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Designing a Framework for Performance Measurement Systems: Motivations, Challenges, and Guidance for Effective Performance Measurement

MIOM05 Degree Project in Production Management

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Preface

This thesis stands as the conclusion to my education and my degree at Lund University (LTH) by finalization of my Master of Science in engineering within Industrial Engineering and Management. Firstly, I would like to thank my supervisor Bertil Nilsson who provided me great ideas and thinking, especially in the early stages of this thesis. Secondly, I want to express my sincere appreciation to my connections at the case company for their outstanding work and mentorship. Their efforts have made a significant impact on my professional journey, and I am truly grateful for the opportunity to learn from their expertise.

Finally, I want to thank my family who have always been by my side and my friends who have made these years both memorable and invaluable.

Abstract

This master's thesis explores how organisations manage and measure performance through performance measurement systems. Though as performance management systems often relies on ad-hoc, informal methods, leading to inconsistencies and misalignment with organizational objectives. This study advocates for a systematic approach to performance management system implementation, aligning it with organizational goals to improve decision-making, resource allocation, and overall performance management.

An abductive research approach was employed, analysing qualitative data from internal interviews at a case company, external interviews from “best-in-class” companies and through a literature review. From this a framework is constructed for the case company on how to create a performance management system that responds to its unique challenges.

The framework, although mainly theoretical, provides valuable insights into the initial strategic synthesis of a performance management system, serving as a roadmap for achieving organizational aspirations through systematic implementation and refinement. Future research should focus on the practical operationalization of performance management system frameworks and the development of supporting databases.

Keywords: Performance measurement system, Key performance indicator, Metrics, Alignment, Accountability, Commitment

Abbreviations

PMS – Performance Measurement System

KPI – Key Performance Indicator

BSC – Balanced Score Card

JIT – Just in Time

EDA – Economic Development Administration

NPS – Net Promoter Score

LTIFR – Lost Time Injury Frequency Rate

OI – Order Intake

OTD – On Time Delivery

COGS – Cost of Goods Sold

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1.Introduction

In this chapter a starting foundation is given to the subject together with a well-defined problem formulation with clear questions and delimitations. Included is also the target audience and the thesis outline.

1.1 Background

With a larger strategic pressure on corporations and organizations to operate under greater and greater efficiency. The ability to measure the performance of operations can be seen as an important prerequisite for improvement, and many companies sees it as a cornerstone of the daily business cadence today. For all intents and purposes the reason is obvious, as a well-functioning Performance measurement system has the potential to exponentially increase organizational efficiency. (Lohman et al., 2004, Koufteros et al., 2014)

The importance of measurements has become a well-established principle. The renowned quote attributed to W. Edwards Deming, 'You can’t manage what you can’t measure,' underscores this significance. Metrics serve as vital tools not only in project management, manufacturing, and product management but also in nurturing a culture of continuous improvement within teams. However, it's essential to recognize that metrics are most effective when they align and synergise with both leadership and frontline workers (Silveira Jr, 2021).

In recent years, researchers have increasingly recognized the potential of PMSs to enhance daily operations, particularly in complex and dynamic business environments. PMSs play a pivotal role in balancing the often conflicting goals of flexibility and efficiency. (Cäker et al., 2022). However, one of the greatest challenges regarding PMSs is their implementation within an organization, as a poor fit can lead to disastrous consequences. (Rantanen et al., 2007)

1.1.1 A Brief History

Exploring a brief history of performance measurement systems provides valuable context to understand the challenges encountered in their implementation and management. The main formulation and evolution point for PMSs can be traced back to the 1980s when quality management techniques gained momentum in America. Techniques such as JIT, influenced the development of management accounting techniques, as companies sought more comprehensive measures beyond financial and operational metrics. (Srimai et al., 2011)

The concept of linking strategy and performance measurement gained prominence, emphasizing the close alignment between organizational strategy and performance measures. While the resource-based view of the firm became dominant, strategies evolved to encompass emerging paradigms, such as knowledge workers and intellectual capital. (Radnor and Barnes, 2007, Goodall, 1988)

Balancing short-term survival with long-term growth emerged as a critical managerial task. Performance measurement systems expanded to cover a broader scope, incorporating future prognosis, innovation, and intellectual capital alongside traditional operational metrics. Overall, the evolution of PMSs reflects the continuous interplay between organizational strategies, external influences, and the mission for competitive advantages. (Srimai et al., 2011, Radnor and Barnes, 2007)

Further there is a growing consensus that performance measurement systems should consider the interests of all stakeholders. This shift towards a stakeholder approach reflects a broader evolution in business theory and practice towards more comprehensive governance frameworks. (Srimai et al., 2011)

In the past, the focus was on "what gets measured gets done," but there has been a shift towards understanding "how to manage what is measured." This shift acknowledges that the success of performance measurement depends not only on selecting appropriate measures but also on effectively using and

managing them within the broader context of organizational strategy.(Srimai et al., 2011)

While various performance measurement systems exist, many focus on providing processes for identifying, monitoring, and reporting information to manage people and resources effectively. The Balanced Scorecard (BSC) is often cited as a pivotal model in this evolution, progressing from a set of cause-and-effect performance measures to a strategic management system.(Srimai et al., 2011)

Recent developments have seen the integration of disparate performance measurement systems into more comprehensive management systems. This integration aims to enhance the capabilities of individual systems while creating a synergistic effect that supports strategic management.(Srimai et al., 2011) Further, the ever faster changing business environment has highlighted the need for adaptability in a PMS. Perhaps best exemplified in the emergence of loosely formed business ecosystems where no single firm has hierarchical control or can fully dictate supply and cost. While PMS systems have proved its worth for strategy development and execution across organizations, traditional methods are increasingly criticized for being overly rigid, making them unsuitable for dynamic and complex ecosystems. This evolving business environment pressures PMS to be flexible and adaptable, on way to remedy this is by working in a bottom-up approach, in other words by starting from the basic metrics and frontline personnel. (Micheli, 2021)

Ultimately, performance management systems serve as tools for managing strategy, facilitating organizational learning, and aligning behaviours with strategic goals. They embody the capacity for organizations to compete effectively in dynamic markets by providing strategic information and guiding the decision-making processes. (Micheli and Muctor, 2021)

1.2 Problem Context

The establishment and purpose of a PMS is often done ad-hoc and informally, primarily relying on personal experience or gut feeling. This approach may lack consistency, thoroughness, and alignment with organizational objectives. Consequently, there is a significant opportunity to enhance the effectiveness and efficiency of PMS implementation through a more systematic approach. By adopting structured methodologies and frameworks, organizations can ensure that their PMSs are strategically aligned, comprehensive, and capable of accurately measuring performance in line with organizational goals. This systematic approach can lead to improved decision-making, better resource allocation, and enhanced overall performance management within organisations.

1.3 Objectives and Research Questions

The purpose and objective of this thesis is to explore the complexities of performance measurement within organizations and to develop a robust framework for creating an effective PMS. This will be done through three primary objectives.

Firstly, it aims to investigate the motivations, drivers, and challenges associated with how performance is measured within organizations, incorporating insights from contemporary research. This involves analysing the strategies and methodologies that large organizations currently use to track and monitor their core business processes.

Secondly, the thesis seeks to conduct a comprehensive body of research on the advantages and disadvantages of the current performance measurement methods at a specific case company. This research will take into account perspectives from different stakeholders within the company. Based on these insights, the study aims to establish a framework for effectively creating a tailored PMS that suits the unique needs of the case company.

Lastly, the thesis intends to provide actionable recommendations based on the research findings. Additionally, it will suggest areas for further research to continue improving performance measurement practices. From this, these following research questions has been established:

RQ 1: *What are the motivations and challenges for establishing efficient performance measurement in an organisation?*

RQ 2: *What should the process of creating a PMS entail, particularly during the initial stages of strategizing and synthesising?*

RQ 3: *How can the insights gained from RQ 2 be applied and used?*

1.4 Delimitations

In consideration of the total area that a PMS covers and its unique structures in different industries and corporations, certain delimitations have been established such as the number of interviews, but also in terms of the scope of it. These limitations are as follows:

- The study will not mandate or prescribe a specific strategic operating model for the company. Instead, it will focus on providing guidance and insights that can inform the company's strategic decision-making process.
- The study will not assess or recommend any particular tools or system requirements for implementing an operating model. Companies are encouraged to select tools and systems that best suit their specific needs and objectives.
- The project will not dictate which KPIs (Key Performance Indicators) should be used by either the case company or organisations in general. While use-case KPIs may be provided for illustrative purposes, it will be up to the company to determine the most relevant KPIs based on its unique circumstances.
- The project will not specify how KPIs should be measured, sourced or how they should be prioritized.

1.5 Target Audience

The intended audience for this master's thesis comprises students, scholars, managers and similar individuals with a keen interest in performance measurement systems. Specifically targeted at individuals with a profound interest about performance metrics and the establishment of those. The thesis as a comprehensive resource can be used for both academic and practical exploration. As it might perhaps offer a foundation of avenue for further interest or spur scholarly and professional development in the field.

1.6 Thesis Outline

- **Chapter 1- Introduction:** In this chapter a starting foundation is given to the subject together with a well-defined problem formulation with clear questions and delimitations. Included is also the target audience and the thesis outline.

- **Chapter 2 - Methodology:** Introduces various research approaches and argues for the correct approach for this thesis. Validity and reliability are taken into account and the various methods to acquire data are presented. Finally, the complete research process is presented.

- **Chapter 3 - Theory:** Dives deeper into the underlying history and background that is needed to analyse the collected data and problem. This includes what a KPI is and how a PMS functions. Ending with describing success factors behind a successful PMS

- **Chapter 4 - The Company X:** Gives a brief but necessary description of the company where the empirical part of the thesis project was conducted. This to understand the specific challenges the company faced and why certain actions were undertaken.

- **Chapter 5 - Secondary Nano Case Studies:** This section is dedicated to secondary sources describing the usage of performance measurement systems at two main companies; SIG and Danaher. These small cases give a broader perspective by comparing similar

scenarios and how they tackled these challenges in short but concise sections.

- **Chapter 6 - External Interviews:** This section delves into insights given from external stakeholders through interviews, offering a concurrent perspective on PMS and "*Best-in-Class*" examples.

- **Chapter 7 Internal Interviews:** Empirics internally collected through interviews that will serve as the backbone for the analysis

- **Chapter 8 Analysis:** The collected data is analysed. Combined with the interviews and the literature research this allows for some initial ideas and new hypotheses to formed.

- **Chapter 9 Framework:** The conclusions from the thesis are presented in a constructed framework.

- **Chapter 10 Discussion & Further Research:** Reasoning behind the chosen research method as well as a short discussion concerning the achieved results. Finally, contributions to the academy and suggestions on further research are presented**.**

2. Methodology

Introduces various research approaches and argues for the correct approach for this thesis. Validity and reliability are taken into account and the various methods to acquire data are presented. Finally, the complete research process is presented.

2.1 Research Design

When conducting research there are several ways to choose from, some of the more common ones are; explorative, descriptive, explanatory and problem-solving studies (Höst et al., 2006). Every option to conduct the research serves a distinct aim or purpose. As a result, the design of a research project will be influenced, in part, by this choice. (Sheppard. V, 2020)

- Exploratory research finds its place in cases where less prior research exists, guiding researchers in determining data collection methods, approaching participants, and formulating relevant questions. It serves as a necessary first step, to explore the given research field and providing insights to design subsequent larger studies. (Sheppard, V., 2020) Methods such as literature reviews and interviews are commonly utilized in the process of exploratory research. (Höst et al., 2006)

- At times, the objective of research is to provide an overview or definition of a specific phenomenon. This type of research is called descriptive (Sheppard. V, 2020). Descriptive research is often used as a foundation for a subject that later can be investigated further (Höst et al., 2006). Many times, research that is used in project is relying on descriptive research, without it being clear from the start. Highlighting the usage of descriptive research (Sheppard, V., 2020).

- Explanatory research, on the other hand, is used when there is a need to understand cause and effect connections. In this context, there is an endeavour to uncover the root causes and consequential impacts of the phenomenon under investigation. In essence it can be said that explanatory research answers the "why" to questions. (Höst et al., 2006, Sheppard, V., 2020)

- Problem solving studies relates to a project where the research will answer a very specific problem and is commonly used when dealing with physical or mathematical subjects. (Höst et al., 2006)

For this study, exploratory research has been the major approach though a small part has been in conjunction with an explanatory research methodology. The subject of performance measurement systems does not in itself need to be in the early exploratory stage, but seen from the view of the case company, the study was the foundation form where to later branch out from, hence the exploratory nature of this study.

2.2 Research Approach

According to Trochim (2007) there are two overarching methods of reasoning: deductive and inductive approaches.

A deductive approach operates firstly out from a broad subject or topic, to later progressively go from the general to the specific. This method initiates by formulating a theory regarding the topic of interest. Subsequently, the theory is refined into more precise hypotheses that can be empirically tested. The final goal is to test the hypotheses using specific data, providing either confirmation or refutation of the original theories and subsequent discussion. (Trochim, 2007)

On the other hand, there is the possibility for an inductive approach, Inductive reasoning functions in a contrasting manner, starting from specific observations and measurements and moving towards broader generalizations and theories. Unlike deductive reasoning, this process initiates with concrete observations, from which patterns and regularities are

discerned. Hypotheses are then formulated based on these observed patterns, ultimately leading up to tentative conclusions or the development of initial theories. (Trochim, 2007)

Inductive and deductive are in themselves distinct approaches for when conducting research. Inductive, being inherently more open-ended and exploratory, especially in its initial stages, contrasting with the narrower and more hypothesis-focused nature of a deductive approach. While a study might seem entirely deductive, such as an experiment testing the hypothesized effects of a treatment on an outcome, most research integrates both inductive and deductive reasoning processes throughout the project. Meaning a study can be both inductive and deductive. (Trochim 2006, Saunders et al., 2019)

This integration of inductive and deductive approaches, also known as abductive reasoning, offers a flexible framework used across multiple scientific disciplines. Due to this its adaptability, researchers often favour an abductive approach, finding it challenging to strictly adhere to either pure inductive or deductive methodologies. Consequently, many research endeavours incorporate elements of abduction into their methodology (Saunders et al., 2019). This approach underscores a cyclical progression from theories to observations and back again, a fundamental aspect observed in most research endeavours (Trochim, 2007). This study will similarly adopt this foundation, where data collection and theory development is done in an overlapping manor.

2.2.1 Qualitative and quantitative research

According to Höst et al (2006) research data that is gathered under the process is divided into quantitative or qualitative data. The acquisition of the specific data relies upon the chosen research method. In this, quantitative research can be described as a method that focuses on the quantification of the collection and analysis of data and that it inherently comes from a deductive way of thinking. Where the main weight lies upon the testing of theories. While qualitative research can in comparison be regarded as a strategy that usually stresses more importance on words and thinking, and not on the quantification in itself. Qualitative research puts emphasis in an

inductive way of thinking, in the relation between theory and research, and the generation of theories (Höst et al, 2006). Even if these research methods often are compared and put against each other it is still of importance to acknowledge that they are not mutually exclusive of each other and that many projects use both methods to some degree (Bryman and Bell, 2017). This thesis will primarily collect and analyse qualitative data. Much in regard to the difficult process of finding adequate quantitative data in the time frame and project scope that was given.

2.3 Research Process

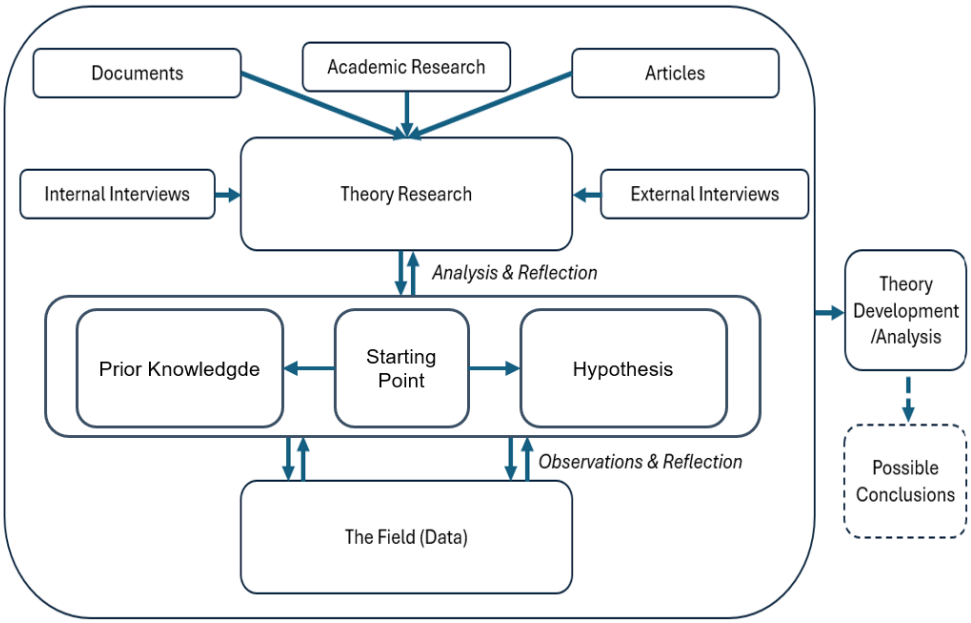


Figure 1: The Abductive Research Process. Illustration made by the author and adapted from Conaty, F. (2021)

The research process for this thesis adheres to an abductive approach, as illustrated in Figure 1, which outlines the comprehensive methodology employed. This framework not only guides the process but also serves as the foundation for the methodology assigned in this study. By aligning with the abductive method, this research attempt to navigate the complexities of the research problem. Consequently, the chosen approach facilitates a rigorous and iterative examination, ensuring a robust analysis and interpretation of the research findings.

2.4 Literature Review

A literature review involves a systematic examination to help formulate adequate reasonings and scope. Further it is focused on a particular topic drawing from scholarly literature. (Höst et al., 2006, Efron, 2019). It encompasses a critical analysis, evaluation, and synthesis of research findings, theories, and practices within the chosen focus area. The goal is to gain a comprehensive understanding of the existing knowledge landscape. This involves comparing various research studies and theories, finding relevant source material for the research in question or utilizing found knowledge to help address gaps in existing theories. Whether existing independently or integrated into a broader study, a literature review serves as a vital component to enhance the progress of knowledge through the interpretation of previous research. (Efron, 2019)

The main search libraries that will be utilized are LUBsearch and Google Scholar, and in part literature from the Lund University Library. In addition, there will be internal material received from the case company, both confidential and non-confidential literature.

The material that was utilized in the search libraries consisted of scientific reports, articles, textbooks and reference books. Apart from the search libraries there was an inclusion of reports and articles from leading actors regarding the subject.

2.5 Interviews

Interviews play a significant role in everyday research, often standing as a cornerstone when conducting a case study. Their essence lies in capturing the relativist perspective, delving into the 'how' and 'why' on an individual level. A well thought out interview can offer valuable insights and shortcuts to historical context, aiding in the identification of relevant evidence sources. However, it's essential to approach interviews with the necessary source criticism, as an interview can easily be influenced by the interviewer's perspective and biases. (Yin, 2017)

In the context of case studies, various approaches exist, ranging from prolonged case interviews to shorter, more focused sessions, and even survey interviews adapted for case study settings. Prolonged case interviews typically involve in-depth discussions over extended periods, allowing for comprehensive exploration of the subject matter. Conversely, shorter case interviews are more targeted and concise, often lasting only about an hour, yet they remain open-ended and conversational in nature. Additionally, survey interviews within a case study framework utilize structured questionnaires to gather quantitative data alongside qualitative insights. (Yin, 2017)

This study opts for shorter case interviews due to practical considerations, including limited time and scheduling constraints. The condensed format enables efficient data collection within the available timeframe, ensuring that the research objectives are met effectively. Moreover, as with any data collection process, adherence to concurrent organizational privacy policies and individual consent is imperative.

2.5.1 Types of Interviews

Various interview structures play a crucial role in research. According to Höst et al. (2006), interviews can be categorized into three main types: structured, semi-structured, and unstructured.

- Structured interviews involve predetermined questions and answers, focusing on uncovering relationships between concepts in a more explanatory manner.

- Semi-structured interviews combine elements of both unstructured and structured approaches. Questions are a blend of open-ended inquiries and those with predefined answers. It's essential to maintain consistency by asking questions in the same sequence to prevent bias during each interview.

- Unstructured interviews resemble casual conversations, aiming to delve into the interviewee's experiences on chosen topics, typically for exploratory purposes. (Höst et al, 2006)

2.5.2 Internal and External Interviews

Regarding the subjects that are selected for the interviews, there should be an attempt to pick individuals where differences can be discovered in an effort to avoid only replicating similarities. Meaning it is to be seen as beneficial to interview people that have different roles, personalities or connection to the subject itself. (Runeson & Höst, 2009) One major divider in the individuals chosen will be whether they are internal to the case company or external but possess a knowledge base of relevance to the study.

Internal interviews involve speaking with individuals closely associated with the case under investigation. One significant advantage of internal interviews is their ability to provide insider perspectives and deep insights into the organizational culture, processes, and dynamics (Yin, 2017). External interviews, on the other hand, involve interacting with individuals or experts outside the organization or context being studied. These individuals may include industry professionals, customers, suppliers, or subject matter experts. One of the primary advantages of external interviews is their potential to provide diverse viewpoints and comparative insights (Stake, 1995) By sourcing data from multiple sources, researchers can achieve a more comprehensive and robust understanding of the case (Creswell, 2013).

This study will thus combine internal and external interviews in the case study research, in an effort to establish an external validity. The internal interviews were chosen in conjunction with the case company supervisor. Regarding the external ones they were either picked in a similar fashion in conjunction with the case company or supervisor or they were seen as fit by the writer alone. The interview guides for internal and external will differ see Appendix 1 & 2, and the motivation for this is so that the questions asked will be relevant to the specific stakeholders and their position.

2.6 Validity & Reliability

The trustworthiness of the results, reflecting the extent to which they are unbiased by the researchers' subjective viewpoint, can be defined as the validity of a study (Runeson, 2009). Certain criteria's or tests can be used to assess a research design's effectiveness to articulate this, four of these tests are commonly used.(Yin, 2017)

- *Construct validity*: How accurately the operational measures align with the researcher's intentions and the research questions, is determined by this aspect of validity.

- *Internal validity*: Refers to the extent to which a study accurately measures or demonstrates the relationship between variables, without the influence of confounding factors.

- External validity: Refers to the extent to which research findings can be generalized to other populations, settings, or contexts beyond the specific conditions of the study.

- Reliability: Denotes the consistency and stability of measurements or findings across different conditions, time points, or researchers, indicating the degree to which results can be trusted and replicated. (Runeson, 2009)

To ensure the validity, triangulation will be used as a key piece in this case study. Triangulation involves utilizing multiple sources of data and employing diverse research methods to corroborate our findings from different perspectives, thereby strengthening the construct validity. This will be accomplished by using several sources in the literature review as well the usage of both internal and external interviews. By awareness for extraneous variables and maintaining methodological rigor, the study will fulfil internal validity. Regarding external validity and the question of generalization, this will be ensured by replicating the logic from the main case onto external multi-cases. Finally, reliability will be acknowledged by the use of standardized interview guides and by critical reference management.

3.Theory

Dives deeper into the underlying history and background that is needed to analyse the collected data and problem. This includes what a KPI is and how a PMS functions. Ending with describing success factors behind a successful PMS

3.1 KPIs & Metrics

Measuring and analysing organizational performance is crucial for translating organizational goals into reality. Performance evaluation typically involves estimating qualitative and quantitative performance indicators. It is imperative for a company to identify relevant indicators, understand their correlation with formulated company goals, and recognize their dependence on performed activities.(Bauer, 2004)

To start off there needs to be a clear distinction on what is a KPI and what is a Metric as in many instances in everyday speech these two terms are used interchangeably. Metrics and Key Performance Indicators (KPIs) are both essential tools for measuring performance and tracking progress towards goals, but they serve slightly different purposes.(Domínguez et al., 2019, Bauer, 2004)

Metrics are quantifiable measures that provide objective data about a particular process, activity, or outcome. They can be used to assess performance, identify trends, and inform decision-making. Metrics can be simple, such as counts or percentages, or more complex, such as ratios or indices. Examples of metrics include website traffic, sales revenue, customer satisfaction scores, and production efficiency.

On the other hand, Key Performance Indicators (KPIs) are a specific subset of metrics that are deemed critical to the success of an organization or a specific project. KPIs are carefully selected based on their direct correlation with strategic goals and objectives. They serve as benchmarks for performance and help organizations focus their efforts on what matters

most. Unlike general metrics, which can vary depending on the context, KPIs are tailored to reflect the most important aspects of performance that need to be monitored closely. For example, a KPI for a retail business might be "monthly sales revenue," as it directly reflects the business's financial health and success. Onwards there will be focus on KPIs as they are what will be relevant for the continued case study. In *figure 2* there is a simple illustration on how it all fits together. (Kerzner, 2022)

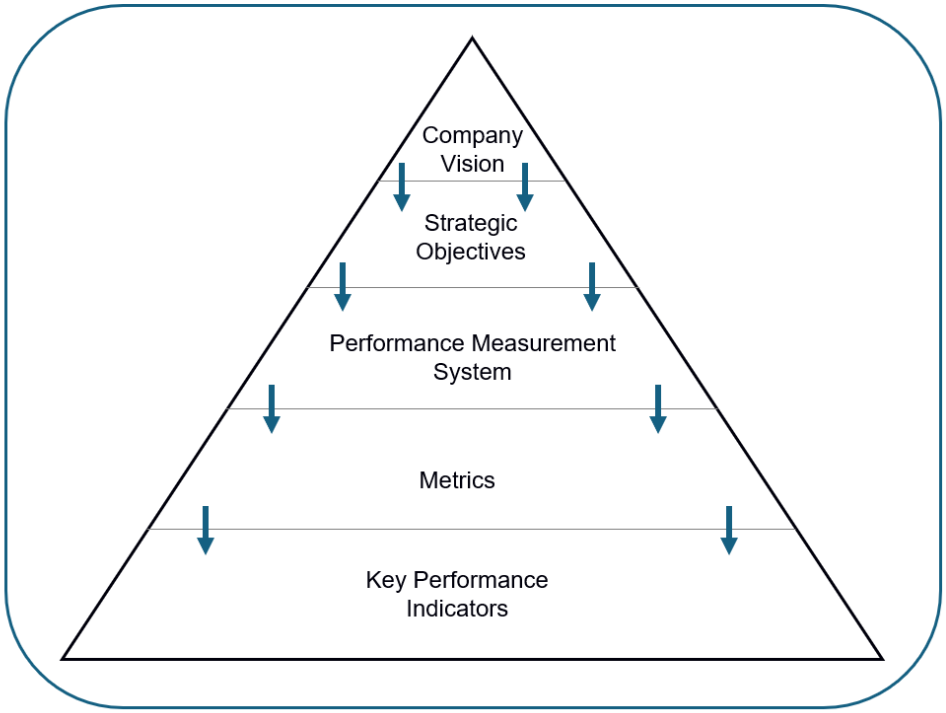


Figure 2: Showing a very simplified schematic with the linkage between company vision and KPIs. (Illustration made by the author)

3.1.2 KPI Definition and Usage

Nowadays there is a general consensus regarding the importance of defining overarching company-specific goals that translates into performance indicators. However, in practice, there is often a lack of deeper understanding behind the KPIs in their purpose and value. The initial step toward improvement in this area is to explicitly define key performance indicators and they are tied to a company's goals. To incorporate this knowledge into a bigger framework where KPIs are used, it thus becomes necessary to standardize the expression of a key performance indicator, including its definition, purpose, usage and to make this transparent throughout the organization. As a KPI without any agreement on their meaning, would become a source of chaos rather than a source of focused action. (Kerzner, 2022)

It is challenging to provide a complete definition of a KPI due to the numerous variations found in the literature on this topic (Warren, 2011) However, for the sake of clarity, a general definition will be provided. As without a common understanding, KPIs might lead to confusion rather than coordinated efforts (Warren, 2011). Acting as a starting point the following definition by Forbes is used:

“A measurable target that indicates how individuals or businesses are performing in terms of meeting their goals. “(Hennigan, 2023)

Though that definition in itself is not enough to fully define a KPI and its usage. As an addition to that it might be more prudent to add that by all means a KPI is a measurement which evaluates how well a company executes its strategic vision and direction (Warren, 2011). Many organizations struggle to clearly identify important objectives and targets, hindering their ability to reach their full potential. This often leads employees to prioritize their work based on their team's goals rather than the organization's overarching goals. Despite having a defined strategy, different teams and departments frequently move in divergent directions. As a result, achieving performance in many organizations becomes a matter of chance. Thus, ensuring consensus among all stakeholders regarding the

company's strategy and its interpretations is crucial. By extension a KPI will then not only be used as an evaluation tool, but also to act as a guidance to show the path to success. (Parmenter, 2019)

In practical terms, KPIs serve several key purposes all from measuring time and cost to give an overview of workplace safety. Which have led to the widespread application of KPIs across various business domains, including public transport systems, healthcare and supply chain operations. (Kerzner, 2022, Parmenter, 2019)

The selection of effective and relevant KPIs has become indispensable in navigating the complexities of the modern business environment. Ultimately the decision on what is and what is not a KPI must be defined by induvial decisions to that project. Consequently, organizations often rely on managers and staff to choose and monitor suitable KPIs. Currently there are several ways to select KPIs but a common help to establishing adequate KPI is that they should confer to these 5 questions:

1. What are the decisions this KPI is supposed to support?
2. What really is the thing being measured by the KPI?
3. Why does this thing and KPI matter to the decision being asked?
4. What is known about now?
5. What is the value to measuring it further?
   (Kerzner, 2022)

3.2 Performance Measurement Systems

KPIs do not do something by themselves in a vacuum, instead it is the larger framework that binds it all together and enables value to the organization, namely the performance measurement system (PMS). Regardless of whether an organization employs methodologies like Six Sigma, Lean, total quality management, or Hoshin Kanri, the main objective remains consistent, to achieve more while being more efficient than before. To undertake this seemingly massive undertaking the first fundamental requirement and key determinant of success lie in the capacity to quantitatively measure

performance. Embracing the notion of that comes the fact that things that are not measured cannot be improved.(Harbour, 2017, Parmenter, 2019)

High-performing organizations have demonstrated a keen understanding of this principle. Across various organizational affiliations, these entities have strategically implemented highly effective performance measurement systems, recognizing the indispensable role they play in achieving operational excellence. The main takeaway when considering a performance measurement system is that: what you measure determines what you achieve, and you cannot effectively oversee a system without measuring it. (Harbour, 2017, Franceschini et al., 2007)

Regarding what a Performance Measurement is it can be said to be*:*

"The ongoing monitoring and reporting of program accomplishments, particularly progress toward pre-established goals. It is typically conducted by program or agency management. Performance measures may address the type or level of program activities conducted (process), the direct products and services delivered by a program (outputs), or the results of those products and services (outcomes). A "program" may be any activity, project, function, or policy that has an identifiable purpose or set of objectives."

According to the definition given by the U.S. Economic Development Administration (EDA), and the measurement system lies in that program that steers it (EDA, no date). A performance measurement system is used to identify the indicators necessary to monitor and evaluate an organizations performance. Within this scope a PMS includes accurate data collection, thought out accountability and responsibility and a coherent framework for doing so. Which in turn will enable the organization to do informed decision-making efferently in the direction of the organizations overarching goals and priorities.(Franceschini et al., 2007)

One of the main drivers behind a PMS is the ability to drive accountability. As a PMS can create the prerequisites for accountability in terms of alignment, order and visibility across the organization. In turn this accountability creates stability and predictability that will allow employees a

greater sense of purpose and that they feel enabled to impact the organization in a meaningful way. (Cäker et al., 2022) Performance measures systems are in essence a holistic tool that will help an organization to understand, align on and improve dynamically across both vertically and horizontally across the organisation. A performance measurement system should adequately provide an answer to how well the organization is doing, if goals are met, if the relevant stakeholders are satisfied and if changes are necessary and if so where. (Franceschini et al., 2007)

3.2.1 Difficulties with implementing an effective PMS

One of the major difficulties with a PMS is ensuring validity in its metrics. As each PMS must be specifically tailored to the needs of the particular organization, it becomes crucial for the company to ensure the validity of its PMSs. To ensure that the identified needs effectively validate the intended strategy, it is important to establish consistent alignment throughout the organization. This is achieved by determining the specific needs and then selecting the appropriate measurements accurately aligned with those needs. However, this is not an easy step. One of the main objectives of assuring alignment is the ability to ensure that the right information is aimed for the right audience. (Parmenter, 2019, Franceschini et al., 2007)

Another pivotal insight is that a Performance Measurement System (PMS) cannot fully capture the complexity of an organization. This means that some aspects will inevitably be overlooked, and only a certain degree of complexity can be included. Therefore, it is crucial to define what is important for the specific organization early in the process (Okwir et al., 2018).

Many problems in a PMS can be traced back to one core issue: organizations often measure either too many variables or too few. Which itself often lies in the fault of the implementation and the strategy behind it. (Franceschini et al., 2007) Which brings into question the unintended actions that poor PMS might lead to, in such a PMS should be used to punish or restrict employees for not achieving the their goals but should instead be directed towards controllable events, and thus enable the people that can affect those events. (Parmenter, 2019)

Further, when establishing a PMS, it is often hard to get rid of the short-term focus that is often time incentivized in a badly designed system, as employees and managers look only to their personal goals. While that might superficial seem like an improvement, it will more often the not result in rigidness and might not reflect the practical reality of the organisation. Thus resulting in the oversight of long-term effects. (Franceschini et al., 2007)

In organizations, the usage and introduction of a PMS is often seen as superfluous due to a limited understanding of its benefits. Resulting in that its implementations are not thoroughly planned and are done ad-hoc, resulting in systems that frequently end up as ineffective tools. At best, these systems provide no real value, and at worst, they can be counterproductive. Putting into perspective the need for a clear action-taking, in regards to a PMS so that it becomes clear what should be done and by whom (Parmenter, 2019). Finally, managing data has become a fundamental and essential component of both society and organizations. As such is it becomes difficult to say which solutions and business models will survive or disappear. (Loebbecke and Picot, 2015). In a similar manner this puts thought into how to continually manage a PMS and adapt it accordingly. Therefore, measuring what matters is a future priority.(Franceschini et al., 2007)

Table 1: Summarising challenges and corresponding solutions from the literature research.

Common Challenges & Solutions	
Challenge	Solution
A too complex system of performance measurement	● Engage internal stakeholders early in the thought process to ensure relevance and usability. Iterate on design based on feedback.(Franceschini et al., 2007) ● Measure what matters, evaluate by the 5 questions.(Kerzner, 2022)
Inadequate technology infrastructure	● Evaluate what resources are being dedicated. Invest in robust technology infrastructure to support performance measurement systems. Ensure compatibility with existing systems and scalability for future needs.(Loebbecke and Picot, 2015, Rantanen et al., 2007)
Inconsistent reporting practices and application	● Standardize reporting formats and guidelines to promote consistency and comparability of performance data. Implement regular reviews and audits of reporting processes.(Franceschini et al., 2007)
Lack of stakeholder engagement	● Foster a culture of stakeholder involvement and collaboration throughout the performance measurement process. Solicit feedback and incorporate diverse perspectives.(Franceschini et al., 2007) ● Engage the leaders of the organization at the start of the process to ensure their support for the framework. Engaged leaders are more likely to provide the team with the required resources needed to help maintain the momentum throughout the process.(Franceschini et al., 2007)
Measurement Validity	● Create clear steps for how the metrics are created and how they are collected and finally a consistent practise to see if they align with strategic objectives.(Parmenter, 2019, Harbour, 2017)

3.2.2 Success Factors for a PMS

When establishing a PMS, the following lifecycle is commonly used; design, implement, use and evaluate the system to maintain it. A PMS system is not only in its form a simple practice to establish nor is it always easy to define what it can and should be used for. Thus, it is important to achieve commitment across all of these four areas (Franceschini et al., 2007). In a paper written by Naslund and Norman they emphasize that when measuring organizational change initiatives with the help of a PMS one critical aspect is to actually define what success looks like. Similarly, there is a point in that many organizations do not prioritize long term commitment to their initiates to actually see whether or not they achieved success. Likewise, is it important to define key stakeholders in order to measure performance from different key stakeholders' perspectives (Naslund and Norrman, 2019)

Therefore, to avoid at an early stage stakeholder unclarities and individual blame games and foster a culture of constructive accountability, it's essential to cultivate the right organizational approach and provide adequate training on how to effectively work with a PMS. Included into this is the accountability approach that managers refrain from holding subordinates accountable for specific performance levels. Although the targets are important to aim for and in all hopes to achieve, the focus is not to put blame on anyone if the target is not met but to drive a constructive discussion and analysis from it on how to improve. Likewise, the problem is not missing a KPI target, but the problem is in weather or not action can be taken to correct it sufficiently.(Cäker et al., 2022, Lohman et al., 2004) Organizations can in its effort employ various techniques or tools to understand the wants and expectations of stakeholders. Depending on the stakeholder, a strategy is devised to systematically comprehend their needs and expectations. Some ways to achieve this is through surveys or interviews. It is imperative to have a very clear idea of who these people are and what their needs and expectations entail so that they themselves feel comfortable with the eventual PMS.(Franceschini et al., 2007, Stormi et al., 2019)

Building upon this it stands to ensure proper commitment from the stakeholders, especially from the leadership as they are a critical element in the success of the PMS. Some ways to do this are to create involvement. Involvement creates ownership, it increases employees' loyalty, commitment and ultimately accountability for who has responsibility from targets and results. To create involvement there needs to be a good communication in the organization so that managers get to know what employees think about their jobs and the company thereby ensuring everyday alignment. Doing so creates accountability for both employees and senior management. Likewise do employees need to know how the measurement for which they are being held accountable relates to the overall success or failure of the organization.(Franceschini et al., 2007)

To establish a performance measurement one of the things that should be considered is *the strategic plan*. This plan will serve as the foundation for the development of the PMS It is within this plan that the organization will set up its overarching objectives of what it wants to accomplish with the help of the PMS. Though one of the more critical aspects that needs to be addressed already when dealing with the strategic plan is that the organizational leaders are convinced of the benefits of the PMS. This to not avoid endeavours that are half-heartedly undertaken and that will most probably result in a less optimal result. Therefore, a structured and strategic plan is required, as the implementation of such a system is not something that is done over a day. Part of this strategic plan is to map out what and how it can be done and in a later stage who should be responsible for the different areas. (Shawyun, 2012, Runeson, 2009, Franceschini et al., 2007)

Another point that should be considered for a successful PMS is organizational drift. This drift refers to the gradual divergence between an organization's intended strategic direction and its actual trajectory over time. It occurs when the organization's actions, decisions, and behaviours deviate from its original strategic goals, often due to factors such as changing market conditions, leadership transitions, internal politics, or cultural shifts. Understanding organizational drift and assessing where the organization currently stands are critical steps before establishing a PMS for several reasons. As by examining the extent of organizational drift, leaders can

pinpoint areas where performance is falling short of expectations or where strategic objectives are not being effectively pursued. Meaning that if organizational drift is already accounted for the in development phase, the system will inherently become much more adaptable and agile and instead of becoming liability can instead act as a guiding star in times of organizational change. (Franceschini et al., 2007, Naslund and Norrman, 2019)

3.2.3 Choosing the Right Measures

Effective performance measurement is a critical aspect of organizational success, yet the process of selecting and implementing metrics can be complex and nuanced. Simply measuring for the sake of measurement can result in sub-optimal outcomes. Metrics should be chosen thoughtfully, with a clear understanding of how they contribute to decision-making and add value to the organization. Furthermore, metrics should be designed to drive desired individual and behavioural effects, ensuring that they incentivize actions that align with organizational objectives. (Blackburn and Valerdi, 2009) Metrics should not be chosen arbitrarily or designed to make individuals look good. Instead, they should be strategic, aligning with company objectives and providing meaningful insights into performance (Neely, 2002).

One common challenge in performance measurement is the risk of information overload. Managing too many indicators can lead to a loss of focus and an inability to identify critical relationships between metrics. To mitigate this risk, organizations should strive to streamline their performance measurement processes, focusing on a select few indicators that are most closely aligned with strategic objectives. This "Critical Few" approach involves simplifying and distilling a large number of performance measures to highlight those that are most essential for organizational success. While there is no universally "right" number of critical indicators, many organizations typically aim to define a manageable set of between 3 and 15 indicators at each level within the organization. However, the specific number may vary depending on the complexity of the organization and its unique business perspectives.(Parmenter, 2019, Franceschini et al.,

2007, Neely, 2002). Finally, it is important to realize that all organizations and companies will have specifically tailored metrics for their needs, thus there is an emphasis on not looking too much into what metrics successful companies use but instead what methods they used to decide on these metrics.(Harbour, 2017, Kerzner, 2022)

3.2.4 Change, Continuity and Commitment

Ensuring the success of a Performance Measurement System (PMS) extends beyond its initial implementation; it requires ongoing maintenance, adaptation, and commitment from a changing organizational leadership and management. While the creation of a PMS is essential for aligning organizational goals and measuring performance, its effectiveness relies on continuous evaluation and improvement.(Franceschini et al., 2007) Even during the development of the PMS, the requirements may change, meaning that in many ways the implementation of a PMS is not as straightforward as measure section directly to measure implementation. Meaning that in to increase the chance of success with a PMS it seems rather pivotal to apply an agile mindset, so that continual evolution is enabled. As another common failure is not only to not define the measurements but also be ready to in the face of change, change the measure themselves as they might have become obsolete. (Stormi et al., 2019)

Design processes that leverage subordinates' expertise and local knowledge are more likely to result in an enabling PMS, especially if implementation allows for testing and refinement. The role of superior managers in this process is critical. They must empower subordinates to design, experiment with it. Without long-term commitment from leadership and management to maintain and evolve the PMS in response to changing circumstances, the system risks becoming obsolete and ineffective altogether. In conclusion, the success of a PMS relies on ongoing maintenance, adaptation, and commitment from organizational leaders and managers. By continuously aligning the system with strategic objectives, organizations can maximize the effectiveness of theirs performance measurement.(Stormi et al., 2019, Parmenter, 2019, Harbour, 2017)

4. The Case Company

Gives a brief but necessary description of the company where the empirical part of the thesis project was conducted. This to understand the specific challenges the company faced and why certain actions were undertaken.

The selected case company, operating within the global logistics and supply chain sector, has a comprehensive history that spans several decades. With a specialization to deliver tailored solutions that enhance operational efficiency and reduce costs for clients across diverse industries, the company has earned a reputation as a leader in its field. The company collaborates closely with clients, leveraging its technological expertise and strategic partnerships to address their unique challenges on an international scale.

However, as the company expanded its operations globally, maintaining consistency and alignment across various departments and regions presented a significant challenge. This challenge was exacerbated by perceived deficiencies in existing processes, prompting the recognition of the need for a more structured approach to performance measurement. As a starting point the previous usage of their PMS had been mixed. Although the PMS was in place, there appeared to be a significant discordance between its intended purpose and its actual application. It was also clear that the system was not used to its full potential, leading to inconsistent usage and thereby a lack of action on what mattered the most. Recognizing the importance of this endeavour in sustaining its competitive edge, the company initiated a process to rethink its performance measurement system.

This initiative was driven by a twofold approach. Firstly, the company conducted external research to identify industry-leading performance measurement systems, drawing insights from best practices to inform its own strategy. Concurrently, internal interviews were conducted to gather feedback from key stakeholders and pinpoint areas for improvement within the organization. Moreover, internal reviews were undertaken to assess

ongoing initiatives, ensuring alignment and avoiding duplication of efforts while maximizing progress.

Crucially, there exists a committed leadership and an organizational interest in seeing this endeavour come through. With strong leadership support and a keen interest in driving positive change, the company is poised to leverage this unique opportunity to overhaul its performance measurement system. By utilizing the collective expertise and commitment of its organization, the case company should be in a good position to initiate a performance measurement overhaul

5. Nanocase Secondary sources

This section is dedicated to secondary sources describing the usage of performance measurement systems at two main companies; SIG and Danaher. These small cases give a broader perspective by comparing similar scenarios and how they tackled these challenges in short but concise sections.

5.1 SIG

SIG plc, headquartered in the United Kingdom, is a global provider of insulation, roofing, commercial interiors, and specialized construction materials. SIG has employed what they call a “Return to Growth” strategy, which was initiated in response to a period of declining market share and profitability that preceded the onset of the Covid-19 pandemic. This strategic approach prioritizes margin uplift through sustainable, profitable growth rather than short-term cost-cutting measures. Central to the strategy is the decentralization of decision-making authority, empowering branch managers to make informed choices tailored to their local markets. The strategy is underpinned by seven strategic pillars deeply ingrained in SIG's historical successes, with a steadfast commitment to energy efficiency reflecting the company's heritage and future aspirations. These pillars encompass both financial and non-financial objectives, guiding the company towards accelerated growth and success. (SIG, 2024)

Each of these strategic pillars is closely linked to relevant Key Performance Indicators (KPIs) to measure progress and performance. For example, KPIs related to employee engagement, safety records, and greenhouse gas emissions provide tangible metrics for evaluating the company's success in achieving its strategic objectives.(SIG-plc, 2022)

Furthermore, these pillars are directly associated with principal risks that SIG must manage effectively to ensure the successful execution of its strategy. Risks such as health and safety hazards, regulatory compliance, and environmental sustainability are addressed within the framework of

these strategic pillars, guiding risk management efforts and ensuring alignment with overall business objectives.(SIG-plc, 2022)

The seven-pillar model serves as the foundation of SIG's decentralized operational structure, empowering branch-based teams to deliver exceptional service, cultivate deep supplier relationships, leverage specialized expertise, and excel in logistics operations. This model has been instrumental in driving SIG's success over the years, enabling profitable growth, expansion into new markets, and sustained competitiveness in the building materials industry.(SIG-plc, 2022)

As a result of these strategic initiatives, SIG has undergone transformative changes, emerging as a more specialized, locally attuned, productive, and engaged organization. The company has achieved remarkable milestones, including doubling underlying operating profit, exceeding operating margin improvement targets, sustaining gross margins despite inflationary pressures, and reducing operating costs as a percentage of sales. Furthermore, SIG has successfully gained market share and improved margins while concurrently investing in future growth opportunities. Notably, customer Net Promoter Scores (NPS) and employee engagement scores have shown improvement, reflecting heightened satisfaction among stakeholders.(SIG-plc, 2022)

SIG plc effectively utilized its seven strategic pillars as guiding principles, setting clear direction for the organization during challenging times. By establishing relevant Key Performance Indicators (KPIs) aligned with these pillars, SIG ensured accountability and alignment throughout the company. This cohesive approach fostered organizational flexibility, allowing SIG to navigate rough years and drive a successful turnaround. Ultimately, the strategic alignment and focus on KPIs enabled SIG to achieve sustained growth and success. (SIG-plc, 2022)

5.2 Danaher

Danaher has for the past decades seen tremendous growth and has tackled numerous challenges with excellence. Danaher's growth journey was defined by strategic acquisitions and lean manufacturing practices. Central to its strategy lay the Danaher Business System (DBS), emphasizing continuous improvement and guiding planning, deployment, and execution. Despite a robust track record and successful DBS implementation, challenges loomed in sustaining growth and applying the system to high-technology industries. Nevertheless, the CEO remained confident in the company's resilience and adaptability.(Anand et al., 2015)

The success of Danaher was attributed to its relentless focus on process improvement, embodied by the renowned Danaher Business System (DBS), extending beyond manufacturing to various areas like innovation, marketing, R&D, and sales. Danaher employed in the DBS what can be called Policy Departments, X-matrixes that divide overarching strategic company goals, into more manageable yearly targets. These targets can then be further divided across the organization in for example bowler charts that depend on fitting KPI:s.(Anand et al., 2015)

To not be underestimated is the importance of sustaining this culture of continuous improvement for Danaher's future success. The firm's senior management recognized the importance of evolving and preserving this culture to ensure continued high performance across its businesses, meaning it is not enough to just develop a robust business and performance measurement system but it is also crucial to establish a continuous leader commitment to see it come to its potential.(Anand et al., 2015)

Amidst the global financial crisis of September 2008, Danaher faced immediate decisions on navigating the recession and longer-term strategic choices amidst severe liquidity concerns. The company's senior executive team outlined three key objectives: reducing structural costs, preserving investments in growth and innovation, and leveraging the crisis to accelerate acquisition activity and portfolio evolution.(Anand et al., 2015)

Over the following six quarters, Danaher executed significant cost-cutting measures, while prioritizing investments in research and development (R&D) to drive future growth. The company also sustained investments in sales and marketing, particularly in emerging markets, and capitalized on the banking crisis to acquire new companies. By April 2010, Danaher reported better-than-expected earnings, the former CEO Larry Culp reflected on the evolution of the Danaher Business System (DBS) and its pivotal role in navigating through challenges giving Danaher the flexibility that was necessary to accomplish the outlined strategic goals. (Anand et al., 2015)

6. Nanocase External Interviews

This section delves into insights given from external stakeholders through interviews, offering a concurrent perspective on PMS and "Best-in-Class" examples.

These interviews were conducted in the same format and was done in an effort to map out best practices. A key insight that was established before the interviews was that the purpose of the interviews were not to copy an already existing system, but to more or less find the underlying logical manners that allowed for a company to be successful and thus a source of knowledge when studying best practices. The interview guide can be found in *Appendix 1*. The complete interviews, notes, company name and personal identity are confidential on behalf of the interviewees. Presented below is a summary of the most interesting points given.

6.1 Alfa

Alfa follows an approach that can be said to follow a balanced scorecard system. Although there are several layers of their system and scorecards, they follow a traditional onlook at PMS. Though, much of the system has not undergone changes in quite some time and most of it is based in large Excel files. One important factor that Alfa points out is their excellent work it lagging and leading indicators. As Alfa takes the distinction between leading and lagging indicators of significant importance in performance evaluation and strategic decision-making. While lagging indicators provide insights into past performance, leading indicators offer predictive capabilities, allowing organizations or in this case, Alfa, to anticipate future trends and proactively address emerging challenges.

Alfa recognizes that relying solely on lagging indicators may offer a retrospective view of performance but may not adequately inform proactive measures to drive continuous improvement and mitigate risks. Therefore, Alfa emphasizes the integration of leading indicators into its performance assessment framework to complement lagging indicators effectively. This

has been done by effectively communicating throughout the organization what the meaning of each indicator resembles and how to act accordingly.

By incorporating leading indicators, such as customer satisfaction trends, market demand forecasts, and employee engagement levels, Alfa gains valuable foresight into potential shifts in market dynamics, customer preferences, and internal operational efficiencies. This proactive approach enables Alfa to identify opportunities for innovation, optimize resource allocation, and adapt strategies in anticipation of changing market conditions.

Moreover, the utilization of leading indicators empowers Alfa to take preemptive actions to prevent performance declines and capitalize on emerging opportunities, thus enhancing its competitive position and long-term sustainability. In today's rapidly evolving business landscape, where agility and adaptability are paramount, the ability to leverage leading indicators alongside lagging indicators provides Alfa with a holistic view of performance and a strategic advantage in navigating uncertainties and driving organizational success.

6.2 Beta

To start of Beta has gone through numerous iterations and changes to the current PMS, some of these changes has been well received, while others less so. Currently they have according to the interviewee an efficient system. In it there is a clear cadence and purpose on what the KPIs mean and what the companies strategic plan is. Each month they have a business review with senior management where they walk through important KPIs and if any changes are needed.

To be efficient in this, Beta has placed a significant emphasis on differentiating between KPIs that are essential for the daily operations of the business and those that are targeted to enhance competitive advantage. Understanding that not all metrics are created equal, Beta recognizes the importance of delineating between KPIs that measure the efficiency and

effectiveness of ongoing operations and those that are aligned with strategic initiatives aimed at gaining a competitive edge in the market.

For Beta, KPIs related to operational performance are crucial for monitoring the day-to-day activities and ensuring smooth business operations. These may include metrics such as production output, inventory turnover, and customer satisfaction levels. While these KPIs are vital for maintaining operational stability, Beta understands that they may not necessarily drive long-term competitiveness or innovation.

In contrast, the KPIs that will provide a competitive advantage. These strategic KPIs are more closely aligned with the company's overarching goals and are focused on areas such as product differentiation, customer experience enhancement, market penetration, and innovation. By concentrating on these targeted KPIs, Beta aims to not only meet industry standards but also surpass them, positioning itself as a leader in its field and driving sustained growth and profitability.

By differentiating between operational KPIs and strategic KPIs, Beta ensures a balanced approach to performance measurement that addresses both short-term operational needs and long-term strategic objectives.

6.3 Gamma

Gamma PMS in its current form places significant emphasis on monitoring operational performance through the utilization of company specific scorecards. The organization conducts audits, at least twice monthly, focusing on the two primary scorecards used, the operations scorecards and the performance scorecard. These audits serve to evaluate whether the chosen metrics align with organizational objectives and to gauge the commitment of the responsible teams towards improving measured outcomes.

Within the company, the operations scorecard creates standardization, ensuring consistency across different departments, with clear definitions provided for employees. However, it differs when it comes to the

performance scorecards at the production line level. Here, the metrics are not standardized; instead, factory managers and their teams retain the autonomy to select parameters tailored to their specific operational contexts.

As a consequence of this decentralized approach, there exists variability in the metric selection across the organization. From the perspective of the interviewee this is a conscious deliberation as it provides fast adaptability where it matters the most, in the production. At the same time this hinge on an understating on that everyone is aligned. Which might not always be the case.

6.4 Delta

The PMS of Delta prioritizes on acting where it is needed. With a focus on continuous improvement Delta strives to enhance its countermeasure structure, recognizing the importance of effective strategies in addressing operational challenges.

In evaluating Key Performance Indicators (KPIs), Delta employs a ranking system ranging from 1 to 5. While performance ratings above 3 are deemed acceptable. This ranking system allows for quick action and focus on where it is needed, especially on the often time-stressed meetings that review the KPIs. This creates alignment and a culture of accountability. It is also efficient to convey were collective efforts needs to be prioritized in the organization to achieve strategic objectives.

For the collections and organization of the KPIs Delta is partly using a 3rd party system that ease the necessary technological infrastructure which has been well received,

Finally, the interviewee stressed that one important success factor at Delta, was the rigours but non obstructive reporting cadence. Meaning the employees that acted as owners of certain KPIs did not feel it added an extra workload but acted a helping tool in the day to day job.

Table 2: Measurement Cadence Overview

Company	Earliest Measurement Review Timing	Measurement Structure	Counter-measure Techniques
Alfa	Monthly	Short meeting with status check from senior management	If no action has been taken before, official monthly countermeasure report at department level. Bi-weekly reviews for fast paced projects.
Beta	Quarterly	Quarterly senior management reviews KPIs but non-senior management might review earlier.	Problem Solving Process ("5 whys")
Gamma	Monthly	Short meeting with status check from senior management	Follows a form of PDCA Cycle (Plan-Do-Check-Act)
Delta	Monthly	The first formal review form leadership is monthly but many times they occur on a ¨when needed basis¨	Tries to follow the Toyota Kata approach with target conditions but is slightly modified to fit their need.

7. Case Company Internal interviews

Empirics internally collected through interviews that will serve as the backbone for the analysis

From the company 14 people of various positions were interviewed. All selected internal interviewees were relevant to the subject and they were picked jointly with the company, an overview over the interviewees is seen in *Table 1*. The interview guide can be seen in *Appendix 2*. In a similar manner to the external ones, the complete interviews, notes, company name and personal identity are confidential on behalf of the interviewees. Presented below is a summary of the most interesting points given.

7.1 Describing the Current PMS

From the interviews it was seen that the usage of the current KPIs is not standardized and is sporadically implemented across teams. While there are good initial ideas, they often remain confined within specific teams, resulting in a lack of interconnected goals. Many times, KPIs are perceived more as an extra workload rather than as useful tools.

A common issue is the inconsistent application of KPIs across different levels of the organization. There's a need for uniform KPIs at all levels, but it is important not to overwhelm everyone with all the details. Furthermore, there is a problem where people just focus on hitting specific targets without considering the bigger picture, which causes necessary actions to be delayed. Several interviewees suggested using the 80/20 rule, balancing top-down directives with bottom-up feedback.

It was clear that the employees are motivated to perform well, but currently they require clear guidance on how to achieve alignment. To this it was stated that, at the top level, clarity and consistency are crucial, along with collaboration among the leadership team, and this should be the priority. After this in the long term, there should be a stronger focus on efficient data collection as it currently is not very organized. Currently, too much

unnecessary time is spent compiling reports instead of utilizing that time more effectively. An automated, robust, and regular system that is user-friendly for those responsible for it should be considered.

Though there was also a general feeling that many initiatives are overly focused on the higher levels of the organization, neglecting the day-to-day employees who execute daily tasks. Establishing a baseline for running the business is necessary, as it is currently difficult to interpret the metrics meaningfully. Emphasis should be placed on operational KPIs, as this is where significant improvements can be made. Likewise, the current handling of KPIs is problematic because they are easily misinterpreted. Therefore, the focus at the top should be simplified, concentrating on 5-10 key KPIs and with a focus deeply understanding their implications and importance to the business.

7.2 Measurement Cadence

In terms of measurement timing and structure, there's a preference for either monthly or quarterly reviews, especially for senior management. Quarterly Business Reviews (QBRs) are deemed effective when they're straightforward and focus on key business priorities.

Regarding organizational cascade, there's acknowledgment that the current system hasn't been efficient in sharing important information. Simplifying the process is crucial to encourage participation, with a focus on eliminating unnecessary KPIs. Aligning with the budget cycle is essential to prevent resource shortages, and there's a recognized need for deeper analysis and drilling down into performance metrics.

Some additional insights include recognizing successful cascading method approaches previously employed by an employee was recommended by several interviewees to look deeper into. As that could be an important resource in the continual work.

7.3 Suggested Success Factors

From the interviews conducted with members of the case company, several suggested success factors for improving the PMS were identified.

Instead of investing in a new system, revisiting and optimizing the existing one is often more practical. Reflecting on past successes, one interviewee noted that the system was most effective under a previous manager. During his time, the PMS was quite comprehensive. Although it was not visually appealing, it above all promoted meaningful discussions, which contributed to its effectiveness. Further the interviewee argued that this should be primary objective any PMS, to create discuss on the right topics to drive action taking.

A bottom-up approach should be considered to avoid implementing useless KPIs. One interviewee shared a previous experience with a “security” KPI that was ultimately deemed ineffective. This highlights the importance of involving employees at all levels in the development and selection of KPIs to ensure they are relevant and actionable. It is also very important that any work done aligns with the strategic goals of the organization, as this represents the future direction of the company. In addition, looking into previous work can provide valuable insights and help avoid repeating past mistakes.

The ability to drill down into data is also considered crucial. This feature allows for a deeper analysis of performance metrics, enabling more informed decision-making. One of the most important factors for success is ensuring that the system cascades through the entire organization, from top management to frontline employees. This cascading effect ensures that everyone is aligned and working towards the same goals.

Another key point emphasized in the interviews on how to succeed with a PMS is assessing where the company stands right now. This reflection was argued to help in identifying areas of improvement. While there are many aspects to consider in performance management, it is essential to focus on the few things that truly matter. This prioritization can help streamline efforts and maximize impact.

In summary, the interviews revealed that optimizing the existing PMS by drawing on past successes, aligning with future goals, involving employees at all levels, and maintaining a focus on key priorities can significantly enhance the system's effectiveness.

8. Analysis

The collected data is analysed. Combined with the interviews and the literature research this allows for some initial ideas and speculations to become synthesized.

8.1 Current Condition

By drawing from the internal research that was conducted, the current state of the company can be mapped out. In this current state of the company there seems to be a notable confusion regarding how the overarching strategy is translating and applying to various individual groups within the organization. There appears to be a disconnect in the alignment of KPIs, lacking sufficient connectivity to extend to the next organizational layer. Furthermore, these KPIs seem to inadvertently incentivize unintended behaviours, fostering optimization for specific groups rather than the broader company objectives.

The organization is grappling with significant changes and uncertainties, creating an environment that demands adaptability. While there are emerging concepts and sporadic pockets of application, they are not yet widespread or consistently integrated across the company.

A tendency to over-complicate processes and decision-making is evident, potentially hindering efficiency and clarity. Additionally, there is a notable lag in the company's responsiveness, often being too slow to take aligned action when necessary. Addressing these challenges and fostering a more cohesive and streamlined approach to strategy implementation and performance metrics will be crucial for the company's future success.

8.2 Aspirations

The company is striving for a comprehensive alignment and mapping of its strategy with intended targets and outcomes across all groups within the

organization. This entails ensuring that every individual and department clearly understands how their efforts contribute to overarching strategic objectives. To facilitate this alignment, the establishment of clear ownership is crucial, as it not only clarifies responsibilities but also fosters a culture of accountability where individuals take ownership of their actions and outcomes.

Furthermore, the company aims to standardize and centralize the process of assigning and determining KPI targets. By establishing a uniform method, KPIs can be directly linked to key organizational outcomes, providing a clear line of sight between performance metrics and strategic goals. This approach enhances transparency and enables better decision-making at all levels of the organization.

Another key objective is the early identification of risks and problems to facilitate timely and deliberate actions. By proactively monitoring performance indicators, the company can detect potential issues before they escalate, allowing for swift intervention and mitigation. This proactive approach helps minimize disruptions and ensures that the organization remains agile and responsive to emerging challenges.

Consistency and transparency are also paramount in the company's aspirations. By promoting consistency in the application of strategies and alignment across different departments and teams, the company can foster a unified organizational culture. Additionally, transparency in communication and decision-making processes cultivates trust and engagement among employees, driving collective efforts towards shared goals.

Overall, these objectives underscore the company's commitment to fostering a cohesive and performance-driven organizational culture, where clarity, accountability, and proactive management of risks are central pillars of success.

8.3 Bridging the gap

To reach the aspirations that were set out by the collected interviews. Some initial principles were set out to bridge the gap from the current condition to the aspirations. This by finding the underlying logics in what makes certain PMS effective and 'Best in Class', as the process of designing PMS cannot be done in as simple a manner as copying an already existing PMS. Thus, these principles will allow the creation of a PMS built on these logics and manners that characterize a great PMS.

Based on the comprehensive internal and external research efforts, the following guiding principles have been set out:

- Need for one consolidated source of truth: Ensuring data integrity and consistency by centralizing information sources thereby ensuring accountability. Which can be seen in the Danaher case but also confirmed in the literature research and as a key point from the internal interviews.

- Less is more: Prioritizing critical metrics and maintaining consistency in measuring what truly matters to the organization. Taking inspiration from the SIG approach of deconstructing top KPIs.

- Alignment with already existing teams and methods: Recognizing the imperative alignment of recommendations with broader initiatives, particularly those related to technology. To avoid starting from square one and adhering to the recommendations from the interviews.

- Simplicity and clarity: Emphasizing straightforward communication and language clarity to facilitate widespread adoption. As was seen in the literature study, especially seen in the books by (Parmenter, 2019) and (Kerzner, 2022) in the importance of clear KPI definitions.

- Audience-specific reporting: Tailoring KPI reporting to different organizational levels and contexts to drive actionable insights. To avoid making it overly complicated as was stated as a problem in the interviews.

- Action-taking: Ensuring that a PMS allows for action taking and clarity in what will be done and who will do it. Taking inspirations from the theory chapter when describing difficulties with a PMS implementation to avoid counterproductive behaviour(Parmenter, 2019) but also form the external interviews, in this case Beta.

- Leadership commitment: Acknowledging the essential role of top leadership, particularly the CEO and global leadership teams, in championing and driving the PMS adoption. Seen as a widespread foundation in all the sources.

- Inclusive approach to adoption: Recognizing the importance of engaging stakeholders at all levels through a collaborative catch-ball approach. This to make sure that there is a widespread alignment. To define all the stakeholders but also to make them engaged was noted in the paper by (Naslund and Norrman, 2019) but also in multiple other sources such as (Franceschini et al., 2007), (Parmenter, 2019) and finally in the internal interviews.

- Integration into strategic calendar: Embedding PMS usage into all business and budget reviews throughout the annual strategic calendar to ensure alignment with organizational goals. This to make into a tool instead of an extra workload, such as in the external interview of Gamma and in (Stormi et al., 2019)

- Radical transparency: Advocating for openness and transparency in reporting to catalyse change and prompt decisive action. This so that the accountability and application of the PMS becomes clear As seen in (Stormi et al., 2019) to be ready for change but also to create further understanding and alignment such as in (Lohman et al., 2004)

Then by simplifying these 10 guiding principles into something more tangible they laid the groundwork for the development of the 5A's of KPI relevance summary, which can be seen in *figure 3*. In the 5A's all the highlighted principles are incorporated into an easier to follow summary. This can then serve as the cornerstone of the new PMS framework. The 5 A's — Audience, Application, Alignment, Accountability, and Action-taking, reflect the commitment to ensuring that the KPIs are not only relevant but also effectively contribute to organizational success. By emphasizing these key attributes, the new PMS system will provide a robust foundation for aligning strategic objectives with actionable performance metrics, fostering transparency, driving accountability, and enabling timely decision-making across all levels of the organization.

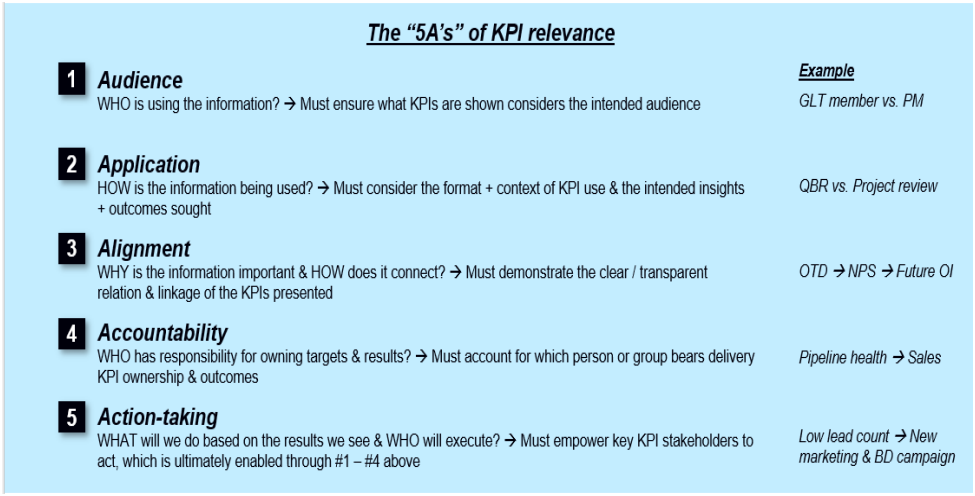


Figure 3: Initial summary that tries to collect the findings from the analysis in 5 main objectives for the framework (Created by the author and the case company

9. Framework

From the analysis and its takeaways, a framework constructed is constructed that will serve as the new PMS foundation.

To build up the framework two main key concepts needs to be presented firstly, these being reporting chapters and KPI Trees.

Reporting chapters, emphasizing the use of flexible chapter structures to present KPIs tailored to specific segments of the business or groups. By organizing KPIs into chapters, such as regions, segments, strategic pillars, and company specific models, this approach enhances relevance and facilitates connected action-taking. Each chapter serves as a dedicated subsection containing KPIs pertinent to its respective domain. This should provide stakeholders with a focused insight that is aligned with their areas of responsibility and strategic focus. This concept effectively addresses the A's of Audience, Application, Accountability, and Action-taking by ensuring that KPIs are targeted, actionable, and accessible to relevant stakeholders, thereby promoting informed decision-making and driving accountability for performance outcomes.

However, while this concept effectively addresses several aspects of the 5 A’s in *figure 3*, it falls short in achieving alignment. Although each reporting chapter is tailored to specific segments or groups within the organization, the lack of explicit alignment across chapters may hinder the holistic understanding of organizational objectives and priorities. Without a cohesive framework that integrates and aligns reporting chapters with overarching strategic goals, there is a risk of fragmentation and sub-optimization in performance management efforts. Therefore, while the reporting chapters concept enhances granularity and relevance, achieving alignment across all levels and dimensions of the organization requires a more integrated approach.

Key concept two introduces the idea of KPI "trees," employing hierarchical branches of KPIs anchored by top organizational outcome KPI "roots." This

structure facilitates cascading by clearly delineating relational mapping, ensuring that every KPI is linked to an overarching strategic objective. At the top level, fewer than 10 outcome KPIs are identified as "roots," forcing prioritization and aligning measurement efforts with key organizational goals. As KPIs descend through the levels, their proximity to the root indicates their position as either lagging or leading indicators, with lagging indicators closer to the root and leading indicators further away. This hierarchical arrangement promotes accountability by establishing a direct line of sight between individual performance metrics and organizational outcomes, fostering a sense of ownership and responsibility at all levels of the organization. Additionally, the actionable nature of KPIs increases as they move further from the root, allowing for more immediate intervention and impact. By encompassing accountability, action-taking, and alignment, this concept ensures a holistic approach to performance management, covering all aspects of the 5 As in a comprehensive manner.

These two concepts then stand as the summary of the new PMS foundation at the case company. By incorporating these elements into the development and deployment of the new PMS system, the company can build a comprehensive and sustainable framework for performance measurement and management. This ensures that the system not only meets current needs but also evolves and adapts to future challenges and opportunities.

9.1. Level “0” Roots

The first part of the framework is the need for overarching company KPIs. Following the principle of "Measure What We Value," the focus shifts towards identifying a select few KPIs that encapsulate the most critical aspects of value creation for the organization. This principle of "less is more" ensures clarity and focus, allowing for a more effective cascading of KPIs throughout the organization.

These enterprise wide KPIs will then serve as the Level 0 “roots”, providing a solid foundation for anchoring KPI cascading efforts across different levels and regions. For example, a summary of enterprise wide KPIs by region can provide valuable insights into regional performance against

overarching organizational goals. By tracing back to these Level 0 “roots”, each region can align its KPIs with the broader strategic objectives of the company, fostering consistency and alignment in performance measurement practices.

Deciding on these Level 0 roots KPIs can be a complex process, requiring careful consideration of various factors such as the company's strategic objectives, industry benchmarks, stakeholder expectations, and regulatory requirements. It may involve extensive consultation with key stakeholders, including senior management, department heads, and external experts, to ensure that the selected KPIs are relevant to the company's overall performance. Additionally, finding the right balance between different KPI categories—such as operational, financial, and environmental—requires a nuanced understanding of the company's unique circumstances and priorities. Despite the complexity involved, establishing Level 0 roots KPIs is crucial as they provide a clear focus for performance measurement and guide decision-making at all levels of the organization. They serve as anchor points for the entire KPI framework, shaping the company's strategic direction and driving continuous improvement efforts.

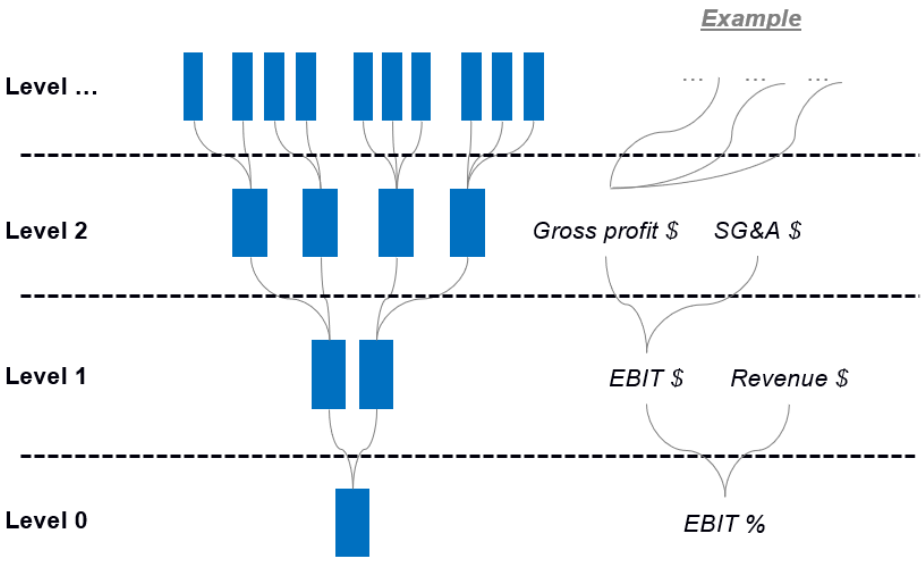
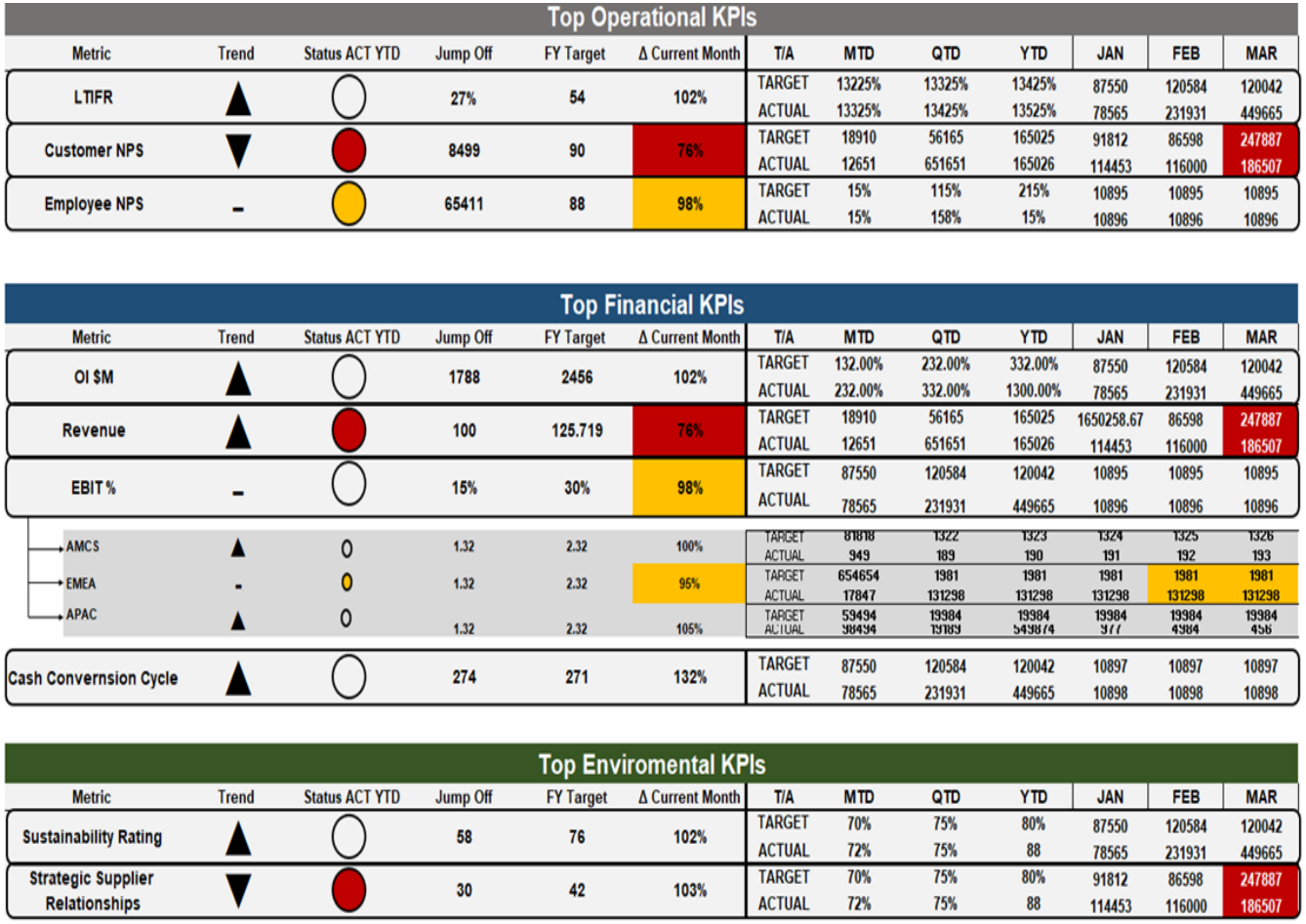


Figure 4: Example of the logic on how the Level 0 root and KPI tree interplay and ease with cascading and alignment. (Created by author and case company).



Top Operational KPIs

Metric	Trend	Status ACT YTD	Jump Off	FY Target	Δ Current Month	T/A	MTD	QTD	YTD	JAN	FEB	MAR
LTIFR	▲	○	27%	54	102%	TARGET	13225%	13325%	13425%	87550	120584	120042
						ACTUAL	13325%	13425%	13525%	78565	231931	449665
Customer NPS	▼	●	8499	90	76%	TARGET	18910	56165	165025	91812	86598	247887
						ACTUAL	12651	651651	165026	114453	116000	186507
Employee NPS	–	●	65411	88	98%	TARGET	15%	115%	215%	10895	10895	10895
						ACTUAL	15%	158%	15%	10896	10896	10896

Top Financial KPIs

Metric	Trend	Status ACT YTD	Jump Off	FY Target	Δ Current Month	T/A	MTD	QTD	YTD	JAN	FEB	MAR
OI $M	▲	○	1788	2456	102%	TARGET	132.00%	232.00%	332.00%	87550	120584	120042
						ACTUAL	232.00%	332.00%	1300.00%	78565	231931	449665
Revenue	▲	●	100	125.719	76%	TARGET	18910	56165	165025	1650258.67	86598	247887
						ACTUAL	12651	651651	165026	114453	116000	186507
EBIT %	–	○	15%	30%	98%	TARGET	87550	120584	120042	10895	10895	10895
						ACTUAL	78565	231931	449665	10896	10896	10896
→ AMCS	▲	○	1.32	2.32	100%	TARGET	81818	1322	1323	1324	1325	1326
						ACTUAL	949	189	190	191	192	193
→ EMEA	-	○	1.32	2.32	95%	TARGET	654654	1981	1981	1981	1981	1981
						ACTUAL	17847	131298	131298	131298	131298	131298
→ APAC	▲	○	1.32	2.32	105%	TARGET	59494	19984	19984	19984	19984	19984
						ACTUAL	98494	19989	543874	977	4984	456
Cash Convernsion Cycle	▲	○	274	271	132%	TARGET	87550	120584	120042	10897	10897	10897
						ACTUAL	78565	231931	449665	10898	10898	10898

Top Enviromental KPIs

Metric	Trend	Status ACT YTD	Jump Off	FY Target	Δ Current Month	T/A	MTD	QTD	YTD	JAN	FEB	MAR
Sustainability Rating	▲	○	58	76	102%	TARGET	70%	75%	80%	87550	120584	120042
						ACTUAL	72%	75%	88	78565	231931	449665
Strategic Supplier Relationships	▼	●	30	42	103%	TARGET	70%	75%	80%	91812	86598	247887
						ACTUAL	72%	75%	88	114453	116000	186507

Figure 4 Example of the selected Lv 0 roots might look in action in the case company. (Created by author and case company).

9.2 Relational KPI mapping & hierarchical “tree” branching levels

By ensuring relational KPI mapping and hierarchical "tree" branching levels This framework will then enable the mapping of the level “0” roots to actionable KPIs in areas such as marketing and business development, including metrics like the number of calls per day and conversion rates.

Later, when this standard has been implemented it will allow for a deeper understanding and more complex analysis. For example, it would not be out of the question to allow for regression analysis to identify and target the most impactful drivers of outcome performance as there is progression towards more integrated and relational metric tracking capabilities and datasets.

It's crucial to acknowledge the multifaceted nature of KPIs within the hierarchical structure. For instance, revenue might be a top-level metric directly tied to overall organizational goals. Simultaneously, it could also be a component within lower-level branches, where it influences specific departmental objectives such as marketing or sales targets.

This dynamic nature of KPIs means that their significance and interpretation can shift depending on their placement within the hierarchy. Thus, KPIs like revenue may serve as both a macro-level indicator of organizational success and a micro-level driver influencing day-to-day operations. Therefore, understanding the hierarchical structure allows for a more nuanced interpretation of KPIs and their implications across different levels of the organization. This clearly mapped relational hierarchy can then begin to be integrated into the scorecard to help explain drivers of performance & spur action-taking as seen in *figure 5*.

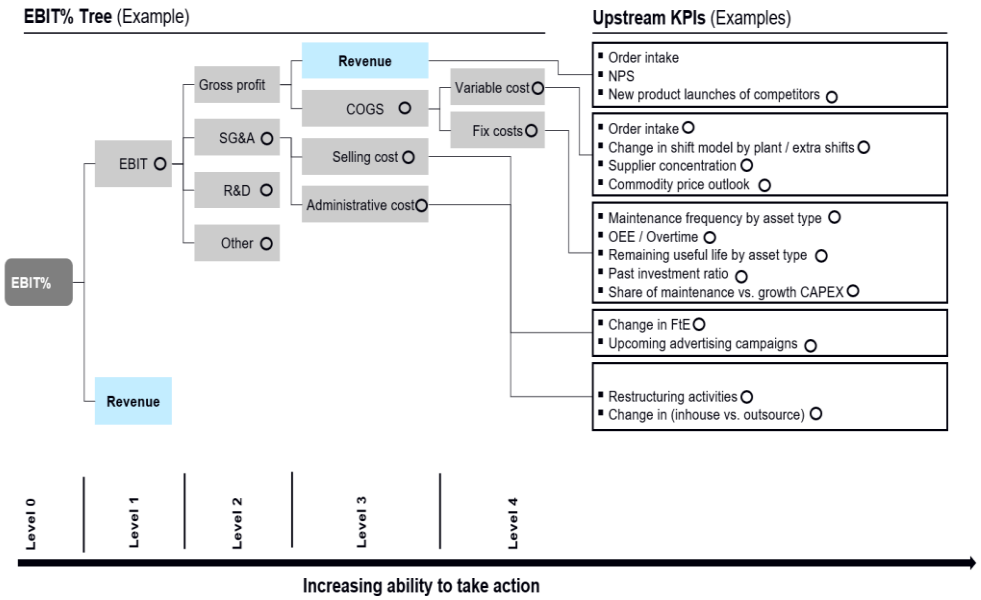


Figure 5: The hierarchical branching illustrated in an example, note especially revenue appearing twice. (Created by author and case company).

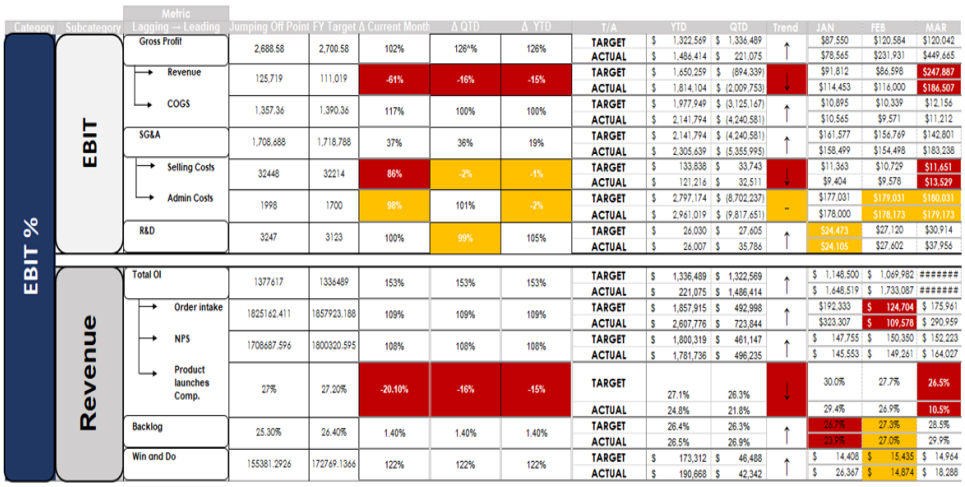


Figure 6: Example of the hierarchical branching then being integrated into a scorecard. (Created by author and case company).

Once the hierarchical structure of metrics is established, it's translated into the scorecard itself, as illustrated in *figure X*. The scorecard serves as a visual representation of the hierarchy, providing a concise overview of KPIs and their relationships within the organizational framework.

In the thought behind the scorecard itself, several minor considerations come into play. The first being simplicity, ensuring that the scorecard is clear and easy to understand at a glance. Complexities are minimized to enhance readability and usability. Secondly a dark cockpit design principle is established inspired by the concept of a "dark cockpit" in aviation, where pilots are presented only with essential information to reduce cognitive overload, the scorecard design adopts a similar approach. Superfluous details are eliminated, and focus is placed on presenting critical metrics prominently. By incorporating these principles into the design of the scorecard, organizations can effectively monitor performance, identify areas requiring attention, and make informed decisions to drive continuous improvement.

9.3 Reporting chapter structure

All of these trees are then bound together by the reporting chapter structure. The reporting chapter structure and views are designed to be adaptable and scalable, enabling the advancement of reporting practices and catering to the evolving needs of the organization.

These chapters can be customized for specific use cases, such as different groups or functions, senior management, quarterly business reviews, or in other possible applications. This flexibility allows for a tailored reporting suited for the intended audience and the objectives of the report. Additionally, each chapter includes a narrative that analyses the key drivers behind both over- and under-performance of Level 0 outcome KPIs. This analysis provides context and aids stakeholders in identifying root causes and devising appropriate improvement strategies.

To ensure relevance and accountability, the chapters feature clearly mapped "drillable" relational hierarchies, allowing users to navigate through the data and insights based on their specific interests and needs as seen in *figure 7*.

Overall, the reporting chapter structure and views aim to provide actionable insights, support informed decision-making, and drive continuous improvement throughout the organization.

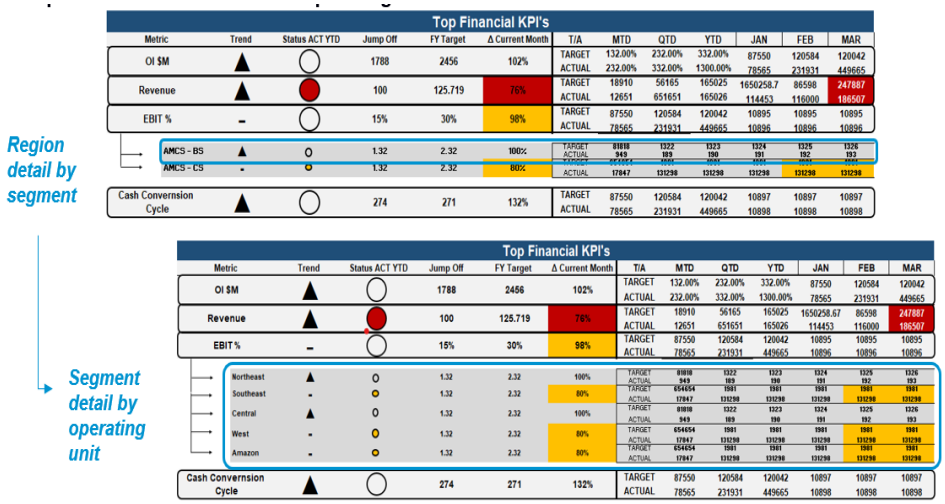


Figure 7: Illustration of drillable relational hierarchies in an operative manner.

Relational KPI mapping and tracing, grounded in Level 0 "roots" or innovative aggregation methods such as the "value cycle," ensures a comprehensive understanding of performance metrics across organizational layers. KPIs are tagged to reflect the organizational structure, including levels, roles, and positions. Monthly target setting input fields for each KPI facilitate goal alignment, while integration of monthly performance tracking input fields enables continuous assessment and timely adjustments. Leveraging existing analyses and materials streamlines processes, ensuring consistency in reporting and decision-making.

Access to data is managed effectively, with limitations and restrictions based on hierarchical levels and adherence to the "need to know" principle, safeguarding sensitive information while promoting transparency and accountability. Finally, all of this information should be combined in a single report preferably quarterly based on the needs sourced from the interviews. Which should offer a comprehensive overview of the organizational status, highlighting KPIs and areas for targeted improvement.

9.4 Database

To establish the envisioned PMS and the accompanying hierarchical structure there needs to be a common database that can handle the necessary information and ways of facilitating it across the organization. In order to meet the demands of such a system, several key considerations and needs must be addressed that has been surfaced through the internal research.

Firstly, relational KPI mapping and tracing lie at the core of this infrastructure. This involves establishing connections between different levels of KPIs, either starting from Level 0 "roots". In this KPI tagging is essential for organizing and categorizing metrics according to the organizational structure. This includes considerations of various factors such as levels within the hierarchy, specific roles, and individual positions.

Additionally, the system must provide functionality for monthly target setting for each KPI. This requires dynamic input fields within the database framework, allowing for regular updates and revisions to align with evolving organizational objectives and priorities. Integration of the monthly performance tracking input fields and linkages to source data is another critical aspect. This ensures that performance data is continuously monitored and analysed, with direct connections to the underlying data sources maintained within the database infrastructure. Moreover, the database must be capable of leveraging existing analyses and materials effectively. This involves consolidating and integrating diverse data sources and analytical tools, optimizing resource utilization, and promoting consistency in reporting and decision-making processes.

Provided from the internal interviews, the current system seemed to lack the current structure needed to apply the system for the complete organization. There was also concern that it would become bothersome to use when enabling it across the organization, thus hindering usage. To remedy this there needs to be extra considerations to the scalability of it. As it will be a pivotal aspect of the database infrastructure envisioned for managing KPIs. As the organization grows and accumulates more data, the database must accommodate the increasing volume without sacrificing performance or stability. This means that in a rather early stage there needs to be a decision from the key stakeholders on what tools are to be used and on how the scalability can be accomplished before it becomes an overall issue.

In parallel, when establishing the database there needs to be great user functionality so that it is actually used. Especially among the more operational parts of the organization. Part of this are considerations such as previous tool experience in the company, learning curves and the perceived benefits of using it throughout the organization. Part of this discussion is also the ability for it to work with a company's presumably already existing ERP. As, ERPs often serve as the backbone of an organization's data infrastructure, housing essential information across various departments. Ensuring that the PMS can interface smoothly with the ERP means that users can access consistent and accurate data without redundant data entry or manual updates.

Finally, the implementation of access limitations and restrictions based on hierarchical levels and the "need to know" principle is imperative for ensuring data security and confidentiality. Robust database security protocols must be in place to safeguard sensitive information while facilitating appropriate data access and transparency within the organization.

In summary, the successful implementation of the PMS and hierarchical structure relies heavily on a well-designed and interconnected database infrastructure that can support the relational mappings.

9.5 Operationalization

To be able to operationalize it is suggested to follow a governance plan that encompasses several key stages and considerations. To start of there needs to a be a facilitated engagement to and from the senior management to establish alignment on the top organizational outcome (Level 0 "root") KPIs. Following this, these KPIs should cascade down to the next management level, where managers develop KPI trees and submit monthly targets for senior management approval. In this process, regional CFOs will play a pivotal role in driving progress.

Next, pilot the new tracking and reporting systems over several months, capturing lessons learned and identifying areas for improvement. Integrate the system into monthly business reviews, and internally communicate and publish data to raise awareness across the organization. Then expand the hierarchical structure and cascade it further within the organization. Utilize a "catch-ball" approach for refinement, which involves a back-and-forth exchange between different organizational levels to ensure alignment and continuous improvement. This method encourages feedback and collaboration, allowing each level of the organization to adjust and optimize the KPIs according to their specific operational context. By doing so, the organization can create a more dynamic and responsive performance management system that drives consistent improvement and aligns with overall strategic objectives.

The governance requirements for this plan include the following:

- Obtain sign-off on KPI mapping and access levels to ensure alignment with organizational objectives.

- Conduct regular reviews of KPI data, sources, calculations, and action plans to ensure accuracy and relevance.

- Establish mechanisms to limit the frequency of metric additions or subtractions to maintain stability and consistency.

- Standardize the catch-ball process for efficient communication and collaboration.

- Manage metric loading and tracking within a centralized database system.

- Develop a more robust tool or system, transitioning away from Excel-based solutions. To stand better prepared for future demands.

This phased approach ensures an initial systematic progression from setup with governance mechanisms in place to maintain alignment, accuracy, and effectiveness throughout the proces

10. Discussion

Reasoning behind the chosen research method as well as a short discussion concerning the achieved results. Finally, contributions to the academy and suggestions on further research are presented**.**

10.1 Conclusion of Achieved Results

The results obtained from the framework created at the case company provide valuable insights into the “how’s” a PMS initial strategical synthesis might look like. Firstly, as already has been stressed but still deserves a final say is that the characteristics of each organization are unique. While there are inspirations to be drawn from successful practices in other companies, it is crucial to acknowledge that there is no one-size-fits-all solution. Rather than attempting to replicate a system outright, the focus should be on understanding the underlying principles that drive the effectiveness of certain systems.

Furthermore, as depicted in *figure 8*, the framework serves as a roadmap towards realizing the organization's aspirations. Through systematic implementation and refinement of the PMS, organizations can strive towards achieving excellence in performance management.

It is important to acknowledge that the work presented in this study is primarily theoretical, laying the groundwork for the development and implementation of an effective performance measurement system. The next step involves operationalizing the framework within the organizational context, which may present additional challenges and complexities not accounted for in the theoretical framework. As highlighted earlier, various obstacles may arise during the operationalization phase, including organizational resistance, resource constraints, and technological limitations.

Despite these potential challenges, the framework might provide a valuable starting point for organizations seeking to improve their performance

measurement practices. By recognizing the unique needs and characteristics of the organization, and by leveraging insights from successful practices in other companies, organizations can develop their own customized approach to performance measurement. Moving forward, organizations should remain observant and responsive to evolving internal and external factors that may impact the performance measurement process. Continuous monitoring, evaluation, and refinement of the PMS are essential to ensure its ongoing relevance and effectiveness.

Framework Summary

Top organizational outcome KPIs (Lv0 "roots") linked to vision, purpose, and strategy	Reporting chapter structure based on audience and application	Relational KPI mapping & hierarchical "tree" branching levels	Aspirations
✓	✓	✓	▪ Clear alignment / mapping of strategy with intended targets & outcomes for all groups
	✓	✓	▪ Establishment of clear ownership to drive accountability
✓	✓	✓	▪ Consistency + transparency in application & alignment across the organization
	✓	✓	▪ Ability to identify risks & problems early so that deliberate & timely actions against them can be taken
✓	✓	✓	▪ Standardization & centralization in how KPI targets are assigned / determined & connected relationally to key organizational outcomes
Combined report a to be used in all operational, financial & strategic business reviews			▪ Use of KPIs is the bedrock for how to run the business

Figure 8: Showing the summary of the framework and how it all ties back to the set-out aspirations. (Created by author and case company)

10.2 Addressing the Study's Research Questions

RQ 1: What are the motivations and challenges for establishing efficient performance measurement in an organisation?

As seen in the literature research and stakeholder feedback, the motivations are numerous. Organisations aim to establish efficient performance measurement systems to but are not limited to:

- Enhance action-making
- Align goals
- Optimize resources
- Increase accountability
- Drive improvement
- Gain competitive advantage

The main challenges that were discovered that hindered accomplishment was identified as:

- Stakeholder commitment
- Lacking a strategical plan
- Short term focus
- No real plan for alignment
- Difficulties of creating engagement across the organisation

In summary, while the motivations for implementing an efficient performance measurement system are numerous. The organizations must at the same time overcome difficult and hard to define challenges to achieve effective implementation.

RQ 2: What should the process of creating a PMS entail, particularly during the initial stages of strategizing and synthesising?

It involves understanding and analysing the specific needs and current position of the organization. This initial phase is important, as it helps map out the specific challenges. Once the organization's current state is clear, the

focus shifts towards defining its desired aspirations and objectives This understanding serves as the foundation for understanding the purpose and utility of the PMS within the organizational context, ensuring alignment with overarching goals.

Moreover, it's important to recognize and involve relevant stakeholders in the process. Mapping out stakeholders and understanding their perspectives, expectations, and definitions for accurately identifying the requirements for PMS implementation. As each stakeholder group may have unique needs and priorities. By engaging in this comprehensive stakeholder analysis and needs assessment, organizations can lay a strong foundation for the strategic development a PMS that aligns with their objectives and maximizes its utility.

RQ 3: How can the insights gained from RQ 2 be applied and used?

While the framework may not provide a conclusive "best" method, it nonetheless offers inspiration and a systematic approach, steering organizations away from relying solely on intuition or gut feeling. As by using this framework as guidance to a structured methodology, organizations can navigate the complexities of PMS implementation with greater clarity and purpose. Ultimately improving their ability to measure and manage performance effectively.

10.3 Contribution to the Academy

This thesis extends the existing body of knowledge by emphasizing the importance of acknowledging the unique context and organizational dynamics that influence the effectiveness of performance measurement systems. By recognizing that there is no one-size-fits-all approach to performance measurement, this research underscores the need for organizations to tailor their systems to fit their specific strategic goals. It also accomplishes to establish a new framework to act as help when implementing a new PMS by ensuring that the 5A’s of KPI relevance are fulfilled. These 5 A’s can help as a clear foundation when exploring the demands and needs of a PMS in a more systematic way.

It then further demonstrates by the case study one method of accomplishing this. In doing so, it provides a framework for the case company and a valuable insight in the difficult process of establishing a PMS.

10.4 Alternative Methodology

Another alternative methodology could involve a longitudinal study tracking the evolution of performance measurement practices within a single organization over time. By examining historical data and trends, researchers could identify patterns of change and continuity in performance measurement practices with clear examples. Thereby seeing the factors influencing their development. This approach would offer a dynamic perspective on how performance measurement systems evolve in response to internal and external pressures. By doing so providing valuable lessons for organizations seeking to improve their own practices.

10.5 Ethical Considerations

All data that was collected during the interviews was only collected in the form of notes and was only handled by the author. This to ensure that the data acquired from the interviewees cannot be traced back to them and that their anonymity is secured. Further, all information used by the case company has been approved beforehand.

10.6 Further Research Areas

While this thesis has laid the groundwork for synthesizing and theorizing PMS, an important area for further exploration is their practical operationalization within organizations. Specifically, future research should focus on the process when implementing theoretical frameworks into practical and functional strategies.

Finally, further research should address the design and development of databases and information systems that support PMS, as in this thesis this was part of the delimitations in regard to the time constraints.

Understanding their functionalities, and impact on organizational performance and ultimately how an organization should choose will be valuable

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Appendix

Appendix 1 - External Interview Guide

Introduction:

- General background information is presented regarding the research and its purpose.
- Brief disclosure of the interview structure and its goals
- Before starting any questions that have raised beforehand are answered. Likewise, there is an pre-emptive discussion regarding the confidentiality of the interview.

Filter & Background Questions:

- What is your role in the company?
    - Are you currently in any form working with or around Metrics, KPIs, PMS etc?
- How long have you had this role?
- Do you have any previous experience apart from your current position in working with KPIs or performance measurement systems?

General Descriptive Questions:

Can you describe your company's current methodology in how you work with

- Metrics and KPIs
- The complete PMS
- Does it follow any framework/model or broader strategy?
- Have there been any changes to it?

Do you have any general strategy in how to create alignment?

Is there an existing method on how to ensure commitment to KPIs throughout the company?

Are you using some form of scorecard to keep track of KPIs?

- If so, are you aware of how many levels of "charts" (levels of reporting) you have? For example, for top management, departments, teams.

What is the reporting cadence for the different levels? (e.g., Annual for level 1, Monthly for level 2, etc.)

- What do you measure at those instances?
- How many levels do you think would be optimal?

What evaluation methods do you use for the KPIs? (e.g., traffic light system – green, yellow, red)

- If a KPI underperforms, how soon should corrective actions be taken?
- How are countermeasures implemented and reported?
- Can you describe how your company's current dashboard/scorecard template looks at different levels?
- Do you know how long your company has been using this template?
- What system is used for it (Power BI, Excel, Tableau)?
- How does your company distinguish between lagging and leading KPIs?

Reflective Questions:

Are there any challenges or limitations you have encountered with your current setup?

Is there any specific advantage to the current system that you would like to highlight?

Do feel like there is a general commitment and benefit across the company in using the current set up?

Do have any other experience with KPIs, Metrics or PMS that you would like to highlight?

Closure:

Eventual questions that might have been raised or unfinished discussions.

Thank you for your time and insights!

Appendix 2 - Internal Interview Guide

Introduction:
General background information is presented regarding the research and its purpose at the company.
Brief disclosure of the interview structure and its goals
Before starting, any questions that have raised beforehand are answered.
Likewise, there is an pre-emptive discussion regarding the confidentiality of the interview.

Filter & Background Questions:

- What is your role in the company?
    - Are you currently in any form working with or around Metrics, KPIs, PMS etc?
- How long have you had this role?
- Do you have any previous experience apart from your current position in working with KPIs or performance measurement systems?

General Questions:

How would you say the current setup is working from your perspective?

- What are the main advantages/disadvantages currently?

How would you describe the general attitude in the company towards using KPIs and measuring performance?

What would you say are your KPI tracking needs from your role and perspective?

What would you say are your reporting needs according to you?

What would you say are important factors to enable a great PMS?

Is there any previous way of measuring performance and reporting it that you have liked?

Do you have ideas on how the current PMS can be improved?

Closure:

Eventual questions that might have raised or unfinished discussions.

Thank you for your time and insights!