



Sille Tuononen

# Developing Supplier Evaluation and Performance Measurement System

Metropolia University of Applied Sciences

Master of Business Administration

Procurement

Master's Thesis

10 May 2023

## Abstract

Author: Sille Tuononen  
Title: Developing Supplier Evaluation and Performance Measurement System  
Number of Pages: 61 pages + 4 appendices  
Date: 10 May 2023  
Degree: Master of Business Administration  
Degree Program: Procurement  
Instructor: Pia Hellman, Dr. Sc. (Econ.), Senior Lecturer

---

Objective of this thesis was to establish common practices for supplier evaluation and performance measurement for the case company. The aim was to identify relevant criteria and tools that could be used to recognize the best possible suppliers. Another objective of this study was to determine the most appropriate supplier performance measurement approach and tools and develop a supplier performance measurement system that would be suitable for the case company.

Data for this study was collected in three rounds using qualitative research methods such as a survey and workshops. The survey enabled to identify the criteria that the case company's category managers, who are the most involved with suppliers, find relevant when evaluating potential suppliers, as well as when measuring the current suppliers' performance. The survey also revealed that there were some key suppliers at the case company's supply base who were identified as the poorest performing suppliers. The theoretical framework focused on the topics related to the supplier evaluation and performance measurement. It was applied to build a proposal, which was presented at the proposal workshop to COO and category managers. Feedback with improvement suggestions to the initial proposal was collected through a stakeholder survey.

As a result of this thesis, two tools were developed for the case company: a supplier evaluation selection tool together with tendering documents and guidelines, and the supplier performance measurement system. The established SPM system enables the case company to evaluate its suppliers' performance in terms of the most critical factors, detect bottlenecks, take preventive actions, and improve the company's overall performance. SPM system was pilot-tested on two suppliers and should be re-evaluated after six months of field-testing.

Keywords: Supplier evaluation, Supplier performance measurement, Supplier Scorecard

## Contents

1	Introduction	1
1.1	Case Company Introduction	1
1.2	Procurement of the Case Company	2
1.3	Business Challenge	3
1.4	Research Questions	5
1.5	Research Objectives and Scope	5
2	Research Design and Methodology	6
2.1	Research Approach	6
2.2	Research Design	7
2.3	Data Collection	8
2.4	Metrics	11
3	Theoretical Framework	11
3.1	Supplier Evaluation and Selection Process	12
3.2	Supplier Evaluation Criteria	16
3.3	Supplier Evaluation Tool	18
3.4	Supplier Performance Measurement	20
3.5	Supplier Segmentation	22
3.6	Performance Measures and Indicators	24
3.7	SPM Approaches and Methods	26
3.8	Developing SPM System	29
4	Developing the Proposal for the Case Company	32
4.1	Current State Analysis	33
4.2	Proposals	40
4.2.1	Supplier Evaluation and Selection	40
4.2.2	SPM System	44
5	Conclusion	54

5.1	Executive Summary	54
5.2	Evaluation of the research	55
5.3	Closing Words	58
	References	60
	Appendices	62
	Appendix 1. Survey questions	
	Appendix 2. Proposal workshop PowerPoint presentation	
	Appendix 3. Tendering templates (RFI, RFP), process guidelines and supplier evaluation selection tool.	
	Appendix 4. Supplier Scorecard	

## List of Figures

Figure 1. Research design.

Figure 2. Supplier selection evaluation (adapted from O'Brien 2019, 468).

Figure 3. Framework for the supplier evaluation and selection process.

Figure 4. Classic supplier segmentation model (adapted from Gordon 2008, 60).

Figure 5. Measurement approaches according to supplier importance (adapted from O'Brien 2022, 121).

Figure 6. Closed loop measurement system for SPM (adapted from O'Brien 2022, 137).

Figure 7. Supplier performance management process (adapted from Gordon 2008, 180).

Figure 8. Framework for the process of developing SPM system (adapted from O'Brien 2022, Gordon 2008, Monczka & al. 2021).

Figure 9. Summary of supplier performance measurement criteria category managers consider as important.

Figure 10. Supplier evaluation selection tool.

Figure 11. Supplier Scorecard template for an important supplier segment.

Figure 12. Supplier Scorecard test for supplier A.

Figure 13. Supplier Scorecard test for supplier B.

## **List of Tables**

Table 1. Data collection table.

Table 2. Research metrics.

Table 3. Summary of data sources of measures and KPIs.

Table 4. Evaluated metrics of the research

Table 5. Stakeholder feedback.

# 1 Introduction

Suppliers' role in the organisation's value chain has increased significantly within past decades and even more within past years. To be successful in today's fast-changing and uncertain environment it is vital to increase the supply chain resiliency and flexibility. It is important to build a comprehensive understanding of the supply markets to be able to anticipate changes and mitigate risks. An ability to choose the right suppliers has never been more critical. (O'Brien 2022, 21-22.)

This research focuses on exploring what aspects need to be considered when aiming to choose the right suppliers, those who not only fulfil what is required at competitive cost but also have an ability to reduce the impact of economic and political uncertainties in the supply chain. As stated at the Hackett Group's research: "The question for 2023 is not if we will see supply chain disruptions, but what will cause them" (Hamburger & Blair 2023).

This research goes beyond and explores also how current suppliers can add value and contribute to organisation's success. Suppliers' performance has a direct impact on the company's overall performance (Monczka, Handfield, Giunipero & Patterson et al. 2021, 293). Monitoring the supply base, engaging the most important suppliers and deepening collaboration with them, enables the companies to not only increase the supply resilience but also find value and competitive advantage. (O'Brien 2022, 23-24.)

Supplier evaluation and performance measurement was chosen for the topic of this research to address the challenges at the case company.

## 1.1 Case Company Introduction

Target organisation is a Finnish distributor and wholesaler offering a wide selection of goods from different categories. In addition to being a distributor for many well-known international brands, the company also serves its customers

with private label products and drop-shipping concepts. Majority of the case company's customers are in Finland, serving all the country's biggest retail chains. Smaller chain customers and individual stores are served via B2B online store. Beside the Finnish market, the case company has an established and growing customer base also in the Baltic countries.

The case company was established in 2011, having today the turnover of slightly less than 10 million euros (2022). Beside organic growth the organisation has been expanding via acquisitions. This has enabled the company to increase the market power, expand the customer base and diversify its products range. Company has currently 15+ employees, it operates in three different locations and has outsourced accounting and warehouse operations.

The case company started with distributing branded hair care products and have successfully managed to expand its product portfolio and customer base in this category. The Health & Beauty category is still the company's biggest category, being also the door opener for other new product groups like Pets, Children and Food. In addition to mentioned categories where the focus is on daily consumer goods, the case company has a wide product assortment also in Fishing and Home categories.

The case company aims to produce extraordinary value to the customers through a wide and interesting assortment, competitive prices, and efficient supply chain by listening to the customer and being an agile partner.

## 1.2 Procurement of the Case Company

The case company's procurement is organised so that there are category managers for each category. Category managers have core competency of their category, and they are responsible for the category's overall result. Category managers are responsible for the whole procurement lifecycle,



building long-term relationships with both suppliers and key account customers in Finland and in export markets.

In addition, there are sales and purchasing coordinators who are responsible for the product master data, stock optimisation, transportation arrangements and assisting in sales.

Some category managers and coordinators report to the COO, who is responsible also for contract management, and reports to the CEO. Some category managers and coordinators report to the CEO.

This model has been working well for the case company. Through close collaboration with key account customers category managers have the best insight about customers' needs and concerns, as well as the best knowledge about their category's trends and possibilities. At the company's biggest category, Health & Beauty, there is also a product manager beside category manager and coordinator, with stronger focus on procurement.

### 1.3 Business Challenge

Since 2011, when the case company was established, the landscape of the retail market has changed. There are fewer individual shops and small chains in the Finnish market, and big retail chains have grown even bigger. Retailers buy increasingly more directly from the manufacturers and the role of a wholesaler is decreasing.

Past years in the rapidly changing world with crises and economic downturn have affected the case company's overall performance. Growth has not been as expected, there have been delivery delays and quality problems that have increased costs and impacted negatively on assurance of supply as well as customer satisfaction.

As a result, the case company decided to make bigger changes and in autumn 2022 the new business strategy was created. The main idea of the new strategy

is “the future in our own hands”. In a two-day workshop held for the whole personnel we defined what the new strategy means in practice for each category, what we need to do and where to start. In this process we defined many concerns and development areas that need to be addressed to achieve the goals of the new strategy.

One raised issue was how to better mitigate risks in the supply chain, decrease quality problems and in overall choose reliable partners. This has even greater importance along with the new strategy where one of the goals is to focus more strongly on the company's own brands. This requires finding reliable partners who have necessary expertise and capacity needed to develop and produce competitive high-quality products. Majority of the case company's categories are at the beginning of the new-product development phase, so implementing the new strategy will require the need for new suppliers or developing existing suppliers.

Currently the case company has not defined any common guidelines or criteria for supplier evaluation and selection nor supplier performance measurement. Delivery delays and quality problems are not being handled proactively and as performance is not measured, there are no means to improve supplier performance.

The case company's procurement has been handled more strongly from the sales-driven category management perspective, leaving less space for strategic development and risk management issues from the procurement side. Due to the lack of resources, most of the procurement's time is spent on taking care of operational issues and solving quality problems. New requests may be taken care of with urgency and chosen suppliers are not necessarily the best possible ones.

This type of traditional procurement that has a purpose of buying the right amount of goods with the right price and at the right time is described as a passive procurement in the literature (Iloranta & Pajunen-Muhonen 2018; Van

Weele 2022). In modern procurement, the changing opportunities of the supply market are utilised proactively. Instead of short-term transactional mindset the aim is on long-term collaboration with suppliers to secure supply, find new opportunities and competitive advantage. (Van Weele & Rozemeijer 2022, 237.)

Procurement function is today seen as a valuable contributor to organisation's success, helping companies to achieve cost savings, improve sales margins, and meet the challenges in today's competitive and volatile world. Choosing the right suppliers and effectively managing supplier relationships are in the centre of this. (O'Brien 2022, 22; Van Weele & Rozemeijer 2022, 258.)

## 1.4 Research Questions

To address the business challenge, I focus to find answers to the following research questions:

- What are relevant supplier evaluation criteria and practices that could be used to select suppliers who fulfil the case company's needs and requirements?
- What supplier performance measurement approach and measures would be appropriate for the case company?
- How to develop a supplier performance measurement system that would be suitable for the case company?

## 1.5 Research Objectives and Scope

Objective of this research was to establish common practices for supplier evaluation and selection process for the case company. The aim was to identify relevant criteria and tools that could be used to recognize the best possible suppliers. Second objective of this research was to determine the most appropriate supplier performance measurement approach and tools and

develop a supplier performance measurement system that would be suitable for the case company.

Supplier audit procedures, risk, and quality management as well as the contracting process are delimited from this research.

## **2 Research Design and Methodology**

This chapter presents research design and methodology that have been used to achieve the objectives of this research. First, the chosen research approach is explained and justified, followed by the description of the research design that outlines the research process. Section 2.3 provides an overview of data collection methods and describes in more detail what data, why and from whom was collected. The chapter ends with laying grounds for the success of this research by presenting metrics by which the outcome will be measured.

### **2.1 Research Approach**

I have utilised an action research approach in this research because it suits well for defining and solving practical business problems. The purpose of action research is to address specific issues or problems in a real-world context and promote organisational learning to produce actionable knowledge. Action research is a cyclical process of learning by doing, where participants are observing and analysing their practice in action and reflecting on it to create change through new actions. (Saunders & Lewis & Thornhill 2019, 305-307.)

Action research approach is suitable for this research also because the researcher is part of the organisation and is actively creating the change in collaboration with the co-workers. Participation is a key element in action research and the researcher is acting as a change agent (McNiff & Whitehead 2013, 104). Information for action research is obtained not only from the theory but also from participants' experiences and practical know-how. While an internal researcher has an advantage of knowing the organisation, its culture

and ways of working, there is a risk of potential biases. It is therefore important for the internal researcher to become aware of possible preconceptions. (Saunders & al. 2019, 307, 329).

I have used qualitative research methods such as semi-structured surveys and workshops to collect the research data. Collected data along with my own observations and discussions with my colleagues at the case company provided deeper understanding of the target organisation's current situation and trends and helped to discover specific needs and expectations regarding the research topic.

## 2.2 Research Design

The design of this research is based on continuous data collection and analysis of findings, which according to Merriam & Grenier (2019) is very important throughout the whole action research process (Merriam & Grenier 2019, 11). The design of this research is illustrated in Figure 1. It presents the research stages with outcomes and the connection between the phases. Each set of data from three different data collection rounds was analysed and considered further in the following steps. Research took place between the time frame of December 2022 to May 2023.

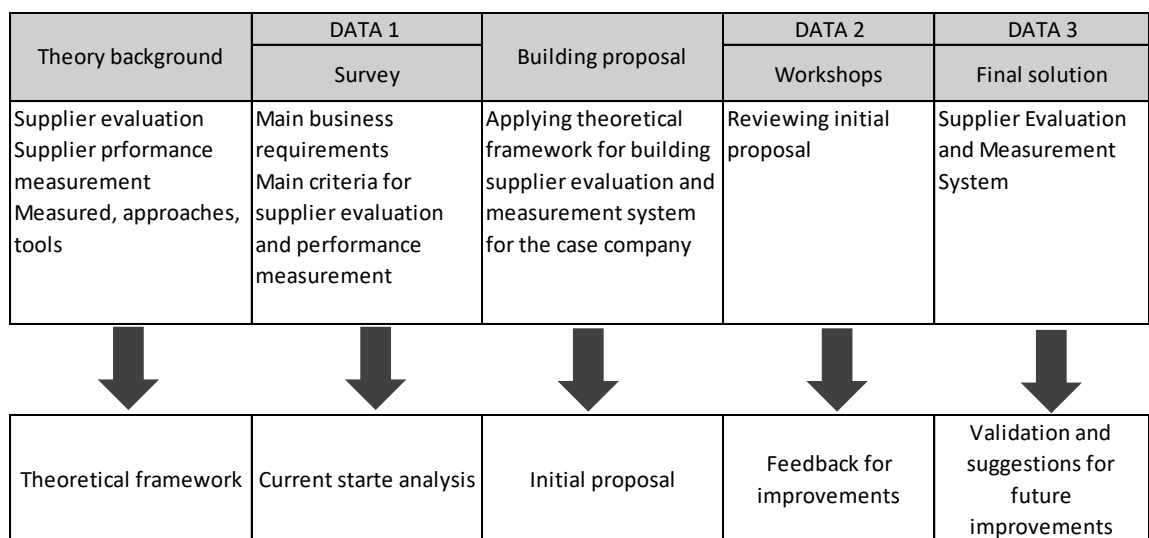


Figure 1. Research design.

After the research objectives based on business challenges were set, academic literature related to supplier evaluation and performance measurement was reviewed and analysed. The aim was to investigate the process and practices related to the supplier evaluation and identify what should be considered when evaluating potential suppliers prior to the selection. Another purpose in this phase was to investigate different supplier performance measurement approaches and tools described in the literature and identify relevant measurement systems for the case company. As a result, a theoretical framework for the research was developed.

Literature review provided background information also to the next phase for the semi-structured survey, which was conducted to investigate current practices regarding supplier evaluation and performance measurement in different categories. The survey enabled me to identify the main business requirements and criteria for supplier evaluation and performance measurement at the case company.

In the third research phase a theoretical framework was applied to build a proposal for the case company. In this phase the process with guidelines and templates as well as the tool for supplier evaluation prior to the selection were created. Also, a proposal for the supplier performance measurement system was developed.

In the fourth phase developed proposals were presented at the workshops to COO and category managers to receive feedback and ideas for possible changes. Final solution was validated on the fifth phase along with the COO's and category managers' feedback.

## 2.3 Data Collection

I have collected silent knowledge and information about current ways of working from the case company's category managers as they are responsible for selecting new suppliers and managing supplier relationships. The case

company's categories are different in size and nature. Some categories are more focused on own brand production with strong seasonal focus. While some categories deal with highly competitive trade items and import contracts serving the fast-moving consumer goods (FMCG) sector. It was therefore important for the research to engage all category's managers to this development work. I deepened my understanding about development needs and expectations through conversations and workshop with the COO who is responsible for contract management. According to Merriam & Grenier (2019) it is "important to select a sample from which the most can be learned" (Merriam & Grenier 2019, 14).

Data for this research was collected in three rounds presented in Table 1. I have followed GDPR rules and principles along the process of collecting, processing, and analysing the research data.

Table 1. Data collection table.

Participant/role	Data type	Topic	Date	Documented
DATA 1/ for the current state analysis				
Category Manager A	Survey	Supplier evaluation criteria and practices. Supplier performance measurement.	30.1.2023	Survey answers
Category Manager B	Survey		30.1.2023	Survey answers
Category Manager C	Survey		31.1.2023	Survey answers
Category Manager D	Survey		30.1.2023	Survey answers
DATA 2/ from proposal building				
COO	Workshop	New strategy, vision, business requirements. Findings from data 1, initial proposal.	4.4.2023 1 hour	Field notes
Category Manager A	Workshop	Findings from data 1, initial proposal.	10.4.2023 1 hour	Field notes
Category Manager C				
Category Manager B	E-mail correspondence	Findings from data 1, initial proposal.	10-13.4.2023	Written feedback
Category Manager D				
DATA 3/ from validation				
Category Manager A	Feedback survey	Final solution; suggestions for improvements.	27.4.2023	Survey answers
Category Manager B				
Category Manager C				
Category Manager D				

To map the current situation, I conducted a web survey (e-lomake) that was sent to all four category managers of the case company. The purpose was to investigate and understand the research topic from category managers' point of

view. Questions for the survey were derived from reviewed literature and can be found from Appendix 1.

As I, the researcher, had been working at the case company's procurement for several years, I already knew that there were no common practices defined for supplier evaluation and selection process nor performance measurement. Through chosen survey questions my aim was to investigate what aspects category managers find relevant when evaluating prospective suppliers prior to the selection and what practices they use in the evaluation process. I also wanted to identify how suppliers' performance is currently being monitored and understand specific factors that participants consider as excellent and poor performance. Web questionnaire instead of interviews was chosen for the data collection method due to time limitations. Results of collected data for the first data collection round (data 1) are analysed in Section 4.1.

Second data collection round (data 2) includes the feedback and improvement suggestions received from the proposal workshops. Developed proposal derived from the theoretical framework was presented together with information collected from the survey (data 1) to COO and category managers. The purpose was to get managerial insight to the process and ensure that the proposal is in correspondence with the case company's new strategy, vision, and business requirements. Another purpose was to discuss survey results (data 1) with category managers to confirm validity of collected data.

Workshops followed the PowerPoint presentation that can be found in Appendix 2. As two of the category managers were unable to attend the workshop, they received workshop materials with explanations by email and gave comments and feedback also via email. Proposal with feedback is presented and analysed in Section 4.2.

Third data collection round (data 3) comprises collected feedback from category managers about the final solution. Feedback was collected anonymously via e-survey (e-lomake) and results are reflected in Section 5.2.



## 2.4 Metrics

Objective of this research is to establish common practices for supplier evaluation and selection process for the case company. The aim is to identify relevant criteria and tools that could be used to recognize the best possible suppliers. Second objective of this research is to determine the most appropriate supplier performance measurement approach and tools and develop a supplier measurement system that would be suitable for the case company. Therefore, success of this research can be measured through set metrics presented in Table 2.

Table 2. Research metrics.

Supplier evaluation and selection process, practices, and tools in place.	YES/ NO
Supplier performance measurement system in place	YES/ NO
Stakeholder feedback	Survey results

Set metrics of this research were reviewed and analysed in Section 5.2.

## 3 Theoretical Framework

This chapter provides an overview of the key concepts and findings from the literature regarding supplier evaluation and performance measurement. The chapter is divided into eight sections. Sections 3.1, 3.2 and 3.3 concentrate on the supplier evaluation and selection process and analyse different aspects that may be valuable to assess when evaluating supplier's suitability for an organisation. As a result, a theoretical framework that will be used for the supplier evaluation and selection process at the case company is presented. Section 3.4 introduces Supplier Performance Measurement and Section 3.5

reviews supplier segmentation practices. In Sections 3.6 and 3.7 different approaches and methods of the supplier performance measurement are reviewed and analysed. Section 3.8 reviews best practices of the process of designing the performance measurement system. The chapter ends with the framework of the process for developing a supplier performance measurement system for the case company.

### 3.1 Supplier Evaluation and Selection Process

Supplier evaluation is the process of assessing the suppliers' fit for the company. Supplier evaluation is conducted when assessing potential suppliers in the selection process, and when monitoring and evaluating current suppliers' performance with the purpose of improving it. (Iloranta & Pajunen-Muhonen 2018, 236.)

Suppliers are evaluated prior to each purchasing decision, either consciously or subconsciously, to assess risks, supplier's reliability, and abilities to meet company's requirements. The overall goal is to reduce risks and maximise the value of the chosen supplier to the company. The more complex and long-term procurement is in question, the higher is the value of a detailed and comprehensive supplier evaluation process. (Iloranta & Pajunen-Muhonen 2018, 234-236.)

Prior to the supplier assessment and qualification, it is necessary to define what is needed from suppliers. While the definition of the need may be not completely finalised yet, it is very important that it is derived from business needs and objectives. Throughout the process of supplier evaluation and qualification it is important to focus on requirements that are relevant to the purchase. (Monczka & al., 2020, 254.)

Supplier evaluation and selection process consists of several steps and there are different approaches that can be used. Depending on the situation, the process can be conducted through a simple questionnaire to collect general

information from a supplier, or it may be a detailed process with comprehensive evaluation. (Gordon 2008, 70.)

Supplier evaluation and selection process begins with the pre-qualification phase where the purpose is to reduce the list of potential suppliers with those who do not meet the company's main business requirements. Pre-qualification criteria may for example be location, turnover, certain certificates, or any other factors that are relevant for the purchase. This kind of basic information is usually available online or can be obtained from potential suppliers through Request for Information (RFI). (O'Brien 2019, 302-304.)

When contacting potential suppliers for the first time it is good to consider why a supplier would choose your organisation as a customer. It is important to pay attention to the communication from the beginning. What is needed and how those needs would fit to the supplier's assortment should be communicated and explained to potential suppliers in a clear manner. Sharing short company presentations would help a supplier to identify what potential the organisation can possibly offer. (Iloranta & Pajunen-Muhonen 2018, 243-244.) As there are very different product groups at the case company, it would be beneficial to prepare category specific company introductions to each category. It would enable us to communicate the most relevant information to potential suppliers in a clear and attractive manner.

As different departments have different needs and priorities, it is important to make sure that these distinct priorities are considered when evaluating and selecting suppliers. This is crucial especially in complex purchases and using the cross-functional team in the evaluation and selection process ensures that all needed requirements are properly reflected in the evaluation process. (Johnsen & Howard & Miemczyk 2014, 41.)

While it is crucial for complex purchases, engaging different functions to the supplier evaluation process is essential also for the case company. As drop-shipping is an important business function, it is important to ensure that for

example logistical requirements are considered to meet e-commerce priorities. There may also be a need to reflect ethical aspects to meet certain sales priorities (e.g., traceability of wool may be only one customer's requirement but may lead to substantial loss of sales in the small domestic market).

When evaluating potential suppliers in the pre-selection phase it is useful to consider some basic factors like supplier's size, scale of internationality, reputation, references, and financial condition. It may also be good to evaluate supplier's business environment in terms of industry's competitiveness and viability and assess supplier's local economic and political factors that may affect the business. Evaluating the relevance of requested product to the potential supplier and investigating supplier's market strategy may also give valuable information for the supplier elimination process. (Iloranta & Pajunen-Muhonen 2018, 237-238.)

As retail chains are an important customer group for the case company, it is essential to choose the suppliers with sufficient capacity and resources to be able to meet retailers' needs. On the other hand, big suppliers have higher minimum order quantities and longer lead times, which is not an easy equation for the small Finnish market. In the business relationships with bigger suppliers the case company has also suffered from slow responsive times and poorly shared information about changes. Both have increased the workload and costs as working with retailers' weekly demand is fast and tolerance for changes and errors (e.g., new ean-code, different packaging size) is zero. Therefore, it is very important for the case company not only to evaluate the supplier's size and capacity in terms of its customer needs but also consider advantages and disadvantages of relative size differences in the relationship.

Before going further in the evaluation process Monczka & al. (2020) highlight an importance of ensuring that potential suppliers have fundamental elements in place to be able to meet the company's requirements. These are typically financial strength, proven manufacturing capability, capable and supportive

management, adequate facilities, and skilled personnel. (Monczka & al. 2020, 260.)

After the pre-selection phase potential suppliers, who can offer what company is looking for and are interested to proceed, are requested for proposals (RFP). The purpose is to evaluate prospects' operational and technical competences, capacity and how they fit for the company's needs. By asking non-binding proposals, where the business need is not too strictly described, it is possible to utilise potential suppliers' strengths and get new insights and ideas for the needed solution. (Iloranta & Pajunen-Muhonen 2018, 234, 253.)

Left prospective suppliers are then evaluated and compared based on more detailed quotations (RFQ) about the prices, quantities, delivery terms and other comparable specifications required by the company. (Iloranta & Pajunen-Muhonen 2018, 235.)

Tendering process can be formal or informal and the supplier may be selected based on recommendation or previous relationship. Van Weele & Rozemeijer (2022) however indicate a threat of choosing a supplier based on friendly relationship as it may lead to the situation where the supplier is not as competitive as assumed to be. Formal tendering therefore brings transparency and enables investigating potential suppliers from different aspects to find the best possible supplier and avoid unpleasant surprises. (Van Weele & Rozemeijer 2022, 45-46.)

Depending on how complex the procurement case is in question, there may be a need for further assurance about suppliers' abilities to meet needed requirements. Suppliers who were successful in the quotation comparison, may be evaluated also at the proposal presentation meeting, conducting due diligence and personal visits to the supplier's premises. Supplier presentations and personal visits may provide valuable information not only about supplier's products, processes, and capabilities but also about people and their working

culture. Personal visits to the supplier play an important role especially when looking for a long-term or strategic partner. (O'Brien 2019, 305, 308.)

What factors to evaluate and how to rate different aspects in the evaluation process depend on the nature of the procurement and are related to set requirements. In familiar, simple, and short-term purchases there is no need to put too much time on the evaluation process and price may be enough to make the final decision about the supplier. In today's rapidly changing world there are however many other factors to consider that may have long-term affect to company's operations and total cost. (Iloranta & Pajunen-Muhonen 2018, 239.)

### 3.2 Supplier Evaluation Criteria

There are different factors presented in the academic literature that may be useful to consider when evaluating potential suppliers prior to the selection decisions.

Monczka et al. (2021) suggest evaluating management capability; employee capabilities; cost structure; total quality performance, systems and philosophy; process and technology capability; sustainability and environmental compliance; scheduling and control systems; e-commerce capability; supplier's sourcing strategies; policies and techniques; longer-term relationship potential (Monczka et al. 2021, 268-276).

According to Lysons & Farrington (2020) prospect suppliers' assessment should be completed "at least from ten perspectives: finance; insurance; productive capacity and facilities/service support capability; quality; health and safety; environmental management; existing contracts held and performance thereof; organisational structure and key personnel; sub-contracting; procurement capability and supply chain management" (Lysons & Farrington 2020, 339).

The most critical factors to evaluate suppliers fall under quality, cost/price, and delivery (Monczka et al. 2021, 268). Johnson et al. (2011) considers quality,

quantity, delivery, price and service as the fundamental criteria for supplier evaluation (Johnson & Leenders & Flynn 2011, 333).

Quality can be evaluated in terms of the degree to which set requirements are met. It is useful to assess suitability, benefits and potential risks related to proposed solutions and suppliers. The most potential suppliers may be also required to evaluate possible risks related to their proposals and ask them to provide the prevention plan for these. (Iloranta & Pajunen-Muhonen 2018, 240, 253.)

The price should be assessed in terms of the value the supplier is offering as well as other costs related to the purchase, in short- and long-term. (Iloranta & Pajunen-Muhonen 2018, 240.) Monczka et al. (2021) emphasise also considering the risk factors when evaluating the price/cost. Proposals of a small supplier with highly competitive price/cost may come with high risk. Smaller suppliers may have difficulties to scale their business fast enough to be able to support the growing requirements of a purchasing company. (Monczka et al. 2021, 263.)

To avoid risks and unpleasant surprises potential supplier's financial condition should be evaluated in more detail before making the final decision. Financial ratios like profitability, liquidity, asset and debt management ratios and their development over years tell how the supplier is performing. (Lysons & Farrington 2020, 341.) It is also useful to compare these ratios with industry's average to evaluate how suppliers are performing compared to competitors and why so (Iloranta & Pajunen-Muhonen 2018, 240).

When comparing potential suppliers, it is worthwhile to evaluate if required knowledge and experience belong to supplier's core competencies and do they possess all needed process and technological capabilities needed for the purchase. (Monczka et al. 2021, 270.) As focusing on own brands is part of the case company's new strategy and involves new product development,

evaluating supplier's abilities to offer support for the product development is one valuable factor to assess.

Increasingly important issues today are sustainability and social responsibility. Besides being able to respond to tightened regulations and increased demands from consumers' side, actively developing sustainability practices are today seen as valuable building blocks towards competitive advantage and higher brand value. Suppliers have an essential role in this value chain and there may be a need to add some sustainability criteria to the qualification process. (O'Brien 2021, 9-11.) It would be beneficial for the case company to create a Code of Conduct. The document could be shared with potential suppliers in the evaluation process to communicate the company's ethical and environmental values and principles.

Especially when looking for long-term relationships with suppliers it is useful to also evaluate management capabilities, ask about their professional experience and long-term goals for the business. It is worth investigating how they invest in the development of products, people, and technology to stay competitive and growing. (Iloranta & Pajunen-Muhonen 2018, 240.)

### 3.3 Supplier Evaluation Tool

Structured supplier evaluation tool enables objective comparison between potential suppliers before the final decision. Supplier evaluation criteria should be determined and weighted prior to the selection process based on their importance to the purchase. (O'Brien 2019, 306.) Simple evaluation tool, adapted from O'Brien (2019) is presented in Figure 2. This tool could be suitable for the case company as evaluation criteria and weighting can be easily modified according to specific needs of each category and purchase.



<b>Evalauation criteria</b>	<b>Weighting</b>	<b>Max score</b>	<b>S1</b>	<b>S2</b>	<b>S3</b>
<b>1.</b>					
<b>2.</b>					
<b>3.</b>					
<b>4.</b>					
<b>5.</b>					
<b>Totals</b>					
<b>Summary evaluation</b>					
<b>Supplier 1</b>	<b>Supplier 2</b>		<b>Supplier 3</b>		

Figure 2. Supplier selection evaluation (adapted from O'Brien 2019, 468).

Based on reviewed literature presented in previous chapters, it can be summarized that by evaluating potential suppliers from different aspects helps to identify the best suppliers - those who can best match or even exceed the business needs; those who not only fulfil what is required at competitive cost but also have an ability to reduce the impact of economic uncertainties on the supply chain. Supplier assessment helps to identify those suppliers who can support current and future trends enabling the case company to concentrate on its core competences. Supplier assessment process enables to better mitigate risks and maximise the overall value of chosen suppliers to the company. I will use below steps (Figure 3), adapted from previously presented literature as a basis for developing the process and practices for choosing the best possible suppliers at the case company.

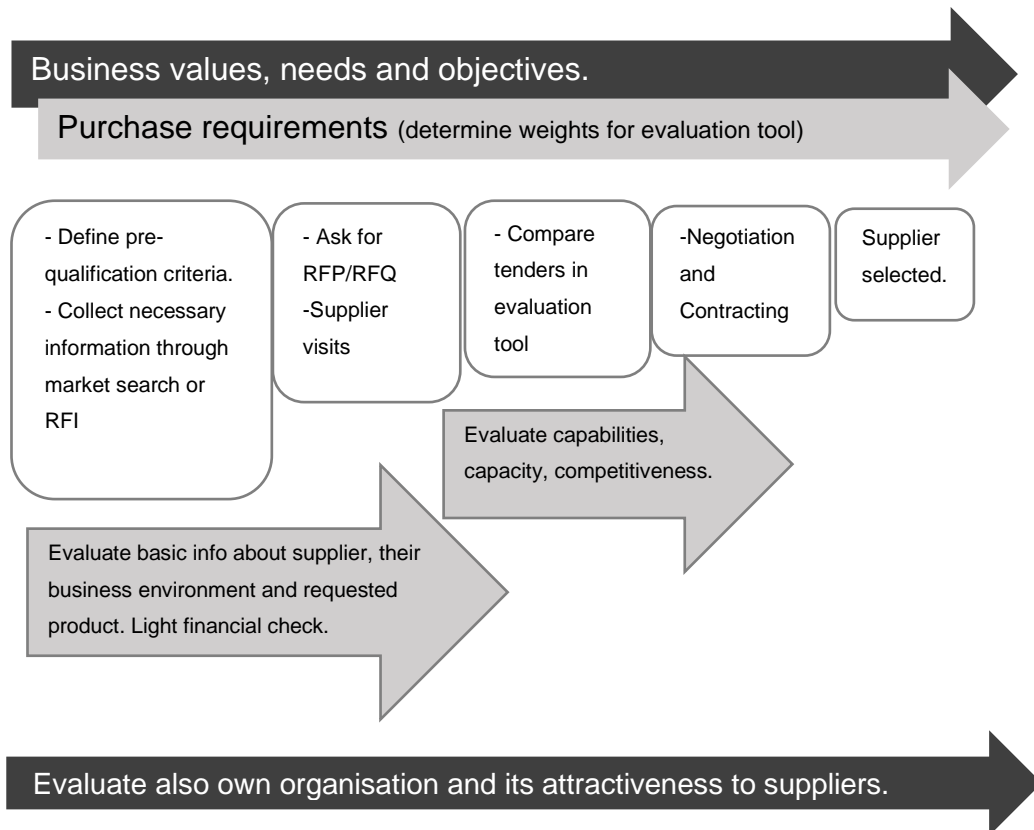


Figure 3. Framework for the supplier evaluation and selection process.

After the supplier is selected and contracts are in place it is expected that the supplier is performing according to set requirements. The focus of evaluation will be on monitoring and improving supplier's performance. (Monczka et al. 2021, 282.)

### 3.4 Supplier Performance Measurement

Supplier performance measurement (SPM) is part of supplier relationship management (SRM), that is forward-looking comprehensive approach with the purpose of finding new value and competitive advantage through continuous development of collaborative relationships with key suppliers (Monczka et al. 2021, 328, Van Weele & Rozemeijer 2022, 238).

Suppliers' performance has a direct impact on the company's overall performance. Poor performance may lead to increased costs, decreased profitability and customer satisfaction (Monczka et al. 2021, 293). The case company has suffered due to quality problems and delivery delays of certain

suppliers. Solving quality problems has demanded lots of extra time and effort and increased cost. Delivery delays have negatively impacted profitability as for example leftover seasonal goods were forced to take back to be stored till the next season.

Managing suppliers' performance increases performance visibility. This increases an understanding of supplier's performance and enables companies to act proactively and take preventive actions. Therefore, suppliers' good performance is reflected in lower cost and higher quality. Supplier performance management enables companies to invest resources on value-adding activities helping to identify opportunities and achieve competitive advantage. (Gordon 2008, 4-5.)

Gordon (2008) uses the term supplier performance management, instead of measurement, and defines it as:

*the process of evaluating, measuring, and monitoring supplier performance and suppliers' business processes and practices for the purpose of reducing costs, mitigating risk, and driving continuous improvement (Gordon 2008, 5).*

To be effective, measurement should serve a defined purpose and add value. Therefore O'Brien (2022) defines supplier performance measurement as a business-wide approach that should be aligned with business strategy and reflect business objectives. (O'Brien 2022, 119.)

Alignment with business strategy and goals is highlighted also by other writers in the academic literature. Gordon (2008) for example stresses that if performance measurement is not derived from business needs and strategy there is a danger of measuring wrong factors and driving wrong or unintended behaviour (Gordon 2008, 24).

### 3.5 Supplier Segmentation

Not all suppliers are equally important to the organisation, and this should be considered when deciding on what supplier performance measures and approach to use. In simple supplier relationships monitoring critical issues like quality, quantity, timely delivery, and communication may be enough. In closer, more complex, and long-term relationships the focus of evaluation is extended to supplier's abilities to solve problems and offer continuous cost-reduction. For the most important and strategic suppliers the aim is to assess supplier's progress towards commonly set objectives. (Iloranta & Pajunen-Muhonen 2018, 312, 316.)

The purpose of the segmentation is to identify those suppliers who may be able to add value through improved performance and could help the company to be more competitive. It is also essential to identify suppliers who may generate risks that need to be observed and avoided. Typical way to approach the supplier segmentation is to consider the spend and risk factors. With the help of Pareto 80/20 rule, it can be identified suppliers who fall under top 20 percent of company's spend, or category's spend if the approach is category specific. Suppliers risk level can be identified in terms of the impacts of the supplier's poor performance to the business. (Gordon 2008, 58-59, 65.)

Kraljic's matrix is one of the most mentioned models in the literature that can be used as a basis for supplier segmentation. In this model suppliers are divided into quadrants based on their impact to the profit and complexity of the supply market (Figure 4). Strategic suppliers are those whose products or services add value to the business and its long-term goals and whose poor performance can cause damage to the company and its customers. In the leverage quadrant volumes and competition are high and the focus is on seeking to use a company's purchasing power to negotiate favourable terms and conditions with its suppliers. In the bottleneck quadrant there are usually fewer suppliers who provide goods or services that are critical to the company. Although volumes are small here, dependency is high, and if a supplier has problems, it may

cause delays and impact the overall supply chain. Noncritical suppliers provide goods or services that are not critical or high risk to the company and are easy to replace. (Gordon 2008, 59-60, Iloranta & Pajunen-Muhonen 2018, 119-122.)

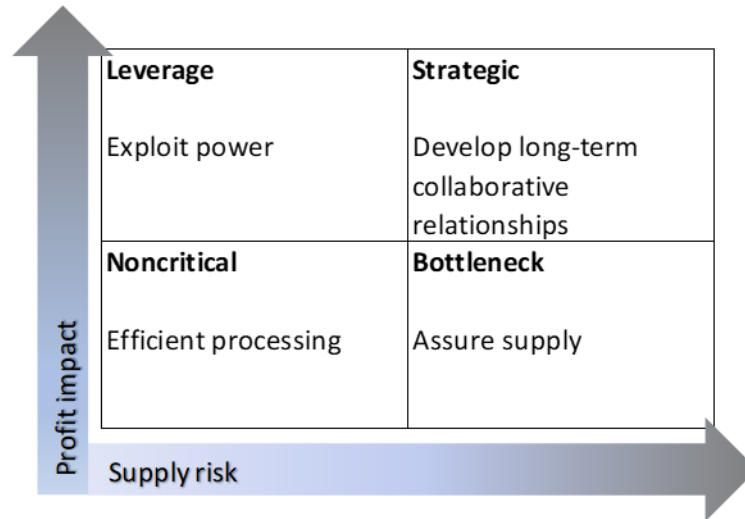


Figure 4. Classic supplier segmentation model (adapted from Gordon 2008, 60).

O'Brien (2022) uses pyramid model to describe four types of measurement approaches to apply based on supplier's importance to the company (Figure 5). Supplier's importance is driven by many different factors that can be grouped under risk, difficulty of what is being sourced, alignment between parties, current importance, and future importance. As organisations have different needs and objectives, it is unique to each organisation what supplier segmentation criteria would best enable them to identify the importance of a supplier. (O'Brien 2022, 84-91, 120.)

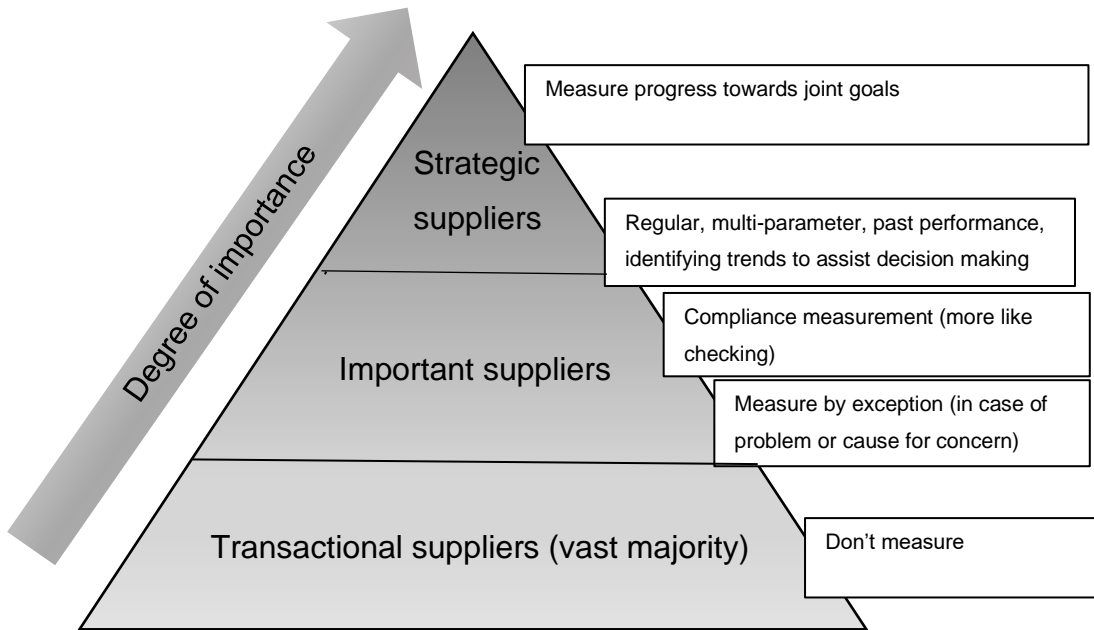


Figure 5. Measurement approaches according to supplier importance (adapted from O'Brien 2022, 121).

The case company has currently not segmented its supply base. As supplier performance measurement requires time and resources and the target organisation is relatively small, it is very important to identify the most important suppliers, those whose poor performance can cause damage and who can potentially add value through increased performance. Each of the target organisation's categories is different in size and nature and supplier segmentation inside each category demands category specific market and supplier understanding. Pareto 80/20 rule would provide an easily approachable tool for category managers to identify 20% of the suppliers accounting for top spend of the category. By further analysing opportunities and risks of each supplier, category managers could segment the supply base and identify strategic and important suppliers of their category.

### 3.6 Performance Measures and Indicators

Monitoring and assessing suppliers' performance in terms of the most critical factors such as agreed quantity, quality, price, and delivery time is always essential because corrective actions demand extra time and effort and increase cost. Errors should be documented and feedback about corrective actions and possible improvements should be given to the supplier. (Iloranta & Pajunen-

Muhonen 2018, 312.) Monczka et al. (2021) also highlight an importance of informing suppliers about recognised poor performance of critical factors immediately to avoid further negative impacts (Monczka et al. 2021, 330).

Tracking and measuring price related factors that everybody can see and understand is beneficial and may lead to price reductions. But identifying and minimising or eliminating cost drivers from the supply base have even bigger return on investment. Identifying measurable elements of the cost of poor supplier quality helps to reveal which metrics would provide an understanding about the actual cause of the problem, who is driving the most cost and which corrective actions are needed. (Gordon 2008, 9.)

Beside above mentioned most critical supplier performance measures, importance of also measuring suppliers' abilities to innovate and help in developing new products and processes have increased (Monczka et al. 2021, 329, 824). Innovation has a significant role in achieving competitive advantage. Finding ways to use the knowledge and expertise of supply base demands close and awarding collaboration with carefully selected best-in class suppliers. (Van Weele & Rozemeijer 2022, 278-279.)

Majority of performance measures are based on suppliers' past performance while it would be even more beneficial to measure factors that demonstrate how effective suppliers will be in the future and how extensive will be their contribution towards helping organisations to achieve their business goals. As such measures do not exist it is important to use chosen measures to help to determine whether the direction is right. Using the information obtained through the combination of different measures, referred to as indicators, may provide more useful information than a measure alone. So called lagging indicators demonstrate past performance and provide information to leading indicators that help to predict future trends. (O'Brien 2022, 147-148.)

Performance indicator is a result of performance measurement, concentrating on factors that are considered more important in terms of achieving needed

results and providing feedback about the progress towards set objectives. It is suggested to use a minimum number of performance indicators and define only the most critical ones. It is also important to make sure that chosen measures are specific, measurable, achievable, realistic, and time-based (SMART). Even though performance indicators provide information about unmet objectives, they do not necessarily reveal the reasons behind poor performance. There may be for example poorly communicated change in specifications or unrealistic expectations towards the supplier. (Franceschini & Galetto & Maisano 2019, 134-135, 171.)

O'Brien (2022) therefore highlights an importance of monitoring and understanding also how the company itself is performing in the relationship with the supplier. Poor communication, insufficient forecasting, cancellations, late payments and problematic interpersonal relationships have a negative impact on the co-operation and may cause supplier's defensive behaviour. It is important to listen to the supplier and ask them to give suggestions and improvement ideas about how to make cooperation more effective. This type of two-way measurement may be necessary especially in important supplier relationships that demand a high level of collaboration. (O'Brien 2022, 152.)

### 3.7 SPM Approaches and Methods

This chapter reviews different supplier performance measurement approaches and methods described in the procurement literature.

Supplier performance can be assessed using qualitative and quantitative methods. Qualitative evaluation is mostly subjective and is based on how stakeholders, who are in contact with the supplier, perceive the supplier relationship and their performance. Stakeholders are asked to evaluate supplier's performance in terms of quality, delivery, communication, flexibility, how they react to problems and requested corrective actions. Information for pre-set questions is gathered in a structured way and feedback is given to the supplier. (Van Weele & Rozemeijer 2022, 248.)



Johnson & al. (2011) describe this type of assessment as informal and semiformal evaluation and rating. It is a quick and convenient way to evaluate and give feedback to existing suppliers in smaller organisations where there is daily interaction between procurement employees and suppliers. More complex buyer-supplier networks demand more formal performance evaluation methods that are based on actual supplier performance data. (Johnson et al. 2011, 354-355.)

Actual supplier performance measurement is based on information collected through quantitative supplier performance data and falls under most critical areas such as delivery, quality, and cost/price. Delivery performance data can be collected and rated based on set requirements on purchase orders about quantities, lead-times, and delivery accuracy (late/early deliveries). Suppliers' quality performance can be assessed based on defect rates and reclamations. Suppliers price history provides accessible figures for competitor comparison with the aim of cost-reduction. (Monczka et al. 2021, 329, 769.)

Despite its objective nature even formal supplier evaluation and rating approaches have some degree of subjectivity. Monczka et al. (2021) describe three commonly used supplier performance measurement systems. The most fundamental and easiest to implement is the categorical approach where different performance levels are described and assigned a category rating such as excellent, good, fair, or poor. As categories are not clearly defined this approach is the most subjective and does not provide precise information about supplier's performance. (Monczka et al. 2021, 331-332.)

More objective and reliable is a weighted-point system that assigns points and scales to every factor and every rating. This system enables combining quantitative and qualitative factors into one system and allows supplier ranking. Weighted-point approach is flexible as it is easy to change performance categories and their weighting based on what is relevant to the company and purchase. To decrease subjectivity, it is important to engage different functions in the process of determining weights. While this system requires some

computer support, implementation costs are still reasonable, and the approach is suitable for different types and sizes of companies. (Monczka et al. 2021, 331-332.) Due to its flexibility, easy to understand and use, weighted-point system would be suitable for the case company's supplier performance measurement system. Common measurement system with adjustable performance categories would benefit the case company's different categories and product groups the most.

The most comprehensive and least subjective measurement approach is the cost-based system. The aim of this approach is to identify the total cost of dealing with a supplier. This requires either a highly capable information system or separate cost accounting system and is suitable for bigger companies with a vast supply base. This approach has the greatest potential for long-term supplier performance improvement. (Monczka et al. 2021, 331-332.)

According to the literature, scorecards are the most common method of collecting and presenting supplier performance data (Gordon 2008, 113). Scorecards provide periodic updates about the supplier performance progress through carefully chosen KPIs. Scorecard in SPM is derived from the Balanced Scorecard developed by Kaplan and Norton in 90's. Balanced Scorecard is an organisation-wide performance measurement approach that beside financial indicators consider non-financial factors that help companies to achieve success. (O'Brien 2022, 126.) According to Gordon (2008) it is very important that supplier performance measurement is balanced, demonstrating the performance from more than one category and includes lagging as well as leading indicators to the scorecard (Gordon 2008, 80).

Another way to present measurement information is using a dashboard that aims to provide real-time summary of supplier's performance or overall progress towards specific objective. Despite the choice of how to present measurement results, most important is that chosen measures and KPIs are "visible to the right people, or at the right points in the process, at the right time to enable action and intervention as needed." (O'Brien 2022, 139, 166.)

Necessary data for KPIs can be collected through company's systems such as ERP or procurement software, via specialist providers or via some other online tool designed for performance measurement data collection (O'Brien 2022, 160).

### 3.8 Developing SPM System

Developing an effective performance measurement system includes a general sequence of activities. The process starts with determining which performance categories to measure and continues with developing specific performance measures to chosen categories. The following step comprises establishing performance objectives to each category and deciding about system details like reporting frequency, system training and how the system output will be used. Before the final implementation, it is good to test the system. Chosen performance measures as well as the measurement system should be checked on a regular basis. (Monczka et al. 2021, 777-782.)

O'Brien (2022) describes a circular closed loop measurement system, presented in Figure 6, as the basis for any effective performance measurement system. In the closed loop performance system, the aim is on continuous improvement that is achieved through continuous measuring, feedback and acting upon that feedback. (O'Brien 2022, 137-139.)

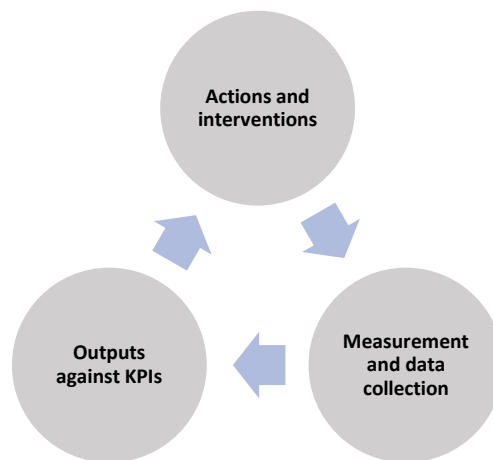


Figure 6. Closed loop measurement system for SPM (adapted from O'Brien 2022, 137)

Many measurement systems fail because the effort is on measuring wrong and too many things. To avoid that, it is important to first understand what is needed from suppliers, define what is aimed to achieve and how these measures will be used to achieve desired results. Supplier performance measurement systems should be designed around the needs and goals of the organisation. According to O'Brien the design of the system is dependent also on the characteristics of the supply base and demands a supplier-specific approach. Besides aligning performance measures to the company's goals and objectives, they should be in accordance with the supplier's role in the supply chain and produce meaningful results. (O'Brien 2022, 137-140.)

O'Brien suggests going through a five-step process for developing supplier-specific performance measurement approaches. The first step is to determine what the organisation is trying to achieve through measuring the supplier. There should be clearly defined objectives that represent the organisation's needs from the whole supply base and supplier-specific aims that are derived from supplier segmentation, determining the degree of collaboration needed to pursue selected goals. The second step is to define supplier-specific requirements and targets that are extracted from business and relationship requirements. Important here is to choose only the most beneficial targets. The third step is about determining key performance measures and indicators that will provide the most meaningful information on how set requirements and targets are met by the supplier. The fourth step starts with deciding what data needs to be collected and analysed to support chosen KPIs and achieve desired results; and continues with how and from where this data is collected and analysed. The final step in the process of developing an SPM system for a supplier is to create the most effective way to present chosen measures and KPIs. This information should be attainable to the right people, at the right time and in understandable form so it is easy to see how the supplier is performing and what corrective or development actions are possibly needed. (O'Brien 2022, 142-146.)

According to Gordon (2008) a good supplier performance measurement should be meaningful, valuable, balanced, linked, practical, comparable, credible, timely, simple, robust and have a reasonable number of metrics. Gordon (2008) proposes a seven-step process for developing a good supplier performance measurement system. The process starts with segmenting the supply base and defining and aligning supplier performance goals with business goals and objectives. Next step is to determine what evaluation approach would be most suitable to use. In the following phase it is important to first define the most critical performance areas and supplier performance expectations for each segment, and then identify specific metrics related to these expectations. When metrics and KPIs have been chosen it is time to design a scorecard and determine where and how needed information for KPIs and scorecards will be collected. Final steps concern deciding on how often and in which way the feedback about performance will be given to a supplier, and how SPM data will be used. (Gordon 2008, 27, 42-55, 80-81.)

Importance of using a closed loop performance system for SPM for it to be effective is also highlighted by Gordon (2008), suggesting following the continuous improvement model of Plan – Do – Check – Act (PDCA) for the supplier performance management process illustrated in Figure 7. (Gordon 2008, 180.)

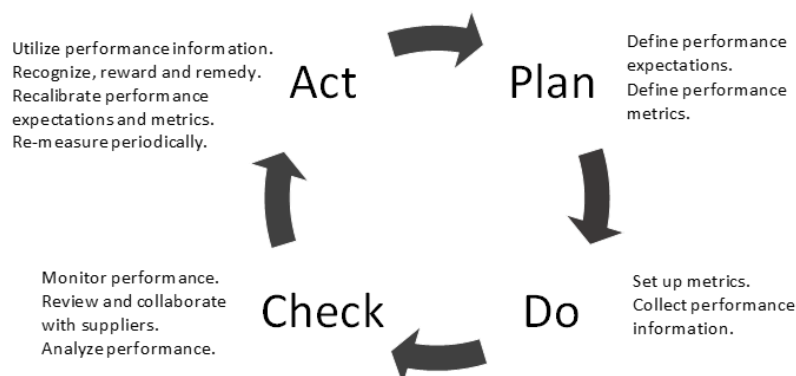


Figure 7. Supplier performance management process (adapted from Gordon 2008, 180)

There are many similarities in previously presented approaches for developing a supplier performance measurement system. Biggest difference lies in O'Brien's (2022) emphasis on supplier-specific approach and will be considered also when building SPM system for the case company due to case company's different category needs. The framework that will be applied for the case company in developing the supplier performance measurement system will follow the process presented in Figure 8.

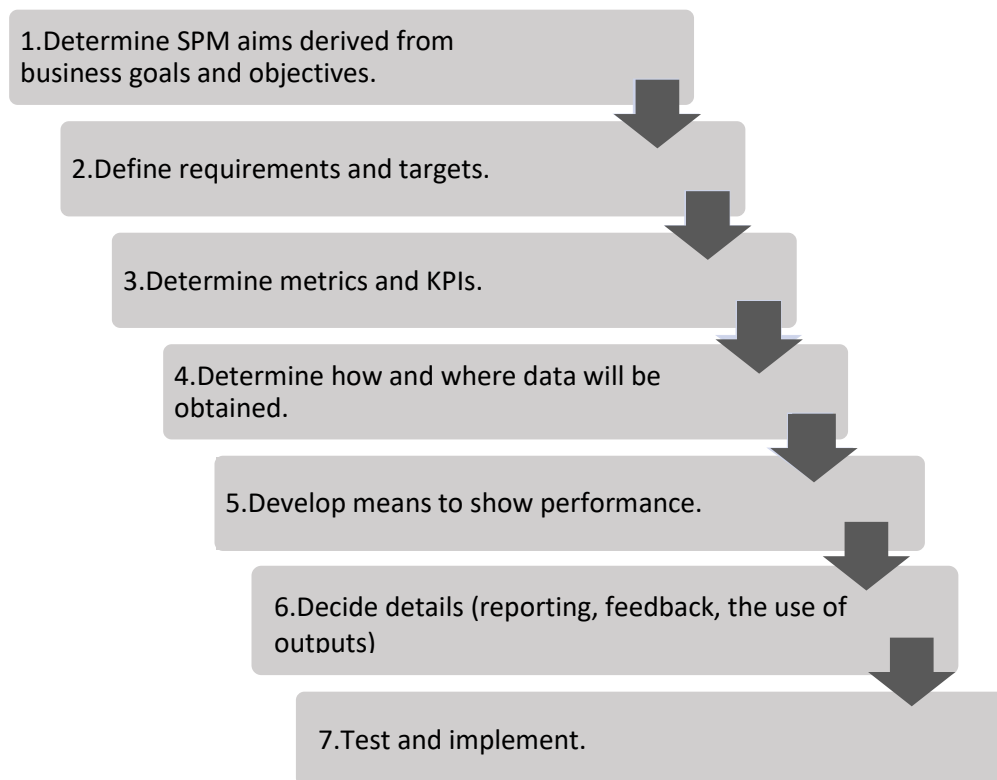


Figure 8. Framework for the process of developing SPM system (adapted from O'Brien 2022, Gordon 2008, Monczka & al. 2021).

PDCA model will be used as a framework to grant continuous improvement to the SPM process at the case company.

## 4 Developing the Proposal for the Case Company

This chapter draws together the results and analysis of the data collected from the first two data collection rounds (data 1, data 2).

## 4.1 Current State Analysis

Through my own experience as working at the case company's Health & Beauty category for several years, I was aware of the current situation in general and knew that there were no common practices defined for supplier evaluation and selection process nor supplier performance measurement. But the case company's categories are different. Some categories, like Fishing and Home, are more focused on own brand production with stronger seasonal focus. While some categories like Health & Beauty, Food and Pet deal with highly competitive trade items and import contracts serving the fast-moving consumer goods (FMCG) sector. This sets different expectations and requirements also towards suppliers. Results of the first data collection round (data 1) enabled me to understand what issues different category managers find relevant when evaluating prospective suppliers prior to the selection for their category, and what practices they use in the evaluation process.

Conducted surveys with semi-structured questions revealed many common as well as category specific factors that respondents consider when assessing potential suppliers prior to the selection. One of the most important criteria that was highlighted by all participants serving the FMCG sector was the supplier's ability to meet the target organisation's delivery capacity and time requirements. To be able to assess that, respondents consider for example supplier's size, financial situation and if the supplier has any big customers in other countries.

Price and quality were mentioned as important to evaluate potential suppliers in terms of the good price-quality ratio and ability to keep fixed prices as well as fixed product assortment for agreed period as working with retailers demand long-term commitment regarding these factors. Payment and delivery terms were mentioned only by one respondent.

Participants who have a longer history with own brand development highlighted the importance of good communication and finding reliable partners with long-term collaboration possibilities. Therefore, evaluating suppliers in terms of their

technical capabilities and how they could provide support and add value to the company were stressed.

Respondents informed acquiring information about potential suppliers from the Internet, industry media, straight from suppliers and their customers, (international) colleagues and from organisations like Bisnode. In case of own brand production, supplier visits and references were mentioned as important evaluation tools. One respondent also mentioned discussing with potential suppliers how suppliers see the future and perceive possible cooperation.

To the survey question of “How do you evaluate potential suppliers during the selection process”, participants gave different answers:

*Based on the values mentioned in question no. 2, (...) depending on the strategic importance of the product to the business, changing weighting of values (Participant A).*

*In case of own brands, visiting the supplier (Participant A).*

*(...), evaluating the brand, reliability, possibility for long-term cooperation that goes deeper than one deal (Participant C).*

*(...) assessing all the information I get in meetings, from the information on the internet and from the information sent by the supplier (Participant B).*

*(...) checking the market situation, (...) going through the price point for the consumer - this already eliminates many suppliers from the process (Participant D).*

From obtained information respondents store price lists, price comparisons and possible company and product presentation under Supplier's folder at the case company's shared drive. Information that is asked via email for example is stored in email, stated one participant.

Based on data collected via survey it can be stated that supplier evaluation criteria used by category managers at the case company are largely the same due to same business requirements and customer expectations, but the



weighting is dependent on the category as well as on the nature of the purchase. As each respondent also mentioned some supplier evaluation factor to consider that others did not and some have more extensive experience for example in own brand development, it would be beneficial to use all in-house expertise and knowledge and establish common guidelines with process description for the supplier evaluation and selection process.

Data demonstrates that necessary information about suppliers is obtained by participants in different manners and scattered around different places, if stored at all. This makes comparing different suppliers difficult. By engaging tendering templates that include necessary information needed about potential suppliers to the supplier evaluation and selection process, would increase the process efficiency and guarantee that relevant information about potential suppliers will be inquired. Tendering documents could also provide the data to the supplier evaluation tool that enables effective and efficient comparison between potential suppliers. Common supplier evaluation and selection process with tendering documents and evaluation tool would also support the case company's values of professionalism and quality in processes.

First data collection round also enabled me to identify how current suppliers' performance is being monitored and what factors participants consider as excellent and poor performance.

Survey results reveal that although suppliers' performance is evaluated by category managers subjectively all the time and participants know their category's good and poor performers, majority of the respondents do not keep any record or measure suppliers' actual performance because they "do not know how" to do it, and they have "no tools" to it. Participant C does not measure category's suppliers' performance because "suppliers' performance is well known without measurement (...) there are less than 10 suppliers".

Participant A answered measuring suppliers' terms, prices, and assurance of supply by making notes to oneself. According to participant D there is a will to

measure suppliers' assurance of supply, communication, price, and reliability, "but in practice it has been difficult due to lack of appropriate measurement system". The respondent stated keeping excels about reclamations, attempting to follow goods ordered/received performance data from the case company's internal system Odoo and uses e-mail conversations as a basis for monitoring how well suppliers fulfil what was agreed.

Based on respondents' answers, the most valued criteria in suppliers' performance are assurance of supply, steady prices, quality, and good communication. These qualities were all highlighted when it was asked at the survey to name the category's best performing suppliers and explain why they were chosen. Participant B mentioned supplier's "flexibility, support and active attitude towards the case company's activities and market". These results are consistent also with a survey answer to the question no. 10 where it was asked to name 1 - 2 poorest performing suppliers of the category and explain the reasons why they were named. All respondents mentioned supplier's "poor communication, unexpected price changes and late or insufficient deliveries".

Retailers measure the target organisation's performance based on assurance of supply and if the agreed order fulfilment rate is under agreed level, the target organisation will be fined. Taking into consideration that the case company has over 500 listed products in the retailers' assortment with weekly delivery demands, receiving ordered goods from the supplier on time and in full is essential. Timely deliveries do not only help the case company to meet customer expectations and increase customer satisfaction but also increase efficiency. Late deliveries may cause work overload at the warehouse, slowing down the processes and requiring extra resources to catch up. This increases cost and decreases customer satisfaction.

Competitive and steady prices are among one of the most important factors to the case company and its customers. As the case company needs to commit to certain prices for the certain period when working with retailers, it is essential that suppliers understand this and inform about price changes well beforehand.

Participants described the importance of quality especially in terms of its relation to the price. Solving quality problems, arranging returns, spare parts, refunds, and credit notes all increase cost and decrease customer satisfaction. Quantifying quality performance enables the case company to identify cost drivers and avoid/reduce cost. Quality will play even bigger roll along with the new strategy and own brand development “through increased responsibility” as highlighted by respondent A. For example, for the case company’s Health & Beauty category that operates in the cosmetics industry, quality in terms of safe and efficient ingredients, will be essential factor to closely supervise.

Well-functioning communication with suppliers is appreciated by all category managers according to the survey. As summarised by participant D: “Communication is taken for granted when it works, its importance is noticed when it doesn't work”.

It is essential that information required from suppliers is correct and received in a timely manner. Retailers demand detailed delivery and product information well beforehand, and mistakes are costly to correct. Supplier’s ability and willingness to provide support when problems occur play a significant role in achieving customer satisfaction. Overall co-operation and motivation were also considered as important to evaluate suppliers for. It was however highlighted by one participant that while supplier’s communication as well as flexibility are valuable criteria, they are “difficult to measure”.

Summary of factors that category managers consider as important to measure supplier’s performance, if measured, are presented in Figure 9 (results of the survey question no.15). Assurance of supply, Price/cost, Communication and Quality were identified as the most relevant supplier performance measurement categories as highlighted earlier. While flexibility was considered as important but not highly relevant by all category managers evenly, importance of sustainability was perceived differently. One of the participants considers sustainability as “increasingly important nowadays in terms of transparency” and another respondent states that “a certain sustainability level is required

from all suppliers”. Rest of the two participants did not consider sustainability as relevant criteria to measure supplier’s performance. Terms, reliability, collaboration, and lead times were all separate additions by different participants.

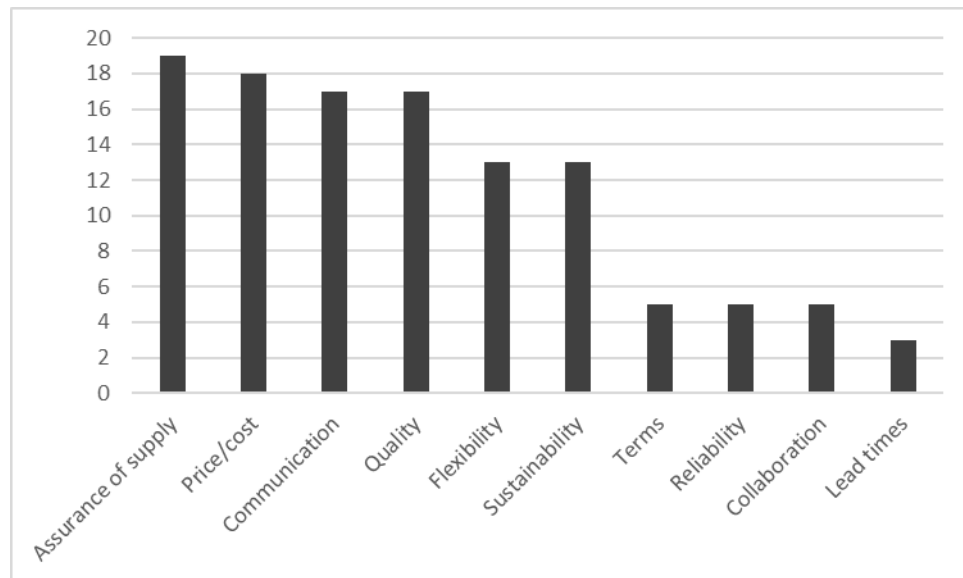


Figure 9. Summary of supplier performance measurement criteria category managers consider as important.

As supplier segmentation has an important role in supplier performance measurement like presented in Section 2.5 to be able to direct resources in the most efficient and effective way, the survey also enabled me to identify what would be the most appropriate approach to supplier segmentation at the case company. Participants were asked to identify 2-3 most important suppliers of their category and describe what makes them important. High spend was mentioned by all participants, two answers were related to the future potential, and long reliable cooperation was highlighted once.

*(...) the biggest sales, the widest distribution, and a lot of potential in the future as well (Participant B).*

One respondent identified two different important supplier groups: own brand manufacturers as strategically important and suppliers with highest spend as important among the rest of the suppliers.

Survey revealed one concerning aspect, some of the named important suppliers were also identified as the poorest performing suppliers. Two suppliers were identified as being too small, which causes late and insufficient deliveries and lots of changes without any notifications. Two respondents stated that they are considering ending the relationship with named poor performers as “it is impossible to operate with them when serving retail customers.” This leads back to the effective supplier evaluation in the selection phase to ensure that chosen suppliers have sufficient capabilities and capacity to fulfil the case company’s needs and requirements.

Two of the participants stated that in case of a supplier’s poor performance they try to identify the root cause behind the problems. One respondent also highlighted an importance of open communication in problem situation and investigating one’s own actions and processes:

*I'm trying to find out from the supplier what the real root cause of the problem is and what they plan to do about it. If the problems are not fixed or new problems keep coming up, you must think about whether the trouble, the reputational damage of being late, etc. are small enough in relation to sales/margin, or whether it is worth ending the cooperation. (Participant B.)*

Survey results provided me with a good overview of different categories' situations regarding SPM and enabled me to identify critical factors that need to be measured and monitored in suppliers' performance. There is a need to communicate our expectations to the suppliers more effectively to be able improve and develop the performance of important suppliers of each category. Common supplier performance measurement system would provide a tool for category managers to evaluate suppliers' performance in terms of the most critical factors, take preventive actions and provide valuable feedback to the suppliers that may challenge and motivate them for better performance.

Survey also revealed that there are currently suppliers on board who fail to meet the case company's main business requirements, which supports the need for more effective supplier evaluation practices prior to the selection.

## 4.2 Proposals

### 4.2.1 Supplier Evaluation and Selection

One of the aims of this research was to identify relevant supplier evaluation criteria and practices that could be used to select suppliers who fulfil the case company's needs and requirements. Theoretical framework presented in Section 3.3 was applied to build a proposal for the supplier evaluation and selection process together with an evaluation tool and were presented at the proposal workshops to COO and category managers. Workshops followed the PowerPoint presentation (Appendix 2) that was also sent to those two category managers who were unable to attend the workshop.

First, we discussed requirements that our new strategy poses in regarding finding suitable suppliers and I presented findings from reviewed academic literature together with survey results to lay grounds to the proposals. Then I presented the framework for the supplier evaluation and selection process, and we discussed the different steps and what should be considered during the process of evaluating suppliers prior to the selection. Proposed templates together with supplier evaluation tools were reviewed and discussed.

To identify suppliers who can fulfil the case company's needs and requirements theory suggested evaluating potential suppliers from different aspects through a structured evaluation process. Proposed supplier evaluation process follows below steps and guidelines.

1. Define purchase requirements.

2. Define pre-qualification criteria (location, number of employees, turnover, certificates, or any other factors that are relevant for the purchase to eliminate 80% of potential suppliers).
3. Collect necessary information through market search or RFI.

Developed RFI - template is Excel -based so that requested information can be added or removed as needed. RFI is suggested to be used for all contacted new suppliers and stored in the company's shared drive under Contacted Suppliers - folder. If a supplier is selected, RFI would provide necessary information for the case company's internal systems.

At the proposal workshop one category manager proposed that the RFI document could also include information about potential supplier's company foundation year as well as separate space for contact person's name and position. Both additions were added to the final RFI - template.

#### 4. Evaluate

- Supplier's size (if small: check dependency on other customers; consider advantages and disadvantages of big and small suppliers).
- Supplier's core business.
- Scale of internationality.
- Reputation, references.
- Supplier's business environment.
- Supplier's local economic and political factors that may affect the business.
- Relevance of requested product to the supplier.

#### 5. Eliminate

6. Do light financial checks for left ones before proceeding to the next phase (Asiakastiето, Bisnode).

7. Send RFP - request more detailed information (define evaluation criteria and weighting based on their importance to the purchase for evaluation tool; consider also if drop-shipping or sales have special requirements).

Developed RFP – template is Excel -based so that requested data can be added or removed if needed. RFP – template includes operational capacity, technical capability, price, and other relevant factors identified by category managers at the first data collection round. One of the category managers who was not able to attend the proposal workshop but received the proposal in PowerPoint presentation mode gave written feedback stating that it would be important to know how potential suppliers handle reclamations and what kind of warranty policy they have. Therefore, warranty policy was also added to the RFP - template.

8. Conduct supplier visits if needed/ possible.

At the proposal workshop COO highlighted the importance of supplier visits especially when looking for suppliers for own brand production.

9. Evaluate suppliers' capabilities, capacity, and competitiveness.

- Quality (in terms of the degree to which set requirements are met; assess suitability, benefits and potential risks related to proposed solutions and supplier; how quality control is arranged).
- Price (assess overall value, terms).
- Cost (short- and long-term).
- Risks (ask supplier to evaluate potential risks related to given proposals and prevention plan for these; also consider price related risks (smaller company with low price/cost -> high risk of not being able to scale fast enough to meet our growing requirements)).
- Delivery/Lead time.
- Operational and technical capacity and capabilities (evaluate if required knowledge and experience belong to supplier's core competencies; degree of support in new product development).
- Management and employee capabilities.
- sustainability



- communication
- financial stability

At the proposal workshop COO stressed quality issues and importance of evaluating potential supplier’s operational and technical capacity and capabilities very carefully. COO proposed that it should be also checked if suppliers will possibly need to use sub-contractors, so it was added to guidelines.

10. Compare tenders in the evaluation tool.

Developed proposal for the supplier evaluation selection tool shown in Figure 10 is Excel-based weighted-point system, so that evaluation categories and their weighting are easy to change based on the purchase requirements. Tool is simple and easy to use enabling efficient comparison between suppliers.

EVALUATION CRITERIA	Weight	Supplier 1		Supplier 2		Supplier 3	
		Score (1-5)	Weighted score	Score (1-5)	Weighted score	Score (1-5)	Weighted score
Delivery capacity	15		0		0		0
Lead time	10		0		0		0
Price/Cost	15		0		0		0
Financial condition	10		0		0		0
Quality	20		0		0		0
Technical capability	15		0		0		0
Terms and Conditions	5		0		0		0
Communication	10		0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
<b>Max total</b>	<b>100</b>	<b>Total weighted score</b>	<b>0</b>	<b>Total weighted score</b>	<b>0</b>	<b>Total weighted score</b>	<b>0</b>

Comments :	Comments :	Comments :

Figure 10. Supplier evaluation selection tool.

Throughout the process of communication with potential suppliers we should be clear in communication and evaluate our own organisation and its

attractiveness to potential suppliers considering what kind of value we are able to offer.

The whole process with tendering documents and evaluation tool is proposed to be used when evaluating potential suppliers for the target organisation's own brand or private label production. Evaluation process steps with instructions and what factors to consider are included in the evaluation tool's second tab.

The aspect of having a so-called reserve of once evaluated suppliers, who scored well but were not chosen for a particular case, was highlighted by COO as an important factor in case of urgent or future need. Therefore, it was decided that data of suppliers who are in the final evaluation will be stored at the company's shared drive under the Evaluated Suppliers – folder.

Based on the improvement suggestions received during the workshop from category managers and COO as well as from category managers' written feedback via email, final solution of the supplier evaluation selection tool together with instructions and tendering templates RFI and RFP were finalised and are stored at the case company's shared drive under New Suppliers – folder, found from Appendix 3.

#### 4.2.2 SPM System

Theoretical framework presented in Section 3.8 was applied to the process of developing SPM system for the case company and will be presented step by step in the following sections.

Before building a supplier specific SPM system, we needed to decide whom to measure. As suggested by the theory presented in Section 2.5, important and strategic suppliers should be prioritised in supplier performance measurement to direct resources in the most efficient and effective way. As the case company had not segmented its supply base it was first necessary to identify which suppliers are important and strategic. When it was asked at the survey (data 1) from the category managers to name 2-3 most important suppliers of the

category and explain why they were chosen, all answers were related to their high spend. Therefore, using spend to approach the supplier segmentation at the case company was a natural choice to start identifying important suppliers. Besides the spend also risk factors were considered to identify suppliers who may create risks that need to be monitored. Into the strategic supplier segment belong all the case company's own and private label manufacturers. According to Gordon (2008) supplier "segmentation can be a continual process" (Gordon 2008, 43). Along with the growth and expanded supply base there may be a need in the future for the case company's categories to change segmentation approach and use for example Kraljic's portfolio model that was presented in Section 3.5.

#### 1. Determining SPM aims.

The process of developing an effective supplier measurement system started by defining what are we aiming to achieve through measuring chosen suppliers, that is in organisational as well as supplier level as theory suggested. Target organisation's future goal is to be a large international organisation with strong focus on its own brands. Therefore, it is important to find reliable partners who have sufficient expertise and capacity to provide support for the development process and produce competitive, high-quality products. The aim is on long-term relationships and achieving common goals.

The target organisation aims to produce extraordinary value to the customers through in-depth category expertise, wide and interesting product assortment, efficient supply chain and versatile delivery models. As retailers are a major customer group for the case company, satisfying their specific requirements regarding price stability, assurance of supply and delivery quality are of the highest priority for the case company. This sets expectations also towards suppliers. The aim of measuring chosen suppliers performance is to avoid supply disruptions, identify cost drivers and avoid/reduce cost. By motivating suppliers to increase their performance also enables the case company to perform better and achieve customer satisfaction.

## 2. Defining requirements and targets.

Based on previously presented organisational aims, supported by the category managers' survey responses (data 1, analysed in Section 4.1) delivery, price/cost, quality, and communication performance have the highest impact to the case company and its customers. Same criteria are identified also in the literature review presented in Section 3.6 as the most critical factors to evaluate suppliers' performance. Therefore, these were chosen as the most critical performance areas for important and strategic suppliers to monitor and measure.

## 3. Determining metrics and KPIs.

Delivery performance will be measured through on time and in full deliveries as assurance of supply is one of the most critical factors for the case company and its major customers. It is essential for the case company's procurement to be able to trust given delivery times and quantities to operate efficiently and effectively when mingling between committed capital, inventory cost and customer expectations.

Quality was determined to be important in terms of defects and reclamations among category managers (data 1, analysed in Section 4.1) and will therefore be measured based on defect rate.

Competitive and steady prices are among one of the most important factors to the case company and its customers. Supplier's cost performance will be measured through price competitiveness, price variance, payment terms and other cost such as re-packing, labelling, delivery terms etc.

Effective communication was highlighted as one of the most valued factors in supplier relationships by category managers (data 1, analysed in Section 4.1). Overall communication and support, flexibility, update and pre-handed information about changes, and problem-solving ability were all chosen to be considered when evaluating supplier's communication. Increasing suppliers'

responsiveness will help the case company to achieve customer satisfaction as prompt, timely and correct information enables us to act and react to changes more effectively and efficiently.

Beside above-mentioned delivery, quality, cost and communication performance areas, strategic suppliers' performance will be measured also through innovation. It was a subject to a discussion on how innovation could be measured. As the case company's focus along with the new strategy is on own brand development in each category, it was decided to measure it via the number of new ideas the supplier has offered in the process of developing and designing our products.

#### 4. Determining how and where data will be obtained.

Majority of the data needed for measures and KPIs can be obtained from a company's internal systems. Summary of data sources are presented in Table 3. The case company's ERP (Odoo) reporting tool enables to set parameters for the supplier report that provides quantitative data for chosen period in one report about total number of orders placed, late orders, total number ordered and received, marked in blue in Table 3. Currently notification about changed delivery date must always be marked manually to the purchase order reference when they occur to get the delay-info to the report. As Odoo is an open-source ERP, automating this feature is currently under process.

Table 3. Summary of data sources of measures and KPIs.

KPI/ MEASURE	DATA SOURCE	REPORT PARAMETERS	FORMULA
<b>DELIVERY</b>			
ERP			
On time delivery	Odoo supplier report	Q1 Total number of orders placed	$(Q2/Q1)*100$
		Q2 Orders on time	
In full delivery	Odoo supplier report	Q1 Total qty ordered	$(Q2/Q1)*100$
		Q2 Total qty received	
<b>QUALITY</b>			
ERP			
Defect rate	Odoo supplier report + Excel	Q1 Total qty received	$(Q2/Q1)*100$
		Q2 Number of defects	
<b>COST</b>			
Category Manager's evaluation			
Spend	Talenom supplier report		
Price competitiveness	Odoo, Category Manager's evaluation		
Price variance	Odoo, Category Manager's evaluation		
Other cost	Odoo, Talenom, Category Manager's evaluation		
Payment term	Odoo		
Delivery term	Odoo		
<b>COMMUNICATION</b>			
Category Manager's evaluation			
Effective communication	Responsivness, overall communication, problem solving, support.		
<b>INNOVATION</b>			
Category Manager's evaluation			
Number of new ideas	Number of offered new ideas in the development process of own brands.		

Number of defects and reclamations need to be collected manually as the case company has no common system for this. It was however suggested that reclamations and defects data could be collected and stored at the supplier's scorecard right when it occurs and updated continuously till the end of the reporting period.

Cost is evaluated by category managers based on supplier's price competitiveness, price variance, other costs, delivery, and payment terms with the scale from 1 to 5 (1 = poor, 2 = fair, 3 = satisfactory, 4 = good, 5 = excellent). Price data, other costs like re-packing or labelling as well as data about supplier's terms and conditions can be obtained from ERP and Talenom (accounting system) but final scoring requires category specific expertise and

knowledge. Spend data for the report will be taken for comparison purposes from Talenom.

Effective communication includes category manager's evaluation on supplier's overall communication, responsiveness, problem solving and offered support. Category managers should also ask others, mainly coordinators, who communicate with the supplier to give their evaluation about supplier's communication. Scoring is the same as for the cost category from 1 to 5 (1 = poor, 2 = fair, 3 = satisfactory, 4 = good, 5 = excellent).

#### 5. Developing means to show performance.

As the aim was to build a supplier-specific measurement system, the developed system for the case company is Excel-based weighted-point system so that performance categories, and their weighting can be modified according to category needs and supplier expectations. It was important to keep the supplier performance measurement process simple and transparent with visible targets, for category managers as well as suppliers. Therefore, supplier performance data will be collected and displayed in a supplier scorecard. Proposal of Supplier Scorecard for an important supplier segment is presented in Figure 10. By presenting collected data clearly in a scorecard enables suppliers to understand on what basis calculations are done. Total weighted score will inform how the supplier is performing in overall through traffic light system: green=good, yellow=satisfactory, red=poor.

**SUPPLIER SCORECARD**

Supplier name:

Measurement period:

Spend:

KPI/Measure	Data	Odoo report	Result, %	Weighting	Targets	Score 1-5	Weighted score	Comments
On Time Delivery	Total number of orders placed		#JAKO/0!	35	90-100=5 79-89=4 68-78=3 57-67=2 <56=1	0	0	
	Orders on time							
In Full Delivery	Total qty ordered		#JAKO/0!	10	95-100=5 89-94=4 83-88=3 77-82=2 <76=1	0	0	
	Total qty received							
Defect rate	Total qty received		#JAKO/0!	5	0-1=5 1,1-2=4 2,1-3=3 3,1-4=2 4,1-5=1	0	0	
	Number of reclamation, defects							
Cost	Price competitiveness, price variance, payment and delivery terms, other cost (re-packing, labelling, etc)			35	5	0	0	
Effective communication	Responsivness, overall communication, problem solving, support.			15	5	0	0	
						<b>Total weighted score</b>	<b>0</b>	
				100 Max total				

85-100
70-84
<=69

Figure 11. Supplier Scorecard template for an important supplier segment.

Developed proposal with a scorecard for the case company is balanced, demonstrating the performance from more than one category, using financial as well as non-financial measures. Strategic suppliers' performance will be measured also through their contribution to product development which provides insight for supplier's abilities to contribute to business growth.

6. Deciding about details.

Category managers and product manager at Health & Beauty category are in charge of measuring supplier's performance twice a year. Prior to the measurement, performance expectations will be communicated to the supplier. Results will be reviewed together with the supplier preferable face-to-face as well as providing a copy of the scorecard to the supplier. This does not however mean that deviancies in critical matters like delays and quality issues won't be handled at all in the meantime. Delays and quality problems are always



checked, and root causes identified to avoid any bigger consequences. Therefore also, feedback about the case company's own actions will be asked from the supplier and discussed together at the review meeting.

In order for the measurement system to be effective, theory suggested using a closed loop performance measurement system. Therefore, it is very important that we have identified how we shall use measurement results. When it was asked at the survey (data 1) from category managers how they are dealing with supplier's poor performance, half of them responded "by first trying to find out what is the root cause behind their poor performance". This is in accordance with the PDCA model, presented in Section 3.8, where the ACT phase is about utilising performance information, analysing why set objectives were not met and determining what actions are needed to correct the course. Traffic light system at the supplier scorecard provides general instructions: red – improvement and preventive actions necessary, yellow – improvement needed, green – seek opportunities for development. Corrective, preventive or development actions will be unique to each supplier. Performance expectations and measures will be reviewed twice a year to determine if there is a need for modifications.

Supplier scorecards will be stored at the case company's shared drive under the SPM folder where each measured supplier has their own folder. Information will be easily available for management, category managers and coordinators.

## 7. Testing and implementing.

Initial proposal of the SPM system was tested at Health & Beauty category's two suppliers. First supplier (A) belongs to the Important supplier segment. Prior to testing, weighting of measures was adjusted to be according to category needs and supplier expectations. While quality is important, its weighting in this product group is with lower value and the main objective is to achieve customer satisfaction through supply continuity and competitive prices.

The process started with collecting necessary data for the supplier scorecard. Supplier report from Odoo was taken for a set period. Report provided data for on time and in full delivery and total quantity received. Spend data was taken from the supplier report from Talenom. Number of reclamations and defects needed to be obtained from separate excel but in the future will be marked to the supplier scorecard when occurred. Cost and communication were evaluated based on instructions.

Results on the scorecard (Figure 12) show that this supplier's performance is on a good level. Although there have been some significant delays, the supplier has informed us about these which has enabled us to react to the situation in time. Development areas lie in on time delivery and cost. Seeking development opportunities to expand business with that supplier will be a priority in that supplier relationship.

### SUPPLIER SCORECARD

Supplier name: A  
 Measurement period: 1.6.2022-31.12.2022  
 Spend 297 727,70 €

KPI/Measure	Data	Odoo report	Result, %	Weighting	Targets	Score 1-5	Weighted score	Comments
On Time Delivery	Total number of orders placed	18	83,33	35	90-100=5 79-89=4 68-78=3 57-67=2 <56=1	4	28	few significant delays
	Orders on time	15						
In Full Delivery	Total qty ordered	52365	95,88	10	95-100=5 89-94=4 83-88=3 77-82=2 <76=1	5	10	
	Total qty received	50205						
Quality	Total qty received	50205	0,05	5	0-1=5 1,1-2=4 2,1-3=3 3,1-4=2 4,1-5=1	5	5	
	Number of reclamation, defects	24						
Cost	Price competitiveness, price variance, payment and delivery terms, other cost (re-packing, labelling, etc)			35	5	4	28	they re-pack some price variance payment term could be better
Effective communication	Responsivness, overall communication, problem solving, support.			15	5	5	15	Information about delays well informed. High responsiveness.
						<b>Total weighted score</b>	<b>86</b>	
						100 Max total		

Figure 12. Supplier Scorecard test for supplier A.

Second test was done for the supplier (B) representing the same type of product group, belonging also to the important supplier segment. Supplier scorecard (Figure 13) reveals that this supplier is thriving with good cost performance but has significant improvement needs in on time delivery and effective communication areas.

Both scorecards enable you to see how the supplier is performing in a glimpse, highlighting areas that need improvement or development. As both suppliers represent the same type of product group, scorecard also enables the comparison between these suppliers. Results can be communicated to the supplier in a clear data-based manner.

### SUPPLIER SCORECARD

Supplier name: B  
 Measurement period: 1.6.2022-31.12.2022  
 Spend: 219 113,30 €

KPI/Measure	Data	Odoo report	Result, %	Weighting	Targets	Score 1-5	Weighted score	Comments
On Time Delivery	Total number of orders placed	24	75,00	35	90-100=5 79-89=4 68-78=3 57-67=2 <56=1	3	21	
	Orders on time	18						
In Full Delivery	Total qty ordered	63570	101,14	10	95-100=5 89-94=4 83-88=3 77-82=2 <76=1	5	10	
	Total qty received	64292						
Defect rate	Total qty received	64292	0,01	5	0-1=5 1,1-2=4 2,1-3=3 3,1-4=2 4,1-5=1	5	5	
	Number of reclamation, defects	5						
Cost	Price competitiveness, price variance, payment and delivery terms, other cost (re-packing, labelling, etc)			35	5	5	35	
Effective communication	Responsiveness, overall communication, problem solving support.			15	5	2	6	Slow responsiveness, no prompt information about delivery times nor changes
						Total weighted score	77	
						100 Max total		

Figure 13. Supplier Scorecard test for supplier B.

The aim of this testing was to make sure that necessary data for the supplier scorecard is easily accessible, reliable and the data collection process is

efficient. Results from the field-testing will take at least half a year and are excluded from this research due to time limitations.

## **5 Conclusion**

This Chapter summarises the whole research. Section 5.1 provides an overview of the research aims and objectives and answers research questions. Section 5.2 evaluates results of this research as well as its reliability and validity. Final section is for closing words.

### **5.1 Executive Summary**

This research started in December 2022 as a result of the case company's strategy change. Part of the new strategy is to focus more strongly on own brand development in each category which sets different requirements also towards suppliers. Before this research the case company had not defined any common guidelines or criteria for supplier evaluation. One of the aims of this research was to identify how the case company could choose the best possible suppliers and what kind of issues need to be considered when evaluating potential suppliers. Literature review presented in Sections 3.1, 3.2 and 3.3 provides the framework for the evaluation and selection process as well as presents different factors that may be valuable to consider when assessing potential suppliers during the selection process. Data that was collected from the first two data collection rounds (data 1, data 2) enabled me to identify relevant supplier evaluation criteria for the case company. As a result, common practices, documents and tools for supplier evaluation and selection process for the case company were established, which was the first objective of this research. Supplier evaluation enables to assess suppliers from different perspectives and identify suppliers who can fulfil and hopefully exceed the case company's needs and requirements.

Another aim of this research was to investigate how could the case company increase its suppliers' performance, identify what supplier performance

measurement approaches can be used and what would be the most appropriate measures and tools for the case company. Literature review in Section 3.4 introduces supplier performance measurement (SPM) and provides a solution to increase suppliers performance. Sections 3.5, 3.6 and 3.7 give an overview of different SPM approaches and tools presented in the literature. Most appropriate measures for the case company were identified through collected data from category managers and COO (data1, data 2). As an outcome, an appropriate SPM system for the case company was developed, which was the second objective of this research. Established SPM system enables the case company to evaluate its suppliers' performance in terms of the most critical factors, detect bottlenecks, take preventive actions, and improve the company's overall performance.

## 5.2 Evaluation of the research

To evaluate the research, established metrics that were presented in Section 3.4 were used to assess the success of this research (Table 4). First of the two metrics have been accomplished as were demonstrated in Section 5.1.

Table 4. Evaluated metrics of the research

Supplier evaluation and selection process, practices, and tools in place.	YES
Supplier performance measurement system in place.	YES
Stakeholder feedback	Survey results

Stakeholder feedback about the final solutions was collected via online survey (data 3). As the purpose of the action research is to solve practical business problems, the objective of the survey was to investigate to what extent

developed solutions meet identified business challenges. Category managers were asked to anonymously evaluate the usefulness of developed documents and tools and give overall feedback and improvement suggestions for the future. Results of the feedback survey are summarised in Table 5.

Table 5. Stakeholder feedback.

How likely will you use developed documents and tools?	Not likely	Maybe	Very likely
RFI		25%	75%
RFP		75%	25%
Supplier evaluation selection tool		25%	75%
SPM tool		25%	75%

Based on the survey results (data 3) developed tool for supplier evaluation selection was considered useful and will be very likely to be used by majority of the respondents for evaluating and comparing potential suppliers. Participants commented supplier evaluation selection tool as below:

*I just did a similar comparison between three suppliers about [xxx], but this would have made the job easier.*

*Excellent tool, enables decisions based on data.*

*Good tool to evaluate and compare current and potential suppliers.*

Tendering document RFI was assessed to be used at the supplier evaluation selection process by three respondents as being clear form to collect needed information efficiently and effectively:

*A very clear form that can be filled out and read quickly.*

*Gathers the necessary information at once.*

One of the participants considered RFP very useful. Three other participants consider tendering document RFP as semi-useful and will maybe be using the document in the tendering process:

*Easy way to collect information from many different suppliers.*

*This will surely be very useful in the future, when looking for new suppliers for both PL production as well as for other projects.*

According to one respondent's experience:

*(...) the discussion related to the proposal usually progresses step by step and the next stage is progressed if the previous stage is ok. Therefore, it may be difficult to integrate RFP into that process.*

Supplier performance measurement tool is considered as useful and will be very likely to be used by three participants for measuring current suppliers' performance. Category managers commented the tool as:

*A very important tool especially in terms of strategic brands and its own import process and effective cooperation and development.*

*Excellent tool!*

I also asked the COO to provide the improvement suggestions and feedback about the final solutions: "I believe that these tools are certainly helpful from the company's point of view for evaluating new suppliers and comparing them with current suppliers."

This feedback also validates the final solution.

As a summary it could be said that the outcome of this research, developed supplier evaluation and SPM tools, received good feedback from stakeholders. The feedback will be collected again at the end of the year after we have used

both tools at the case company for at least six months. Field-testing will provide us concrete suggestions for improvements. While the tendering process was familiar to all category managers, developed supplier evaluation selection tool as well as supplier performance measurement were rather new concepts. Through the process of this research, we have successfully incorporated our experiences and know-how with theoretical knowledge and promoted organisational learning.

Developed practices, documents and tools were created specifically for the case company considering its current situation. Sample included all the case company's category managers and COO, who are the most involved in supplier relationships. Chosen sample enabled me to collect the most reliable data of the current situation and practices.

Research data was collected in three rounds through semi-structured surveys and workshops. It can be argued that semi-structured interviews would have provided richer data but would not have changed the outcome of this research. Data that was collected via semi-structured survey backed with best practice from literature review were used as a basis for developing the proposal. When I presented the proposal, I also presented results of the first data collection round to discuss findings and confirm validity of collected data. Final solutions were also validated by stakeholders in the third data collection round. As an internal researcher, I also had an opportunity to discuss research related issues on a daily basis with my colleagues to overcome the threat of possible bias.

Limitation of this research was a tight timeframe that did not leave an opportunity for field-testing.

### 5.3 Closing Words

This research was about establishing common practices and tools for the supplier evaluation and performance measurement for the case company. Objectives of the research were met with the help of my enthusiastic



colleagues. Supplier evaluation and performance measurement is a continuous process that requires actions to be effective. We will continue this journey together and further develop SPM maturity at the case company.

## References

- Gordon, Sherry R 2008. *Supplier Evaluation and Performance Excellence: A Guide to Meaningful Metrics and Successful Results*. Fort Lauderdale: J. Ross Publishing.
- Hamburger, Hanna & Blair, Erin 2023. *The Supply Chain Agenda: 2023 Key Issues*. The Hackett Group. Retrieved 13/04/2023.  
<https://www.thehackettgroup.com/insights/2023-supply-chain-key-issues-2301/>
- Iloranta, Kari & Pajunen-Muhonen, Hanna 2018. *Hankintojen johtaminen, Ostamisesta toimittajamarkkinoiden hallintaan*. Helsinki: Tieosanoma Oy.
- Johnsen, Thomas E & Howard, Mickey & Miemczyk, Joe 2014. *Purchasing and Supply Chain Management: a sustainability perspective*. Oxon: Routledge.
- Johnson, Frasier & Leenders, Michiel & Flynn, Anna 2011. *Purchasing and Supply Management*. 14<sup>th</sup> edition. New York: McGraw-Hill.
- Lysons, Kenneth & Farrington, Brian 2020. *Procurement and Supply Chain Management*. 10<sup>th</sup> edition. Harlow: Pearson Education Limited.
- Merriam, Sharan & Grenier, Robin 2019. *Qualitative Research in Practice*. 2<sup>nd</sup> edition (e-book). John Wiley & Sons, Incorporated.
- Monczka, Robert & Handfield, Robert & Giunipero, Larry & Patterson, James 2021. *Purchasing & Supply Chain Management*. 7<sup>th</sup> edition. Boston: Cengage Learning, Inc.
- McNiff, Jean & Whitehead, Jack 2013. *Action Research: Principles and Practice* (e-book). Taylor & Francis Group.
- McNiff, Jean & Whitehead, Jack 2001. *Action Research in Organisations* (e-book). Taylor & Francis Group.
- O'Brien, Jonathan 2019. *Category Management in Purchasing. A strategic approach to maximize business profitability*. 4th edition. London: Kogan Page Limited.
- O'Brien, Jonathan 2022. *Supplier Relationship Management. Unlocking the hidden value in your supply base*. 3rd edition. London: Kogan Page Limited.
- Saunders, Mark N. K. & Lewis, Philip & Thornhill, Adrian 2019. *Research methods for Business Students*. 8<sup>th</sup> edition. Harlow: Pearson Education.

Van Weele, J. Arjan & Rozemeijer, Frank 2022. Procurement and Supply Chain Management. 8<sup>th</sup> edition. Andover, Hampshire: Cengage Learning, EMEA.

## Appendices

### Appendix 1. Survey Questions

1. In which category are you working? Choose from the list.
2. What are the most important criteria that you consider when choosing a supplier?
3. How do you evaluate potential suppliers during the selection process?
4. From where do you obtain information for the evaluation?
5. Do you store obtained information somewhere?
6. Please list 2-3 most important suppliers of your category.
7. Based on what you chose them?
8. Please list 2-3 best performing suppliers of your category.
9. Based on what you chose them?
10. Please list 1-2 poorest performing suppliers of your category.
11. Based on what you chose them?
12. How do you handle suppliers' poor performance?
13. Do you measure current suppliers' performance? YES/NO
14. If you answered NO to the question no. 13, please clarify why you do not measure suppliers' performance.
  - no time
  - I don't know how

- I have no tools
- I don't feel it is necessary
- for other reasons: \_\_\_\_\_

15. If you would/could measure suppliers' performance, what factors do you consider as relevant? Please rate between 1 (=least relevant) to 5 (=highly relevant).

	1	2	3	4	5	Please explain.
Quality						
Price/ Cost						
Assurance of supply						
Flexibility						
Sustainability						
Communication						
Other						
Other						
Other						
Other						

16. If you answered YES to question no.13, please explain how you measure suppliers' performance?

- What do you measure and why?
- Are factors weighted differently?
- How do you collect supplier performance data?
- Do you measure all the suppliers' performance?
- How often do you measure suppliers' performance?

## Appendix 2. Proposal Workshop



Reliable suppliers who have expertise and capacity to develop and produce competitive, high-quality products.

Evaluating potential suppliers from different aspects helps to identify the **best suppliers who**

- can best match or exceed business needs
- have an ability to reduce the impact of economic uncertainties
- can support current and future trends enabling us to concentrate on our core competences

Common supplier assessment process with tools and templates enable to better mitigate risks and maximize the overall value of chosen suppliers to the company.



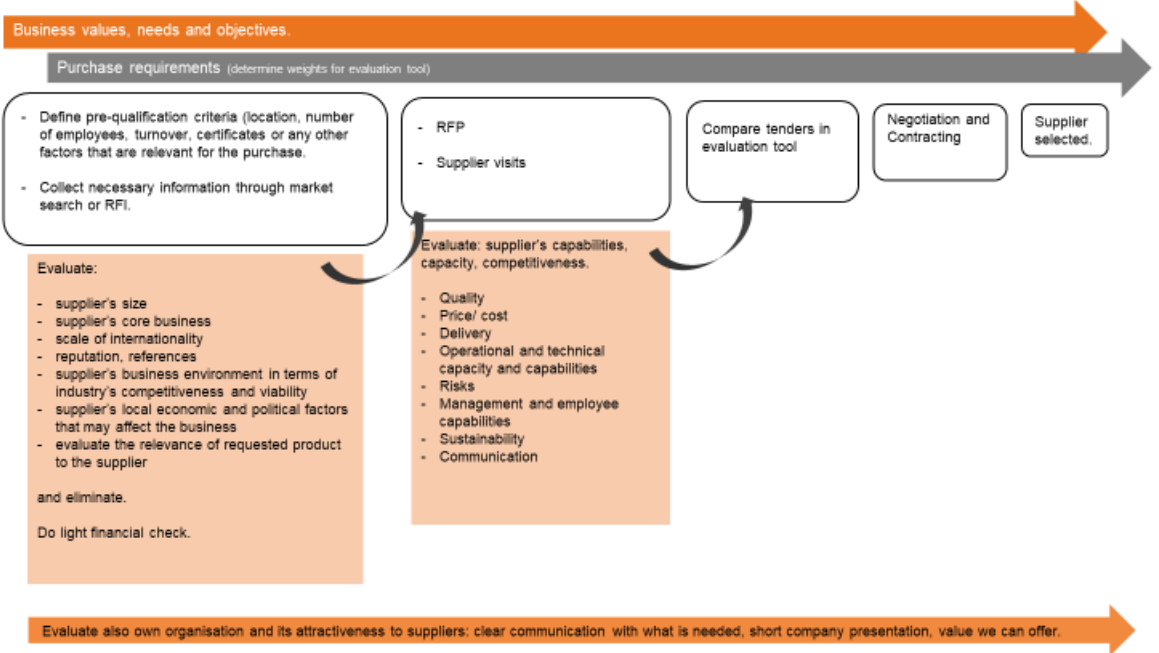
to modern procurement



The aim is to reflect supply market possibilities with customer needs.

Purpose is to satisfy customer needs by choosing and directing them, utilising own competences and all the possibilities what the supply market has to offer.

**FRAMEWORK FOR THE SUPPLIER EVALUATION AND SELECTION PROCESS**



Proposed documents used in the supplier evaluation and selection process:

- Company/category introduction
- RFI
- > to be stored in the folder: Contacted Suppliers
- > if supplier will be selected, information for company's systems can be obtained from RFI.
- If supplier fulfills basic criteria
- Do light financial check
- RFP ( define criteria and weighting based on their importance )
- Compare suppliers in the evaluation tool

RFI - REQUEST FOR INFORMATION	
Date	
General information	
Company name	
Business ID	
Address	
Warehouse address	
E-mail and telephone	
Core business	
Number of employees	
Financial information	
Turnover	
Credit rating	
Products	
Main Products/ Services	
Main markets	
Major customers	
Accreditations/Certificates	

RFP - REQUEST FOR PROPOSAL	
Proposal due date	
General Information	
Company name	
Business ID	
Address	
Scope of the work	
Overview	
Goals	
Project due date	
	SUPPLIER'S PROPOSAL
Offered solution	
Operational capacity	
Technical capability	
References	
Price	
Other costs	
MOQ	
Lead time	
Payment term	
Delivery term	
Possible risks related to proposal	

INITIAL  
PROPOSAL  
FOR  
SUPPLIER  
EVALUATION  
TOOL

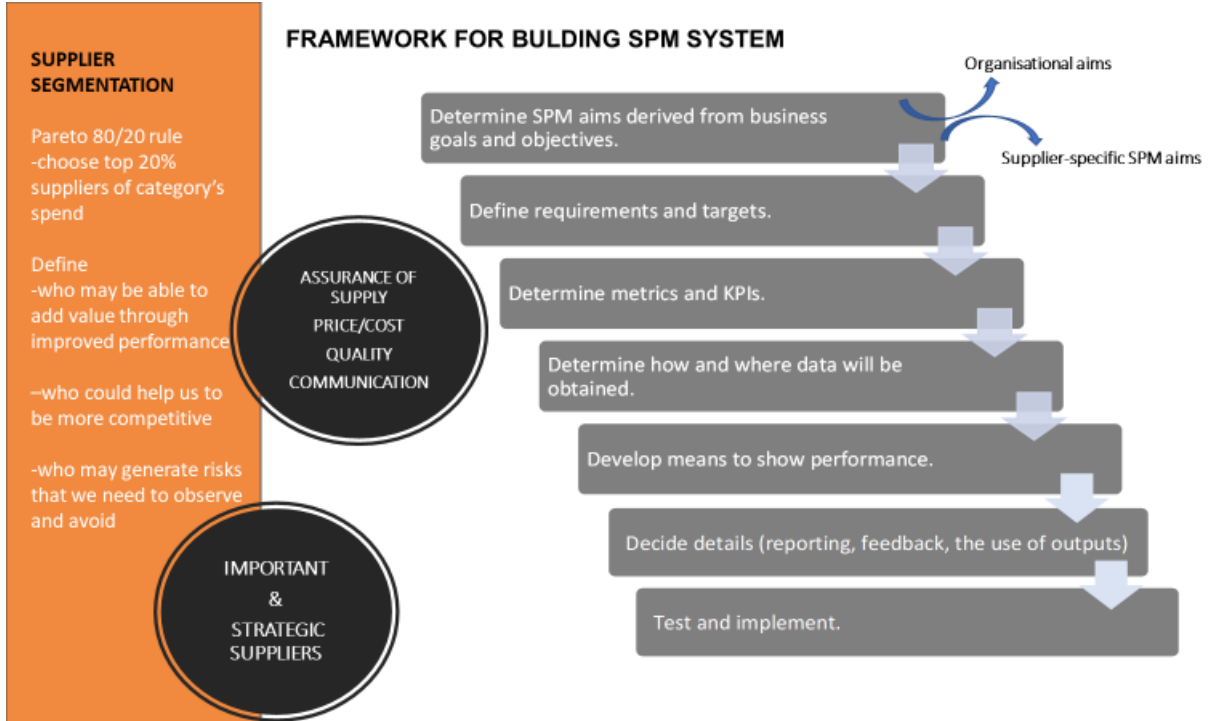
EVALUATION CRITERIA	Weight	Supplier 1		Supplier 2		Supplier 3	
		Score (1-5)	Weighted score	Score (1-5)	Weighted score	Score (1-5)	Weighted score
Delivery capacity	15	1	3	3	9	5	15
Lead time	10	1	2	4	8	5	10
Price/Cost	15	1	3	3	9	5	15
Financial condition	10	1	2	2	4	5	10
Quality	20	1	4	5	20	5	20
Technical capability	15	1	3	2	6	5	15
Terms and Conditions	5	1	1	3	3	5	5
Communication	10	1	2	2	4	5	10
			0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
<b>Max total</b>	<b>100</b>	<b>Total weighted score</b>	<b>20</b>	<b>Total weighted score</b>	<b>63</b>	<b>Total weighted score</b>	<b>100</b>

Comments :	Comments :	Comments :

SUPPLIER PERFORMANCE MEASUREMENT







MEASURES & OBJECTIVES

KPI/MEASURE	OBJECTIVE/BENEFIT	WHICH SUPPLIERS
<b>DELIVERY</b>		
On time delivery	Avoid supply disruptions; achieve customer satisfaction	Important, Strategic
In full delivery	Avoid supply disruptions; achieve customer satisfaction	Important, Strategic
<b>QUALITY</b>		
Defects, reclamations	Identify cost drivers; avoid/reduce cost; achieve customer satisfaction	Important, Strategic
<b>COST</b>		
Spend	Enables to evaluate supplier's importance; suppl. segmentation;	Important, Strategic
Price competitiveness	Avoid/reduce cost; enables competitor comparison	Important, Strategic
Price variance	Avoid/reduce cost; achieve customer satisfaction	Important, Strategic
Other cost	Identify cost drivers; avoid/reduce cost; add value to customer	Important, Strategic
Payment term	Enables comparison with other suppliers; liquidity	Important, Strategic
Delivery term	Enables comparison with other suppliers	Important, Strategic
<b>COMMUNICATION</b>		
Responsivness, overall communication, problem solving, support.	Increase responsivnes; achieve customer satisfactions	Important, Strategic
<b>INNOVATION</b>		
New ideas offered	Develop new products; add value to customer	Strategic

DATA FOR SPM SYSTEM

KPI/ MEASURE	DATA SOURCE	REPORT PARAMETERS	FORMULA
<b>DELIVERY</b>			
ERP			
On time delivery	Odoo supplier report	Q1 Total number of orders placed	(Q2/Q1)*100
		Q2 Orders on time	
In full delivery	Odoo supplier report	Q1 Total qty ordered	(Q2/Q1)*100
		Q2 Total qty received	
<b>QUALITY</b>			
ERP			
Defect rate	Odoo supplier report + Excel	Q1 Total qty received	(Q2/Q1)*100
		Q2 Number of defects	
<b>COST</b>			
Category Manager's evaluation			
Spend	Talenom supplier report		
Price competitiveness	Odoo, Category Manager's evaluation		
Price variance	Odoo, Category Manager's evaluation		
Other cost	Odoo, Talenom, Category Manager's evaluation		
Payment term	Odoo		
Delivery term	Odoo		
<b>COMMUNICATION</b>			
Category Manager's evaluation			
Effective communication	Responsiveness, overall communication, problem solving, support.		
<b>INNOVATION</b>			
Category Manager's evaluation			
Number of new ideas	Number of offered new ideas in the development process of own brands.		

INITIAL PROPOSAL FOR SPM SYSTEM

Supplier Scorecard of Important Supplier

Innovation performance also at Supplier Scorecard of Strategic Supplier

Weighting (category and total performance) Targets

-can be modified

SUPPLIER SCORECARD

Supplier name:

Measurement period:

Spend:

KPI/Measure	Data	Odoo report	Result, %	Weighting	Targets	Score 1-5	Weighted score	Comments
On Time Delivery	Total number of orders placed		#IAKO/01	35	90-100=5 79-89=4 68-78=3 57-67=2 <56=1	0	0	
	Orders on time							
In Full Delivery	Total qty ordered		#IAKO/01	10	95-100=5 85-94=4 83-88=3 77-82=2 <76=1	0	0	
	Total qty received							
Defect rate	Total qty received		#IAKO/01	5	0-1=5 1,1-2=4 2,1-3=3 3,1-4=2 4,1-5=1	0	0	
	Number of reclamation, defects							
Cost	Price competitiveness, price variance, payment and delivery terms, other cost (re-packing, labelling, etc)			35	5	0	0	
Effective communication	Responsiveness, overall communication, problem solving, support.			15	5	0	0	
						Total weighted score	0	

100  
Max total



**Appendix 3. Tendering templates (RFI, RFP), supplier evaluation process guidelines and supplier evaluation selection tool.**

<b>RFI - REQUEST FOR INFORMATION</b>	
Date	
General information	
Company name	
Business ID	
Year of foundation	
Address	
Warehouse address	
Contact person name and position	
E-mail and telephone	
Core business	
Number of employees	
Financial information	
Turnover	
Credit rating	
Products	
Main Products/ Services	
Main markets	
Major customers	
Accreditations/Certificates	

<b>RFP - REQUEST FOR PROPOSAL</b>	
Proposal due date	
General information	
Company name	
Business ID	
Address	
Scope of the work	
Overview	
Goals	
Project due date	
	SUPPLIER'S PROPOSAL
Offered solution/product assortment	
Operational capacity	
Technical capability	
References	
Price	
Other costs	
MOQ	
Lead time	
Payment term	
Delivery term	
Warranty policy	
Possible risks related to proposal	

## Supplier evaluation process guidelines

<b>Define purchase requirements</b>	Does not need to be fully informed yet
<b>Define pre-qualification criteria</b>	Location, number of employees, turnover, certificates or any other factors that are relevant for the purchase to eliminate 80% of potential suppliers
<b>Collect necessary information through market search or RFI.</b>	Fill in or ask supplier to fill RFI. Store under the Contacted Suppliers file under name: RFI Suppliers name Date NO or YES (depending on status YES-RFP sent/NO-eliminated) RFI provides new supplier information for Odoo and Talenom if supplier will be selected
<b>Evaluate:</b> -supplier's size -supplier's core business -scale of internationality -reputation, references -supplier's business environment in terms of industry's competitiveness and viability -supplier's local economic and political factors that may affect the business -relevance of requested product to the supplier  <b>and eliminate.</b>	small: check dependency on other customers. Consider advantages and disadvantages of big and small suppliers less risk if core business  logistical requirements, product/packaging material, its traceability
<b>Do light financial check for left ones before proceeding to the next phase.</b>  -RFP  -Supplier visits	Asiakastiето, Bisnode  Determine and weigh evaluation criteria based on their importance to the purchase to the evaluation tool Consider if drop-shipping or sales have special requirements
<b>Evaluate: supplier's capabilities, capacity, competitiveness</b> -Quality  -Price -Cost -Risks  -Delivery/Lead time -Operational and technical capacity and capabilities  -Management and employee capabilities  -Sustainability -Communication -Financial stability	in terms of the degree to which set requirements are met assess suitability, benefits and potential risks related to proposed solution and supplier how quality control is arranged, what kind of warranty policy they have assess overall value, payment terms (LC etc) short- and long-term ask to evaluate potential risks related to their proposals and prevention plan for these consider also price related risks (smaller company with low price/cost -> high risk of not being able to scale fast enough to meet our growing requirements)  competencies shall supplier be using sub-contractors degree of support in new product development management professional experience long-term goals for the business how they invest in the development of products, people and technology to stay competitive and growing management-employee relations contribution to better quality of life now and for future generations  turnover (and its development), number of employees, profitability, financial solidity, efficiency (turnover or profitability/employee) ownership
<b>Compare tenders in evaluation tool</b>	
Evaluate also own organisation and its attractiveness to suppliers	clear communication with what is needed, short company presentation, value we can offer.

**SUPPLIER EVALUATION SELECTION TOOL**

EVALUATION CRITERIA	Weight	Supplier 1		Supplier 2		Supplier 3	
		Score (1-5)	Weighted score	Score (1-5)	Weighted score	Score (1-5)	Weighted score
<b>Delivery capacity</b>	<b>15</b>		0		0		0
<b>Lead time</b>	<b>10</b>		0		0		0
<b>Price/Cost</b>	<b>15</b>		0		0		0
<b>Financial condition</b>	<b>10</b>		0		0		0
<b>Quality</b>	<b>20</b>		0		0		0
<b>Technical capability</b>	<b>15</b>		0		0		0
<b>Terms and Conditions</b>	<b>5</b>		0		0		0
<b>Communication</b>	<b>10</b>		0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
			0		0		0
<b>Max total</b>	<b>100</b>	<b>Total weighted score</b>	<b>0</b>	<b>Total weighted score</b>	<b>0</b>	<b>Total weighted score</b>	<b>0</b>

Comments :	Comments :	Comments :

**Appendix 4. Supplier Scorecard**

Important Supplier

**SUPPLIER SCORECARD**

Supplier name:								
Measurement period:								
Spend:								
KPI/Measure	Data	Odoo report	Result, %	Weighting	Targets	Score 1-5	Weighted score	Comments
On Time Delivery	Total number of orders placed		#JAKO/0!	35	90-100=5 79-89=4 68-78=3 57-67=2 <56=1	0	0	
	Orders on time							
In Full Delivery	Total qty ordered		#JAKO/0!	10	95-100=5 89-94=4 83-88=3 77-82=2 <76=1	0	0	
	Total qty received							
Defect rate	Total qty received		#JAKO/0!	5	0-1=5 1,1-2=4 2,1-3=3 3,1-4=2 4,1-5=1	0	0	
	Number of reclamation, defects							
Cost	Price competitiveness, price variance, payment and delivery terms, other cost (re-packing, labelling, etc)			35	5	0	0	
Effective communication	Responsivness, overall communication, problem solving, support.			15	5	0	0	
						<b>Total weighted score</b>	<b>0</b>	

100  
Max total

85-100
70-84
<=69

Strategic Supplier

**SUPPLIER SCORECARD**

<b>Supplier name:</b>								
<b>Measurement period:</b>								
<b>Spend:</b>								
KPI/Measure	Data	Odoo report	Result, %	Weighting	Targets	Score 1-5	Weighted score	Comments
<b>On Time Delivery</b>	Total number of orders placed		#JAKO/OI	25	90-100=5 79-89=4 68-78=3 57-67=2 <56=1	0	0	
	Orders on time							
<b>In Full Delivery</b>	Total qty ordered		#JAKO/OI	10	95-100=5 89-94=4 83-88=3 77-82=2 <76=1	0	0	
	Total qty received							
<b>Quality</b>	Total qty received		#JAKO/OI	15	0-1=5 1,1-2=4 2,1-3=3 3,1-4=2 4,1-5=1	0	0	
	Number of reclamation, defects							
<b>Cost</b>	Price competitiveness, price variance, payment and delivery terms, other cost (re-packing, labelling, etc)			25	5	0	0	
<b>Effective communication</b>	Responsivness, overall communication, problem solving, support.			15	5	0	0	
<b>Innovation</b>	Number of new ideas			10	>3=5 2=4 1=3	0	0	

100  
Maxtotal

<b>Total weighted score</b>	<b>0</b>
-----------------------------	----------

85-100
70-84
<=69