operations open doors for further opportunities and increase the overall sales. But, the engineering operations effect on total sales is mainly indirect and therefore difficult to calculate. MO 4 mentions that "*there has been an age-old question, how to measure the true value of engineering operations".* Feedback from the interviewees were that even though the KPIs have improved in the last few years and provide more information,

responsibility and clear expectations, the lack of transparency in the results in terms of sales is a demotivator. Sales that has been initiated by engineering operations is indirect for engineering function itself and is recognised mainly for sales customers, as sales function owns the traditional buying customers. To showcase the true value and performance of the engineering function, it would be crucial to identify the true impact of engineering operations. On top of this, the specifiable net sales that is recognised for engineering, is also assigned to sales territories and considered for engineers indirectly and with manual allocations. MO 1 has high emphasis on services and software related KPIs as "*Services and software are the vehicle that drives the improvement and support in linking the profit received from engineering activities into engineering teams*".

4.5.4. Target setting

Engineering KPIS have been generated from the engineering functions strategy and linked to the key mission and performance drivers. Same way as the KPIs have evolved over time also targets have evolved and are now more reliable and relevant. Aim of the targets is also to cover full picture of the engineering strategy: "*It is not enough to measure just sales, other measures are needed to cover the full picture*" (MO 2). But at the same time one of the key learning has been, that the targets need to be something that the individual can influence on. Therefore, the targets have been chosen from the KPIs by analysing what are the different elements and aspects of the business engineers can have impact on. Consequently, the targets are different according to the engineering roles and what the role is aiming to achieve. The targets also aim to drive the behavioural change towards entrepreneurial where engineers proactively go after business and enable moving from support function to business partner for sales.

The targets have been defined together with the regions head of engineering and the approach is the same as with the KPIs. Regionally the organisation has set expectations, but locally the MOs finalise the targets and desired ambitious levels using their experience and knowledge of the local markets. Each MO can also tune the targets according to the topics they want to drive. The different targets are

summarised in the table 8. The targets between MOs are highly alike in terms of topics, but have differences in the aspects, focus points and ambitious levels. To enable better co-operation and driving shared topics, MO 2 has aligned all their targets also with the sales function.

Table 8. Targets for each Market organisation

MO 1	MO 2	MO 3	MO 4	MO 5
1. Quantity of Engaged customers 2. Quantity of service orders 3. Service net sales 4. Project application net sales & Specification volume 5. Design Services net sales 6. The way we work	1. Quantity of Engaged customers 2. Specifiable Net Sales (certain customers) 3. Project Related specifiable NS 4. Specification conversion rate & actual 5. Activities 6. Software sales	1. Quantity of Engaged customers 2. Specifiable Net Sales 3. Service net sales 4. Software net sales 5. Software conversion rate	1. Quantity of Engaged customers 2. Specifiable Net Sales 3. Specification values growth 4. Services sales and quantity 5. Software conversion rate	1. Specifiable profit growth (Focus Account, territory, MO) 2. Specification conversion 3. Software profit 4. Project Success 5. Charged Services 6. Project Pipeline

All MOs raised project focus as one of the key drivers for specifiable net sales and all except MO 3 and MO 4 have project related targets. In MO 3 to be able to focus on projects they would need more headcount. MO 1 has also identified services as a key driver for customer engagement and has a focus on services related KPIs. MO 1 and 2 are the only MOs which have targets against activities. In MO 2 the target is simply the quantity of activities and in the MO 1 it is part of *"the way we work"* -target. "*The way we work"* target incorporates planning, activities and execution related KPIs and seek to have engineers creating tangible long-term action plans and business cases and to enable better level of preparation throughout the year. Even though MO 5 does not have targets for activities, they raised that "*one side of driving the performance is to concentrate on the right operations (targets), but the other side is a discipline and standards in recording activities and leads"*. Same as with the KPIs there is no financial related targets assigned for engineering territories other than net sales for most of the MOs. MO 5 is the only MO that has targets for profitability and margin. In MO 1 there is OPEX related

targets for the engineering managers and MOs 2 and 5 are planning to implement OPEX targets in the future to support tracking productivity.

None of the MOs want to change their current targets, but they want to have the flexibility to adjust them in case there is any strategic changes or major events in the future that would demand it. MOs are satisfied with the different targets and the ambitious levels they have set for the engineering territories and expect them to drive the right topics and actions. The targets are ambitious but realistic, but if the focus areas or market situation changes there need to be additional review. MO 1 raises that "*there has been a lot of learning from experience in setting the targets for correct ambitious level".* MO 5 complies MO 1 and mentions "*challenge is to set target for correct ambitious level and to be realistic at the same time, as non-achievable targets are demotivating*". MO 2 has stakeholder feedback incorporated into the target review, for example in cases where the ambitious levels are not met but the employee has received outstanding feedback, it can balance the situation. MO 3 allows engineers to focus on certain KPIs and expect that the average level of KPIs is on ambition level. Overall the MOs are happy with the targets but raise that there are difficulties with some of the targets. These difficulties come from working with other departments, for example when sales function closes a deal that engineering has initiated (previously mentioned leads), the engineer might not have transparency to the results.

4.5.5. Data collection

In terms of data collection, the MOs differ the most, but they are all unanimous on the claim that they don't have enough information and that the need for additional information is apparent. Although MOs 1,3 and 5 raise that they have enough information to have good overview of their team's performance. In MO's 2 and 4 there is a need for more transparency on both individual and team level KPIs.

MO1 and 2 produces most of their reports locally in the engineering function, which leads engineering managers to invest at least a day in a month to do their monthly reporting and analysing. The reporting process is highly manual and time-

consuming process, which takes valuable time away from the engineering managers main job. The MO 1 uses also globally provided software report but states that they used to have more reports for engineering, but those haven't been updated in the last 5 year. MO 2 raises that there are reports, but all of them come different resources with different frequencies and they are not always reliable in a sense that the data will be available when needed.

MO 3, 4 and 5 use regionally provided report for software KPIs. MO 3 receives MO specific net sales report from the regional controlling team but produces locally a report for services. Customer engagement related reporting is produced locally in the engineering function. MO 4 uses globally provided customer engagement report and receives all the other information from ad-hoc analysis made by the engineering team. MO 5 also produces most of the reports locally except previously mentioned software report. Engineering manager reviews the specifiable product sales and activities related KPIs from own ad-hoc analysis.

The common topics in data collection were that overall reporting lacks structure in each of the MOs and is frequently highly manual. MO 1 summarises the issues with organisations support as follows "d*ata is coming from different resources with different frequencies and is not always reliable in a sense that it will be available when needed*". In addition, regionally provided reports are not relevant for all the MOs, therefore there is a high need for local reporting. There is no transparency to the daily operations and daily business and even target related KPIs might come from ad-hoc analysis type of reporting. The ad-hoc reporting includes direct information pull from the CRM (Customer relationship management) system or usage of the different reporting tools the organisation provides.

4.5.6. Interpreting, evaluating & actioning on the information

The information and KPIs are reviewed in different frequencies depending on the purpose and situation. A lot of the data analysis is linked to the communication and meeting cycles, but the communication related results will be reviewed further in next chapter. Overall in each MO the data is mainly used to keep track of and to

provide overview of the engineering performance. Throughout each year there is several reviews of the current year's top line performance and analysis that aims to forecast the full year outcome. These reviews enable reacting on the results and making correcting moves if necessary. The end of the year reviews includes also planning for the upcoming year. The first reviews of the year evaluate the previous year and finalise targets and strategy for current year.

The engineering territory performance is reviewed at least in a monthly basis, but some cases more frequent review is relevant. It is necessary to review the performance in a regular basis to be able to react on it, especially when then KPIs are not mowing towards desired direction, the on time reacting is vital. Team performance in operational level is reviewed in a weekly basis. Some of the information is continuously reviewed more frequently such as activities to make sure the engineers are performing the right operations and tracking them correctly and also to ensure that they are meeting the right customers. There is also irregular need for ad-hoc analysis on emerging topics.

In any of the MO's there is no structured or official review and improvement (R&I) process for the engineering function in the same way that there is in sales function. Sales function has two to three annual R&I workshops where the sales functions performance is reviewed from the individual territory level to team level and all the way to the top line level. In the R&I senior leadership team receives an overview of the sales performance in different aspects and has the ability to give direct feedback and coach sales teams and to review the people development topics. In each MO the head of engineering gives frequent overviews of the function's performance only to their direct managers who are part of the senior leadership team

In all the other MOs except MO 1 there was raised a need for improved R&I process. MO 1 has two business updates in a year where the engineering managers review the engineering performance together thoroughly from top to bottom line. These workshops last half a day and involve people and business topics. Spring business update includes 80% business and 20% people topics, and the fall business update is the other way around. MO 2 used to organise their own unofficial R&I where the

engineers presented their business update to the regional head of engineering and some of the senior leadership team members would visit. In the MO there is a need for relaunch of the R&I process and for feedback and support from the senior leadership team. MO 2 also raises that "*senior leadership team should have better overview on how engineering performing and interacting with sales*". Engineering works closely with sales and especially in projects have high involvement. In sales R&I these shared topics are discussed, but engineering is not involved in the conversation and their perspective is not necessarily presented. In the worst cases the lack of involvement can lead to "e*ngineers getting blamed when thing don't go well but don't get the glory when they do*".

In MO 3 the head of engineering presents business update for the leadership team but improvement side is missing. MO's feedback is that it would be more beneficial to review the performance thoroughly – "*not only the achievements, use more time to deep dive into focus topics and receive tangible feedback on how to improve*". In MO 4 there is no official R&I for engineering department but the support and involvement from local senior leadership team is easy to get when needed as "*it is a small MO and there are no mid managers"*. Although the MO raised that there is not enough feedback coming from outside of the engineering function and the feedback from other functions could be beneficial result outside the box ideas. In the MO 5 R&I is seen as a leadership team function where engineering is not involved.

All MO's are satisfied with the level of training organised by the organisation and the support they receive for upskilling their team members. The need for training and upskilling of the team members usually comes directly from the individuals rather than the performance results. In each MO there is frequently organised training and coaching either in the team of with the support of organisation. But in case there is a low performing team member in terms of results the first step is always to have a conversation with the team member and to form understanding of the reasons behind and how to support. Often the approach is situational as different root causes for the low performance cause different actions. If the reason for low performance is related to personal topics or motivation the approach is more personalised. If the

reason relates to competence, the approach involves creating tangible action plans, training and closer monitoring. MOs raise that sales function has structured approach for managing low performers but there is no such a guideline for engineering. MOs 2 and 5 have recently started borrowing the sales approach and have a tangible performance plan for low performers.

4.5.7. Communication

Each MO has structured and unstructured communication with all the different stakeholders, but the most effort goes into the team level communication and into communication between sales and engineering functions. With other functions the communication is situational, reactive or more informational. Towards focus customers the communication aims to be proactive and for other customers it is usually more reactive.

There are several different communication channels such as face to face meetings, organisations intranet, emails, skype and phone calls and different messaging applications. The usage of different methods differs according to the situation and topic. For example, for ongoing conversation messaging aps are easy and effortless, for urgent matters skype and phone calls are efficient way of communicating and for formal or informative communication emails and intranet are favourable. Face to face meetings are convenient communication method for structured of interactive communication. Although all the communication methods are used for several different purposes.

In each MO the engineering manager has monthly catch ups with the individual team members on operations, performance and targets. On team level each MO has regular meetings weekly, monthly and yearly basis to communicate on the KPIs and other relevant topics. Weekly meetings are short and focus on the ongoing operations and priorities whereas monthly meetings review the team performance and bigger picture. Each team also have few strategic meetings in a year where the focus is on more long-term strategic topics. MO 1 organises four strategic workshops in a year to whole engineering function to further drive co-operation in

the team and to discuss relevant topics. In MO 5 the engineering manager has frequent meetings with the engineers that focus on the account development topics. In MO 4 the head of engineering provides monthly business updates on the organisation's performance and how the engineering performance links to it. MO 4 is the only one that reported to provide frequent overviews of engineering performance to the whole MO but raised that the communication could be improved by providing more accurate picture on what engineers bring to the business. In other MO's the head of engineering gives frequent overviews only to their direct managers who communicate to rest of the senior leadership team.

The MOs have defined open and continuous communication as the best way to build co-operation and partnership with sales function. All MOs have different approaches and level of structure in the communication methods between sales and engineering. MO 1 has structured communication plan with sales function that includes three different levels: strategic, tactical and operational. Strategic level meetings are organised once a year together with engineering and sales management and business developer. Aim of the meeting is to align strategy and direction with sales linking it to organisations vision and organise resource allocation accordingly. Tactical meetings are organised once a month between the engineers and sales team leaders and the emphasis on shared focus topics, projects updates, priorities and highlighting the specifications that need special attention. Operational level is communication unstructured, ongoing and proactive conversation between sales representatives and engineers on the daily business.

In MO 2 the relationship with sales is also in multiple levels but a lot less structured. Engineering and sales functions have multiple touch points and communication platforms. The engineer managers participate in the divisional sales meetings to align with the sales directors aiming to form close working relationship that enables improving engineers' image as a business partner rather than support function. Engineers have similar relationship with the sales team leaders. Communication between engineers and sales representatives is mainly proactive and related to shared topics and customers.

End of last year MO 3 started piloting on a new meeting structure with sales called joint business review, which was implemented this year. The meeting was initiated by sales director to improve the co-operation between the departments and according to the MO it is "*unbelievable marvellous new concept that makes sure all the relevant topics are reviewed with all the relevant people*". Joint business review is a monthly meeting between engineers and sales managers on key topics and has a full day allocated to it. Agenda of the meeting is to review of the shared topics, open specifications and give business update on projects. Target of the meeting is to share responsibilities and makes people accountable. In addition, engineers have ongoing unstructured conversation and alignments with sales representatives on more ad-hoc and project-based topics.

In MO 4 there is no official communication or meeting structure. The head of engineering communicates all engineering targets and focus customer approach to sales via email at the beginning of the year. Afterwards engineers contact sales managers and sales representatives to align focus topics with shared customers and align expectations to create accountability. Overall the communication and co-operation between sales and engineering is more efficient and proactive where the engineering roles and territories are more segmented.

In MO 5 engineering has monthly project meetings with different sales teams where aim is to align focus topics, assign responsibilities and create accountability. Engineers participate on the sales team meetings to bring in the engineering perspective. In addition, MO has implemented new meeting structure this year that includes focus customer alignment meetings with sales. Target of these meeting is to make the shared targets between engineering and sales departments more transparent. Co-operation and communication between engineers and sales representatives is proactive and efficient in daily business.

5. Findings & Discussion

The main findings of empirical research will be summarised and examined closer in this chapter. In chapter "*Findings*" the key results of interview will be review and compared to each other and to the interviewer's observations. In chapter "*Discussion*" the findings are linked to the research theory. These two chapter will particularly highlight the different issues and areas of improvement that emerged from the results from the performance management point of view.

5.1. Findings

All the interviewees where aligned on how engineering function fits into the organisations strategy and how their mission support the overall organisations target. Engineering was raised as an important part of implementing organisational strategy and as a driver for differentiation that builds competitive advantage. Although the mission of engineering function was understood by the function itself, it seems that the rest of the organisation does not have proper understanding. This is shown by the level of co-operation and the lack of support engineering has received from the organisation for the different topics discussed in the interviews and raised in the results.

The interviews also present few different reasons why the organisation might not have full understanding on what is the purpose and mission of the engineering department. In the interviews it became apparent that the engineering function has gone through a change of strategy during the last few years where the function has moved from support function to customer facing business partner for sales, who directly implements the organisational strategy. The implementation of this change is not yet fully executed and is in different stages in each MO. The implementation needs more attention in the engineering structure where each MO raised that the current structure and segmentation will evolve in the future. Each MO also raised that identifying the key drivers and KPIs and setting targets involves some level of learning and adjusting. For example, the focus of the KPIs and targets is still in transformation from measuring the input to measuring output and focuses on KPIs

that are easier to measure. The focus on KPIs that are easier to measure might come from the aspect that there is a lack of support in reporting and major part of the reports are done locally. There is also a lack of proper communication towards the organisation and even the sales function – which is identified as their key internal stakeholder, does not always understand the mission and targets of engineering function. This is also shown by the lack of support engineering function receives from the organisation and by sales approaching the function with non-priority topics.

There were six key areas where the engineering department was facing issues or lacking support from the organisation: *1) sales department perceives engineering as a support function; 2) lack of proper R&I process and support from senior leadership team; 3) lack of proper guideline for supporting low performers; 4) lack of standard reporting; 5) lack of transparency to the actual value of engineering operations* and *6) lack of financial KPIs*. Even though in each MO the relationship between sales has improved, there were still events were sales did not fully understand the mission of engineering function and approached them as a *support function*. This causes engineers to consume time and effort for activities that don't bring value from engineering perspective and is a barrier towards achieving engineering targets. In addition, the engineers don't follow through their specifications which means there are reliant on sales to action on their leads to receive the sales. Sales also impacts on the final value of the specifications and thus the profitability. The level of co-operation differed from MO to MO and even inside the MOs. There were different factors that were recognised to support co-operation: smaller size, level or communication and high segmentation.

The *R&I process* in sales function has described to be highly valuable and efficient way to review the sales performance in individual, team and top line level. It also brings the sales teams and operations closer to the *senior management* and allows them to impact on the performance. In most MOs, the R&I process for engineering was either informal process without senior leadership team presence or it was perceived only as leadership team function. Overall the support from senior management was minor or indirect and the senior management team was not

recognised as one of the stakeholders even in the MOs where the interviewee was head of engineering.

In most of the MOs the approach to support *low performing* team members, in engineering function, was highly situational and unstructured. The unstructured process leans on the skills of the manager to identify the reason for low performance and to create a relevant action plan to bring the team member to acceptable performance level. In sales function there is a highly efficient guideline, which supports managers in managing low performing team members. MO 2 and 5 have started borrowing the approach from sales and other MOs have recognised the potential of the guideline and tailoring it to engineering. The lack of transparency and manual reporting processes might also make it difficult to react on time for lacking performance.

One of the major issues and differences between the MOs was related to their data collection methods in terms of where they receive information. The MOs were *lacking standard reporting* and each of them were receiving data and reports from different sources. Each MO had collection of reports sourced globally, regionally, locally or were even ad-hoc based. In MOs were there was no local resource to support in reporting the engineering manager produced their own reports. In these MOs the process was highly manual and time consuming. In addition, in most of the MOs also the target relevant KPI reporting was highly manual and the information was collected from several different locations. Manual reporting can be highly prone to errors or mistakes. To be able to steer the business and employees to right direction it is important to receive accurate information. Most of the MOs also raised that they don’t have enough transparency on all of their key topics or daily business. In sales function there is a large variety of regionally produced reports for all focus topics and in addition reports that summarise target relevant KPIs.

Each MO raised *lack of transparency to the actual value of engineering operations* as one of the key issues. The MOs raised that there has always been a challenge of measuring the actual performance of engineering department as the results are indirect. Engineers work closely with projects and bring in major part of the projects

sales, but sales function own all the customers therefore the revenuer is registered to sales function rather than engineering. Some of the KPIs, such as quantity of customer engagement is easier to measure than the sales revenue, therefore there is a lot of emphasis on these measures. As mentioned before, to dive business forward, it is necessary to have accurate information of the performance. One of the reasons why engineering is lacking the support from senior management, could be the lack of transparency on the true value of engineering operations.

Lack of financial KPIs was not raised as an issue from the interviewees themselves but is recognised as one of the areas where the engineering function needs to do a mindset change themselves. MO 5 was the only MO where there was KPIs for profitability and these KPIs were transparent for the engineers. In some of the MOs there were cost related KPIs for the engineering managers, but these were not frequently reviewed. Other MOs did not see the necessity for financial KPIs as the engineering function was seen as cost creating rather than profit producing function. Reason for the last statement can be due to the previously mentioned difficulty to see the profit outcome of engineering activities. To be recognised as profitable revenue building department, engineers should also be accountable for the cost elements.

Other topics where the engineering function has room for improvement is the communication. The communication inside the engineering function seems to be highly structured and functional in each MO. Towards sales the MOs have different approaches and level of structure, but towards the rest of the organisation the communication is mainly lacking. To be able to have the support from rest of the organisation, there should to be more transparency on the engineering function and their mission.

5.2. Discussion

Throughout the performance management literature there is a lot of emphasis on the factor that performance management should be led from the organisation’s strategy and vision. (Kaplan & Norton, 1992; Amaratunga & Baldry, 2002; Bourne,

et al., 2005; Yadav, et al., 2013; de Waal & van der Heijden, 2015; Biron, et al., 2011) Performance management literature has evolved a lot in the last decades and in the modern economy both performance management and performance measurement have critical role in driving business towards desired targets. By simplifying the role of performance management and measurements can be said that performance management makes the organisational mission and vision tangible to the managers and employees. Performance measurement is a part of performance management and brings transparency on the current level of performance and highlights the key drivers and success factors. Therefore, concentrating only one of the previous might results the organisation to end up into wrong conclusions that lead into insufficient actions. (Amaratunga & Baldry, 2002; Bititci, et al., 2018; Srimai, et al., 2011; Yadav, et al., 2013)

In the case company the engineering departments mission and strategy are led from the organisations vision, and the drivers, KPIs and targets are aligned with it. Both performance management and measurement have room for improvement in the case company, but the lack of structure is more imminent in the performance measurement side. In the previous chapter there were six key areas identified and described where the engineering department was facing issues or lacking support from the organisation: *1) sales department perceives engineering as a support function; 2) lack of proper R&I process and support from senior leadership team; 3) lack of proper guideline for supporting low performers; 4) lack of standard reporting; 5) lack of transparency to the actual value of engineering operations* and *6) lack of financial KPIs*. The first three are related to overall performance management and the last three are related directly to performance measurement side.

The case company has gradually implemented new strategy for the engineering department, where their focus has moved from being a consulting support function to being business partner for sales. The level of co-operations has improved but there are still a lot of cases where the relationship is not where it should be and where sales perceives engineering as a support function. It is important to understand that implementing a new strategy and performance management approach does not bring the results itself. Organizations management should

implement performance management into business units' daily operations and manage it systematically. There are different aspects that organisation needs to consider when implementing new strategy and one of these aspects is stakeholder management. (Amaratunga & Baldry, 2002; Neely, et al., 2001).

Neely, et al. (2001) identified that effective performance management considers also different aspects stakeholder management. The case company has identified sales function as their key stakeholder, therefore when implementing new strategy, sales functions expectations should be managed. To enable co-operation engineering and sales functions both should set up and align expectations for the relationship and in addition design the strategy in a way that it delivers these expectations. The expectations should include all shared operations and topic. In the case company this includes all shared projects and customers, setting up expectations, assigning accountability and aligning the strategic approach including targets setting to support.

Communication is also one of the key aspects and enablers for effective performance management and is also linked to stakeholder management. (Aguinis, 2013; Audenaert, et al., 2018; Biron, et al., 2011; Bourne, et al., 2005; Campbell, et al., 2018; de Waal, 2010; de Waal & van der Heijden, 2015) In the case company many of the MOs had started new more structured communication plan with sales. Still some of the MOs described that the level of co-operation is not ideal, and sales function engages engineering into nonvalue adding operations from the engineering point of view. One the indications of dysfunctional communication is incorrect or nonrelevant actions that can decrease performance (Aguinis, 2013; Campbell, et al., 2018). Therefore, the case company should continuously review the effectiveness of the communication and evaluate if the improvement actions are triggering expected results.

In the case company there were also a lot of focus in the communication inside engineering department. Open communication, feedback loops, discussion about skills and coaching all contributes towards improved performance, but communicating organisations targets to employees and successfully linking them to

their daily business support them to better understand how they contribute towards organisations success and thus improves their motivation and accountability (Aguinis, 2013; Biron, et al., 2011) Although there were a lot of effort in building effective communication mechanisms inside the engineering department and towards sale function there is still a room for improvement. Communication should not be targeted only towards employees and key stakeholders but towards entire organisation. Effective communication enables the information flows inside the organisation and over the team borders, and supports informing the organisation on important topics, performance measures and strategies in a way that everyone interprets the received information in the same way (de Waal, 2010).

Managers have a key role in implementing the performance management in the organisations therefore it is important that they are engaged (Amaratunga & Baldry, 2002). However, the middle management should not be implementing the strategy alone and needs the support from the senior management, who should be actively involved and close to business. The lack of senior managements involvement in the implementation of performance management makes the topic or business unit distant from them and therefore disables their ability to support and steer. It also makes the topic seem unimportant and consequently can lower the efforts of employees towards the topic or business unit. (Biron, et al., 2011) In the case company the head of engineering is close to the business in each MO and therefore the engineering department receives recognition and support from the internal senior management. However, the engineering function is lacking support and recognition from the organisation's senior management, which is aligned with the literature as the support from other departments is also minimal. The engineering function is also lacking the steering and attention from senior managements towards improvement opportunities and guidance.

Effective performance management system includes structure that supports the managers in developing and coaching their team members by highlighting the areas of improvement and providing the tools to support. By concentrating on the right topics' managers enable employees to develop in areas where they lack competence and even support them to reach their full potential. Although the

structural side of the performance management is vital, it is also important to pay attention to the management styles and understand what empowers and motivates the employees. (Aguinis, 2013; de Waal, 2010; Bourne, et al., 2005) de Waal & van der Heijden (2015) raised that by combining the structural and behavioural aspect presented before, the organisation is able to create inspiring and coaching organizational culture that is more prone to perform. In the case company the engineering department is lacking on the structural side of the performance management. The engineering team leaders have created open environment for the employees to approach managers in topics where they want to improve, which foster the motivational side. Even the low performing team members will receive approach that is tailored for their needs. Although this approach is more personal, it relies on the team leader's competence on finding the root cause for the low performance and therefore is prone to overlook or miss important factors.

As mentioned before, performance measurement is important part of performance management and supports in executing the organisations strategy. Without the information that performance measurement systems provide nearly impossible to steer the organisation towards right direction and ultimately towards achieving goals. Performance measurement provides important information of the key aspects of the business and supports decision making. (Aguinis, 2013; Srimai, et al., 2011; Micheli, et al., 2018; Biron, et al., 2011) In additions performance measures should be implemented in a way that they support long and short-term decision making and can be utilised in daily business. Performance management should be integrated into daily business so that it enables corrective or preventive actions when needed. (de Waal, 2010; Biron, et al., 2011; Amaratunga & Baldry, 2002) In addition, effective performance measurement system would provide benchmarking strengths might even lead to finding best practices to boost performance. Benchmarking supports organisations to perform as competitor related measures can support strategic positioning or improving processes. In large organisations gathering comparable information between business units and benchmarking it is a lot easier than in small organisation. (Neely, et al., 2005; Amaratunga & Baldry, 2002)

One of the main issues in the case company's engineering function was their reporting and data collection process. In each of the MOs the data was collected from different locations and included highly manual processes. As performance measurement is vital part of successful and effective performance management, there is a lot if improvement that needs to be carried out to gain the benefits of performance measurement. Even though the process provided enough information for the target review there were significant elements missing such as structure, frequency, comparability and transparency on focus topics and daily business. To provide structure performance measures should be measured and updated frequently and the process should be more efficient and consistent. The frequency depends on the subjects, but for topics where there is a need to be able to action fast the frequency should be smaller (Badawy, et al., 2016).

In the 1950's Peter Drucker (1954) raised the vitality of measuring the important factors of the business and that the lack of transparency for these topics makes it nearly impossible to manage. Often organizations are satisfied in measuring the KPIs that are easy to measure rather than the true KPIs (Badawy, et al., 2016). In the case organisation all MOs stated that the true value of engineering efforts is difficult to measure due to the factors that the value is mainly indirect. Customer engagement was raised as one of the key measures and drivers for engineering department, but it was also mentioned that measuring customer engagement is easier than measuring the true outcome of engineering operations, therefore there is a lot more emphasis on the customer related measures. In addition, not being able to measure the true value of engineering function can also have indirect consequences. Neely, et al. raise (2001) that it is crucial to identify all relevant stakeholders and key drivers that bring them value. From senior management point of view the expectations for business unit relate to the value they bring to the business either directly or indirectly. In the case organisation, if engineering function could measure the accurate value of their efforts that could be used to gain more attention from the senior management team. In addition, the higher value could be used to justify future investments towards engineering function (e.g. segmentation) and the increased need of support (e.g. reporting) from other departments in the organisation.

Usually the organisations financial goal is to increase shareholder value and to create profit. There are two traditional ways to create value: by revenue growth and productivity. Productivity can further be divided into two components, lowering direct and indirect expenses and using resources more efficiently. (Kaplan & Norton, 1992; Kaplan & Norton, 2001a) For senior management the financial strategy is important part of the business, therefore measuring the true value of engineering function, the department could illustrate sales growth and higher productivity level than with the current measures. Lack of traditional financial KPIs and transparency on the cost elements and profitability might be also a reason why there has not been enough emphasis on finding out how to measure the true value of engineering operations. Taking ownership of the costs of the engineering function and frequently reviewing the profitability and productivity KPIs make engineering accountable for these KPIs. This also brings an increased need to review the actual value of the function to be able to demonstrate the concrete performance and profitability. Although lack of transparency to the true value might also explain the reluctancy toward financial KPIs.

Each MO in case organisation were satisfied with the different targets and ambitions levels that were assigned to engineering function. As there is a distinct lack of transparency towards important KPIs – productivity and the true value of engineering efforts and lack of structure in the performance measurement system, it also makes sense to review the target setting, even thought it was not raised as one of the issue areas. Managers need to have balanced overview on different areas of the business that cover key areas of the business (Kaplan & Norton, 1992; Amaratunga & Baldry, 2002) To be able to manage the business towards right directions productivity and true values of engineering efforts should be considered in the target setting. In addition, in target setting country level constraints should not be neglected and the targets should be tailored according to the locations needs to enable high performance. (Bourne, et al., 2005; Aguinis, 2013)

6. Conclusions

This chapter answers to the research questions and provides recommendations for the case company based on the literature reviews and empirical data, including interviews and observations.

6.1. Answers to research questions

This chapter aims to provide summarised answers the research questions according to the literature review and empirical research.

How should performance management be organized to enable organizational success?

To have effective performance management, it should be led from the organisation's objectives and strategy. In addition, performance management system needs to be linked directly to organisations daily operations. This brings organisations strategy closer to the employees, makes it more tangible and transparent and thus supports in understanding how individual can contribute to the overall organisational target. It is also important to note that performance management is not only middle management function, but it needs engage the whole organisation from top down. Furthermore, senior management should also be actively involved in the performance management as lack of their involvement might send unintentional of some topics being less important and thus lead employees to be less committed and lessen their efforts.

There are few key elements that enable effective performance management and communication was raised as one of the key factors. Communication should be organised in a way that it supports open communication throughout the organisation. That way it enables information flows inside the organisation from top-down and bottom-up as well as horizontal. Effective communication includes informing the organisation of the different targets in each business units and making sure they are aligned with the organisational strategy. Also keeping employees

informed of their individual targets and their performance against the targets motivates them to perform.

Performance measurement provides organisation a tool to translate vision and strategy into measurable outcomes. It provides foundation for the previously mentioned conversations and thus enables steering the operations into right direction. Performance measurement system should provide measures (KPIs) that are linked to organisations strategy and that are actionable. Furthermore, to enable achieving targets, the performance measures should provide thorough picture of individuals/teams/business units/organisations performance, therefore the measures should include wide range of different metrics that cover key areas of the business. Performance measurement system should provide measures (KPIs) that are linked to organisations strategy and that are actionable.

How to improve engineering functions performance management in case company so that it enables long term success?

The engineering department has gone through a strategy changes in the last few years. There are still few elements that have not entirely been established in the change. One of the key topics was behavioural and mindset change in the organisation. The engineering function has not received the support it needs to successfully establish the change, including effective performance measurement system.

One of the key elements in performance management is functional conversation. In the case company the engineering function has the means to bring the co-operations with sales to the desired level, but to achieve that they need to improve communication and align expectations. The engineering function should also widen their stakeholder group to involve senior leadership team and other departments in the organisation. Senior leadership team can provide the needed attention for the engineering function to enable improvement by making topics priority. It also brings the function closer to the decision makers and enables getting support in steering operations. Open communication and transparency towards rest of the business

also allow getting support from other functions, as it makes understanding the mission of the function easier and also allows to link it to organisations strategy.

How should the performance measurement system for the engineers be improved in a way that it supports performance management?

Second key topic in establishing effective performance management is to have effective performance measurement system. The lack of working performance measurement system has forced the function to build their own local reports. This leads to engineering managers to use their time ineffectively and having several non-comparable measures for same topics. By providing functional performance measurement system the organisation enables better performance steering in the engineering functions, benchmarking between the MOs and allows engineering managers to use their time more efficiently. Furthermore, they allow engineering department to utilise all the benefits working performance measurement provides.

In addition, it is important to identify and measure the true KPIs. In the engineering department some of the KPIs where more excessively measured due to the easier measurement process. Other measures such as the true value of the engineering efforts, were not receiving enough attention overthought they were raised as key measures. To enable truly successful performance management, the department needs to be able to have transparency in all sides of their business including the indirect outcomes.

6.2. Recommendations for case company

This chapter provides tangible recommendations for the case company to tackle previously raised challenges: *1) sales department perceives engineering as a support function; 2) lack of proper R&I process and support from senior leadership team; 3) lack of proper guideline for supporting low performers; 4) lack of standard reporting; 5) lack of transparency to the actual value of engineering operations* and *6) lack of financial KPIs*.

1) Sales department perceives engineering as a support function

- Review the different approaches and structures in the MOs used for effective communication with sales, to find best practices
- To enable close co-operations and working towards common goal, align targets with sales
- Set expectations for both departments in terms of the nature of co-operation to enable clear roles and accountability

2) Lack of proper R&I process and support from senior leadership team

- Incorporate engineering function into organisational R&I process
- Involve engineering in the sales R&I process when there are shared topics and responsibilities to make sure each point of view is represented
- Raise senior management as one of the key stakeholders and establish frequent conversation of the performance and needs of engineering function
- In addition, create plan how to communicate the engineering mission and strategy also to other function to further improve the transparency and to allow support from the organisation

3) Lack of proper guideline for supporting low performers

- Copy the approach from sales and adapt it to engineering function and needs
- Improve the performance measurement system in a way that it allows following the performance of team members and supporting low performers

4) Lack of standard reporting

- Organisation to provide standards reporting tools that are tailored for engineering functions needs, covers all focus areas and allows benchmarking
- Provide reports that support managing daily business and long-term strategy implementations. Review reports from sales to find best practices (daily sales report and performance review)

5) Lack of transparency to the actual value of engineering operations

- Allocate time to review the big picture of engineering value creation to understand what does the “true value of engineering” cover

- Create a process that enables tracking the engineering activities in a way that it captures the actual value

6) Lack of financial KPIs

- Introduce financial KPIs such as profit, margin and productivity into engineering performance measures
- To make sure that the rest of the organisation sees the function valuable in bringing the revenue and profit to the organisation, start the mindset change from own team by “Moving engineering from cost centre to profit centre” by introducing financial accountability

The previously mentioned improvement ideas are meant to give the organisation a starting point and to guide towards right direction in developing the performance management to suit their needs.

6.3. Research contribution, limitations and suggestions for future studies

The aim of this study was to form understanding of the current level of performance management process in the case organisation and understand how to improve it. This target was approached with comprehensive literature review and the knowledge from the case company was received through interviews and observations. These two approaches where linked together to provide broad view on the topic and to generate ways to improve.

This study was done for the case company and is useful for improving their performance management in the engineering function. The case highlights the key challenge areas, where there is need for improvement and provides tangible actions to overcome the issues. Furthermore, the case company can use the study to also improve the performance management in other functions. The empirical data included only interviews from five members of the organisation, all in managerial position. To have more comprehensive overview of the performance management, would be useful to include the other point of views. Therefore, interviewing engineers, or even other departments, could provide better understanding and raise additional topics. In

addition, the results of this study are not compared to the level of performance and to KPIs in the organizations but is dependent on the literature, observations and experience and knowledge of the interviewees.

In the field of performance management there is still a lack of guideline on how organisation can implement or tailor frameworks for the own purpose. In addition, there is also lack on how organisation can detect the challenges and areas of improvement they are facing in the performance management. For these topics there is a clear research gap and need for further investigation.

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Other references

Company Report 2019. 2020. Case Company Report 2019

Appendixes

Appendix 1: Interview Questions

A. Organizational Structure: (Before Interview)

Market Organization	
Role	
Tenure & Previous Roles in the organisation	
Engineering territory structure	
# of Field Engineers (FE)	
# of Sales Representatives	
Customer Platform	

B. Performance Management: (During Interview)

1. Alignment to organisational objectives & strategy

a. How would you define the KEY mission of your team/function? And
    i. How does this link to organisations vision and strategy?
    ii. Do you think your team has a clear place in this strategy?
b. What are the different stakeholder groups that your team has?
    i. What is the nature of these stakeholders?

2. Performance drivers and KPIs

a. What are the key drivers for FE territory performance?
    i. How have you identified these?
b. What are the different KPIs you track?
    i. Why these KPIs?
c. How have the drivers & KPIs evolved and changed over time?

3. **Target setting**

    a. What are the different targets for FEs?
        i. How have you defined these targets for different territories?
        ii. How do these link to the organizations vision?
        iii. How do these link to the performance drivers?
        iv. Would you and how would you change these?
        v. Do you believe these targets to be over / under ambitious or set at the right level? Why?

4. **Data collection**

    a. How do you get the information of you team's performance? How often?
        i. Do you think you get enough information?
        ii. What are the areas you need more information?
    b. Overall do you think that you have enough information about the performance of your team? (or too much)
        i. How would you improve?

5. **Interpreting, evaluating & actioning on the information**

    a. How do you use this data and how often?
    b. Could you describe the R&I* Process in your market organisation and function?
        i. Do you think it is adequate enough and how would you improve?
    c. How do you recognise need for training/upskilling in the team?
        i. How do you support low performers?

**R&I = internal review and improve process*

6. **Communication**

    a. How do you communicate with different stakeholders? (align expectations, improve co-operation)
    b. How do you communicate (relevant) KPIs to different stakeholders?

7. **Other**
    a. Anything you want to add? (something not covered in the questions, but relevant to raise)

Appendix 2: Minutes Catalogue

Date	Participants	Topic
08/10/2019	Head of Controlling, Northern Region	Research topic and expectations
05/11/2019	Senior Controller, Northern Region	Productive Growth best practices
08/11/2019	Head of Controlling, Northern Region	Research planning & schedule
18/11/2019	Global Engineering Competence community	Engineering performance training
27/11/2019	Head of Engineering, Northern Region	Research topic and expectations
27/11/2019	Head of Controlling, Northern Region	Research topic finalization
28/11/2019	Senior Controller, Northern Region	Engineering investment model and game planning training
29/11/2019	Technical Marketing: Services & Software Manager, Northern Region	Engineering Software Reporting
16/12/2019	Global Project Team* Regional project team** & MO1 Project Team***	Engineering investment model and project alignment – MO1
17/12/2019	Head of Controlling, Northern Region	Review of current status and topic alignment
16/01/2020	Global Project Team* Regional project team** & MO1 Project Team***	Engineering Investment Model – Discussion and way forward – MO1
21/01/2020	Regional project team* & MO1 Project Team**	Project Alignment – MO1
28/01/2020	Head of Controlling, Northern Region	Review of current status and interview questions alignment
03/02/2020	Head of Engineering, Northern Region & Head of Pricing, Northern Region	Engineering Investment Model - Productive Growth
05/06/2020	Head of Engineering, Northern Region & Head of Pricing, Northern Region	Review of Cross over points with Sales Productive growth project
06/02/2020	Senior Controller, Northern Region	Engineering Investment Tracker
13/02/2020	Head of Engineering, MO3	Interview: Performance Management in FE territories
17/02/2020	Engineering Team Leader, MO2	Interview: Performance Management in FE territories
17/02/2020	Head of Engineering, MO5	Interview: Performance Management in FE territories

21/02/2020	Engineering Team Leader, MO1	Interview: Performance Management in FE territories
21/02/2020	Head of Engineering & Key Accounts, MO4	Interview: Performance Management in FE territories
25/02/2020	Technical Marketing: Services & Software Manager, Northern Region	Engineering Software Reporting
26/02/2020 -27/02/2020	Global Project Team* Regional project team** & MO1 Project Team***	Engineering Productive growth and Investment Model - Training
02/03/2020	Technical Marketing: Services & Software Manager, Northern Region	Engineering Software Reporting
06/03/2020	Regional project team* & MO1 Project Team**	Regional Project Team Catch-up
16/03/2020	Head of Engineering, Northern Region & Head of Pricing, Northern Region	Review of Cross over points with Sales Productive growth project (P&L)
17/03/2020	Technical Marketing: Services & Software Manager, Northern Region	Engineering Software Reporting
23/03/2020	Head of Engineering, Northern Region	Cath up on investment model calculations
23/03/2020	Regional project team* & MO1 Project Team**	Planning implementation of Investment model for Engineering
24/03/2020	Global Project Team* Regional project team** & MO1 Project Team***	Engineering Investment model post-training call 1
31/03/2020	Head of Controlling, Northern Region	Research & Project status update
03/04/2020	Regional project team* Performance Controller, Northern Region	Alignment on regional engineering reporting
27/04/2020	Regional project team** & MO1 Project Team***	
28/04/2020	Global Project Team* Regional project team** & MO1 Project Team***	Engineering Investment model post-training call 2
28/04/2020	Senior Controller, Northern Region	Current Status of ENG P&L
29/04/2020	Senior Controller, Northern Region & Controlling and Projects Team Lead, Global	Global ENG P&L
29/04/2020	Senior Controller, Northern Region	Review of the ENG P&L Implementation
05/05/2020	Senior Controller, Northern Region	Implementation status of ENG P&L

26/05/2020	Regional project team** & MO1 Project Team***	Engineering P&L update
03/06/2020	Global Project Team* Regional project team** & MO1 Project Team***	Engineering Investment model post-training call 3

* Global project team:

- Global Project Manager, Engineering Competence Center
- Project Manager, Engineering Competence Center
- RG Head of MO Engineering

** Regional project team:

- Head of Engineering, Northern Region
- Performance Controller, Northern Region

*** MO1 Project Team (Pilot Market)

- Head of Engineering, MO1
- Head of Finance, MO1
- Business Controller, MO1