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External environmental analysis – A case study of important factors and
challenges

Authors: Mc Lintock, Thomas & Hofmann, Viktor

Supervisor: Shahryar Sorooshian

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Abstract

In recent decades, markets have become complex, turbulent and more dynamic. This has led to more focus among companies to focus on the external environment. One activity that has become more important is analysing external environments as this can provide good strategic insight of external factors and how companies react in markets where organisations are active. The strategic importance of the purchasing function has increased over time in many organisations. There are many different aspects that needs to be considered when analysing external markets such as technological developments and how the competitiveness in a certain industry is shaped.

This study has focused on analysing important factors and challenges when conducting external analysis by examining recent academic literature as well as conducting a case study at a manufacturing company that conduct external analysis on regular basis. Improvement suggestion for the case company's existing external analysis framework has also been one of the focus for this study. The empirical data consists of both interviews and document collection at the case company.

From this case study, it has been identified that important factors when conducting an external analysis are for instance a relevant scope the analysis and having clear internal requirements. Further, challenges when conducting an external analysis are the process of finding correct market information what analysis tools to use. It is also important to consider the risk perspective when analysing external markets.

Lastly, from this case study, it has been found that having a clear structure when conducting an external analysis can be challenging, therefore, a more structured framework is provided compared to the existing analysis framework at the case company.

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1 Introduction

For many companies, the efficiency of the supply chain plays a vital role in order to achieve competitiveness in today's complex value chain networks. Efficient coordination of information, materials and processes in the supply chain is a necessity to have the ability to deliver products with the right quality and quantity to the final customers at a minimum cost. (Monczaka, Handfield, Giunipero, & Patterson, 2014). Often, the activities in the supply chain requires a broad cross-functional cooperation both within and outside the organisation (Smith, 2012).

One function that has gained significantly higher importance and increased its strategic involvement over time is procurement (Butter & Linse, 2008). Nowadays, many procurement functions actively take part in the planning processes of not only purchasing activities but also activities of the entire corporation (Cavinato, 1999). It is also an enabler to integrate activities in the supply chain and therefore plays a key role in linking external suppliers with internal processes and creating value to the final customers (Novack & Simco, 1991). One type of company that procurement in particular has increased in importance is manufacturing companies, as the spend of these type of companies accounts for a large proportion of their revenue and is the function that almost always has the highest expenditure of all functions within an organisation (Leenders, 2006). Another aspect of the procurement function in manufacturing companies is that it has over time increased its spend on different services, which both covers non-bill material as well as services offered to their customers. (Van der Valk, 2008)

Since the 1980s, the increase of global supply chains has continuously been driven by a breakdown of trade barriers in the world economy, cheaper transportation as well as enhanced international communication tools (Handfield, 1994; Carsten, Mattoo, & Neagu, 2002; Glaeser & Kohlhase, 2004). This development has led to opportunities for procurement to widen its scope of finding more suppliers worldwide with a focus on cost reduction, accessing innovative suppliers or establish a presence in an important market (Holweg, Reichhart, & Hong, 2011). Consequently, this has led to more value chains that are geographically spread out across the world (Monczka & Trent, 1991; Bozarth, Handfield, & Das, 1998; Antras & Helpman, 2004).

Markets in today's modern supply chain have become complex, global and turbulent (Hitt, Ireland and Hoskisson, 2016). This has led to an increase of external factors and risks that affect value chains around the world such as political causes, new regulations, natural disasters, higher competition as product life cycles have become shorter and volatility in customer demand (Butter and Linse, 2008). All these factors and challenges that are presented in a globalized supply chain has led to the need for higher involvement of procurement in strategic decision-making (Nair, Jayaram & Das, 2015). In order to cope with these many challenges and remain competitive, procurement has concentrated more on expanding their core competencies, for instance through supplier coordination, development of suppliers, market

research, cost analysis, strategy, risk awareness, risk management as well as global outsourcing (Holweg, et al. 2011).

Furthermore, the development of disperse and complex supply bases across global markets has led to complex control mechanisms for purchasing when executing strategic sourcing. One crucial element of strategic sourcing that has gained importance and where purchasing has put higher emphasis on, is the process of analysing the external environment. (Butter and Linse, 2008). Analysing external markets is significant to gain a better understanding and overview of the supplier market, scouting for new suppliers, new innovation trends and the ability to effectively synchronize suppliers into its own business processes (Modi & Mabert, 2007). Having access to market information is one aspect that can create advantages and value for procurement in their strategic decision-making. Examples of key insights of market information is market entry and exits, competitive trends and innovation (Accenture, 2014). One significant challenge that has arisen for procurement is the process of collection and gathering of supply market information to gain an overall picture of the markets (Lobermeyer & Kotzab, 2010).

1.2 Problem discussion

Strategic sourcing has gained more importance, meanwhile markets have increased in complexity, therefore the need of having deep insights and knowledge of the supplier markets in strategic sourcing has increased (Wu & Blackhurst, 2009). Furthermore, the trends in today's environment are rapidly changing in areas such as innovation, legislation, and globalization, which leads to difficulties for decision-makers to understand the external environment and to make correct strategic decisions (Papulova and Gozova, 2016).

Along with a dynamic environment in today's society, there is almost an infinite number of different sources available to gain an understanding of the external factors that are shaping the industry and market trends which in turn affect the competitiveness of the market landscape (Neilson, Martin, and Powers, 2008). An external analysis needs to have a wide scope including macro-factors, industry-specific factors and micro factors to gain a comprehensive understanding of the external environment. A company that can fully understand and utilize the opportunities and threats within the external environment and navigate itself in the environment by aligning its internal capabilities or partner with a supplier, has the ability to understand with the external reality and achieve competitive advantage. (Hitt et al., 2016). Therefore, being a company that has streamlined the processes of conducting an external analysis with the most relevant factors included, may gain an advantage over its competitors and be able to implement strategies more efficiently (Neilson et al. 2008).

Bag (2016) also argues that a lot of information available to use when conducting an external analysis which leads to challenges and difficulties for procurement specialists. The information needed is often available through many different types of sources and can easily become a time-consuming process and therefore requires a systematic way to collect and describe the data, in order to make the information valuable and useful. Bag (2016)

A large number of industry players are still missing a defined procedure of how to conduct an external analysis, which often leads to a non-structured external analysis process what can be insufficient or missing important aspects of the environment (Lobermeyer & Kotzab, 2010). Therefore, having a standardized process when selecting suppliers or conducting a market analysis can improve the overall strategic process and in the long-run ensure that the relevant factors and information is included in the process. Thus, procurement professionals who have a streamlined and standardized process of conducting an external analysis can focus its resources on a narrow and relevant scope of valuable factors and information. This in turn makes the implemented strategy more successful while preventing unnecessary aspects being included in the analysis. (Becker, Mecker, Moder, and Spiller, 2017)

Along with the complexity discussed above, the case company which is mainly forming this research is conducting external analysis in order to increase their awareness of the external environment and is a vital part in their strategic sourcing process. The external environment step is executed when formulating a strategy and to get a holistic view over the industry environment. However, as of today, the current analysis framework is lacking a clear structure which may cause an ineffective process.

1.3 Purpose and research questions

This report aims at identifying and analysing important factors in the process of analysing external environments by exploring external market analysis frameworks, dimensions and factors presented in the existing literature to identify how these types of framework can be enhanced at the case company. This will be done by identifying challenges in the current process of conducting an external environment analysis and how these challenges can be tackled. By determining these aspects, suggestions of improvements of the current external analysis framework at the case company will also be provided.

In order to fulfil the purpose of this study, the following research questions have been formulated:

- *What are the important factors of the execution of an external market analysis at the Case Company?*
- *What challenges exist when conducting an external market analysis at the Case Company?*
- *How can these factors and challenges be managed to improve an existing external market analysis framework?*

1.4 Delimitations

It is important to address the delimitations of this study to gain a better understanding of the topic of the study and the empirical findings as well as the analysis. Highlighting delimitations of the study is also important and relevant in terms of the generalizability of the findings and how the different parts of the study is interpreted and may be applied in different practical cases. This study covers a single case study at one company which may lead to challenges in generalizing the result and apply it on other types of companies and organisations than the one of the case company. The case company of the study operates within the manufacturing industry which may limit the result and findings to this type of industry. face

The perspective of external analysis is mainly covering the perspective of procurement's perspective, however, there are models and theories presented in the literature review that may be applicable for other functions as these still are important to include to fully understand external analysis.

1.5 Disposition of the research

The disposition of the research is outlined below in figure 1 to provide an overview of the different parts included in this study. First, the problem statement was stated, and the study’s purpose and research questions outlined. Thereafter, a through literature review has been done including relevant aspects for this study. The methodology chapter explains how this research has approached the research area and collected and analysed the empirical findings. The analysis is digging deeper into the subject and discusses the empirical findings with the literature. Lastly, the conclusions, recommendations and further research is covered.



Figure 1, Disposition

2 Literature review

In this chapter, a presentation of the case company will firstly be covered. This is followed by relevant literature of external analysis such as definition of external analysis, structures of external analysis, different dimensions in external analysis, and already developed frameworks for external analysis. Lastly, new aspects which have earned a spot in external analysis framework is presented.

2.1 The case company

The case company is a multinational limited company within the manufacturing industry with an approximate total of 100 manufacturing units and subsidiaries present in Europe, USA, South America and Asia. Its value chains are spread out globally and the subsidies are located both locally and globally and these source a large variety of products, components and services. The purchasing function of the case company is centralized and is located at the headquarters of the case company and figure 1 below shows Group Purchasing's position in the organization including the four main subdivisions included in the Purchasing department.

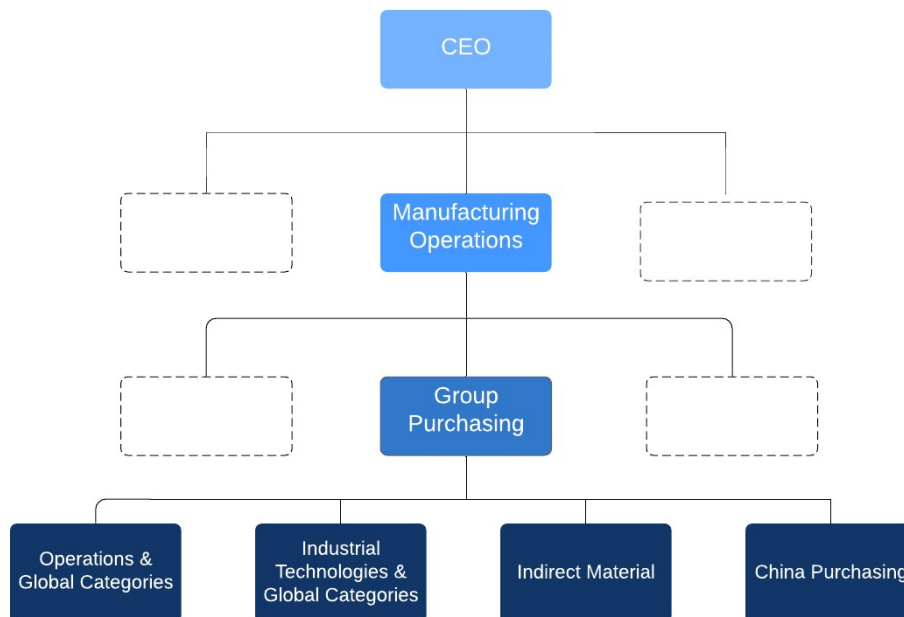


Figure 2, Group Purchasing's position in the case company

Each of the sub-divisions in figure 2 consists of different buying categories which are either considered as a direct or indirect-material category. Direct material refers to the items which directly is related to the final product and indirect material is related to items and services that are needed to support the manufacturing processes and other aspects such as traveling expenses and facilities. Each of the buying categories has a category manager who is responsible for

activities such as maintaining a good supplier base within the category, building a good relationship with suppliers, being regularly updated on trends and changes in the market of the category and executing external analysis.

The main goals of the purchasing function at the case company is to create a world-class purchasing department through reaching a fact-based, coordinated and result-driven purchasing organization. To reach these main goals, four different objectives have been outlined by the case company:

- Building high performing teams
- Fulfilling customers demand
- Capitalize on expert suppliers' knowledge and excellence in buying
- Ensure best total cost

Its strategic sourcing process is based on a 7-step process shown in figure 3 below, which includes external analysis in the second step, revealing that this part one of the essential parts of strategic sourcing.

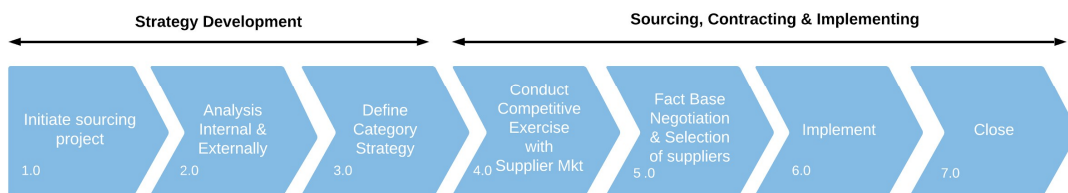


Figure 3, The case company's strategic sourcing process

As of today, external analysis is conducted for each category as a part of updating the category strategy which is conducted every third year. However, external analysis can also be made when it is necessary in different situations to examine the external environments, thus not only conducted to update the category strategy. There are issues regarding the current procedure of external analysis that affect the effectiveness of executing external environment analysis. At the moment there are four different analysis tools that form the base of the framework at the case company, however, these lack a clear structure and guidance, thus making it an unrigorous procedure in creating category strategies and to have a clear picture of what is happening in the external environment. The aim of the case company is to have a generic framework that could work as a template for all category managers to use as a guide when conducting external environment analysis. A more detailed explanation of the external analysis processes at the case company will be presented in the empirical data chapter.

2.2 Academic literature

This chapter includes relevant academic literature for this study. As the case company's current external analysis is conducted as a part of implementing a category strategy by category managers responsible for a certain buying category, research on forming a category strategy will be brought up. Thereafter, different definitions of external analysis and how an external analysis can be structured will be covered. Important factors and what aspects included in external analysis will also be discussed from different researcher's perspectives. Lastly, additional aspects of sustainability, risk management and purchasing portfolio management in the context of external analysis will be included to increase the transparency and to nuance the theoretical framework.

2.2.1 Forming a category strategy

In the strategic sourcing process at the case company, an analysis of the internal and the external environment is conducted to give the decision-maker a comprehensive foundation of information to formulate a category strategy. Porter (2008) states the following regarding strategy:

"Understanding the forces that shape competition is the starting point for developing strategy" (2008, pp. 11).

In order to execute a successful competitive strategy, aspects such as external environment, supplier and customer characteristics needs to be considered (Kumar, Kamel, Fantazy and Kumar, 2006; Virolainen, 1998). Virolainen (1998) argues that having a clear picture of the external environment enables an organisation to adjust itself to the external environment as well as increase its capabilities through suppliers. It can also allow a company to make priorities to better compete against its rivals. Furthermore, in the process of implementing a category strategy for a procurement function, it needs to scan the external environment to identify threats and opportunities that exist in the industry and link them together with its capabilities or suppliers' capabilities to shape the strategy for the category (Favre & Brooks, 2002).

Implementing a category strategy is partly being aware of having a clear understanding of supplier market characteristics and the risk and complexity involved in the market (Stolle, Näher, Jacob, Reinecke, Hexter and Dervisopoulos, 2008). Also, the mission of setting an accurate category strategy is to minimise the total cost of ownership (TCO), where several factors influence TCO such as price, quality and the service needed according to Favre & Brooks (2002). Since each category has unique market characteristics, it is important that different sourcing strategies are implemented for each category, in order to utilise the organisation's buying power (Virolainen, 1998). Below, figure 4 outlines the category strategy implementation of a procurement function and that this is connected to other functions' strategies.

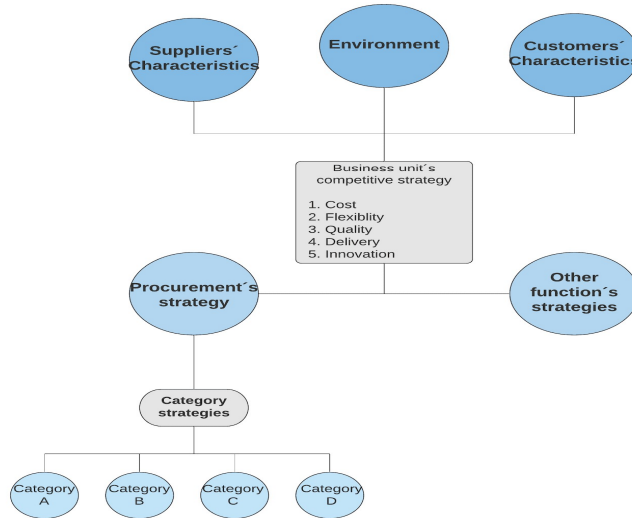


Figure 4, Forming a category strategy (Kumar, Kamel, Fantasy and Kumar, 2006; Virolainen, 1998).

2.2.2 External environment analysis

An organization is connected to its external environment and different factors in the external environment have a dynamic character and is under constant change. The organisation is also changing in a dynamic world which leads to complexity to deal with a highly dynamic external environment, thus leading to many forces that need to be taken into consideration when deciding the strategic direction of a company. (Allen, 2001). Further, the external environment has changed over time due to several factors such as technological changes, the increase of gathering of information, changed labour policies in many countries and more diverse demand from customers. In order to understand the external environment in which a company operates and are affected by, one of the most central aspect is to collect and acquire information of both customers, competitors and relevant stakeholders. (Hitt et al. 2016). Before digging deeper into how external analysis can be structured and what factors included in different frameworks suggested by the literature, it is important to highlight how different researchers define the process of analysing external environments. The definitions and the terms differ among researchers and are not necessary explicitly expressed as “external environment analysis”, therefore, the different definitions below include different terms but overall, they are covering the process of examining external markets, supplier markets or environments.

In current research, there are different terms and definitions used to describe the procedure of analysing the external environment. This includes both frameworks that explain the market from the perspective of procurement to analysing a supplier market and to explain a market more from a perspective where the goal is to become more competitive and increase sales. Below will be presented different definitions of what researcher’s refer to as analysing the environment outside the internal organisation and what factors that are included in these.

Huang (2019) divides the external analysis into three different levels which forms an “strategic environmental analysis”. The three levels are the following: macro environmental analysis, industry environmental analysis and internal environmental analysis which is according to

Huang (2019) a prerequisite for companies to formulate strategies. Van Weele (2000) also points out three levels of analysis which are the macroeconomic research, meso economic research and microeconomic research.

Van Weele (2010, p.63) is referring an analysis of external markets from the purchasing perspective to as “supplier market research: “the systematic gathering, classification, and analysis of data considering all relevant factors that influence the procurement of goods and services for the purpose of meeting present and future company requirements”. According to Van Weele (2000) a supply-market research can either be conducted at regular intervals or part of unique projects, the necessary data may be both quantitative and qualitative and can have its focus on both long-term and short-term perspectives. Similar to Van Weele (2000), Huang (2019) also argues that an external analysis can focus on both long-term and short-term perspectives and adds that in order for companies to formulate its strategies it is essential to conduct a strategic environmental analysis looking both at internal and external factors.

Furthermore, Hargraves (2008) uses the term market intelligence which is defined as: “the process of gathering and analysing information relevant to a company’s supply markets specifically for the purpose of supporting accurate and confident decision making in the procurement process” Hargraves (2008, p1). The term intelligence refers to information that has been “filtered, distilled and analysed” (Hargraves, 2008, p2). There is a difference between the terms market intelligence and supply market analysis. The main distinction between the terms is its dynamic or static characteristics. Market intelligence is considered as being a dynamic and active process that is always undergoing revision whereas a supply market analysis has more static characteristics, however, the aim of a supply market analysis is to give way for better procurement decisions by developing necessary intelligence. (Hargraves 2008). In addition to this, Hitt et al (2016) does not use an explicit definition of an external environment but does divide it into three levels: the general environment, industry environment and competitor environment.

Lastly, Lobermeyer and Kotzab (2010) presented a supply market analysis framework which consists of four main parts: existing supplier markets, product, new markets and buyer market. This framework is not per se divided into the levels of macro, meso and micro as the abovementioned literature is suggesting. However, some of the parts in that framework does cover factors that are included in macro, meso and micro but the distinction is not made based upon these levels and it includes factors not present in the frameworks of macro, meso and micro distinction. Therefore, these factors will also be discussed in a subchapter after the macro, meso and micro parts.

It is clear that the current research often divides an external environment into three different levels: macro/general, meso/industry and micro/competitor. These levels have different focus as pointed out by Van Weele (2000), Hitt et al (2016) and Huang (2019) and include therefore different factors to be examined, different appropriate frameworks and different approaches to conduct external analysis. Therefore, the next chapters will dig deeper into how an external analysis may be structured and what specific factors that the current research is covering for each of the three levels of an external environment.

2.2.3 External analysis structure

This section will discuss how an external analysis may be structured and what is important to take into consideration when going through different steps when analysing external environments.

The process of analysing an external market can both be challenging and complex which requires a clear structure and guidelines to make the analysis process more efficient and smoother (Lobermeyer & Kotzab, 2010). In the literature, there are different step-models and approaches of the process of executing an external analysis spanning over the three different environment levels. Below, different structures including different steps will be presented found in the literature.

Setting the scope of the analysis

Since scanning the environment is a complex and time-consuming procedure when looking externally in the market, it is of importance to have set the width of the scope in a that take all the relevant factors into consideration (Papulova and Gozova, 2016). One of the most central cornerstones in the process of conducting an analysis is setting the scope of it. Common pitfalls in the process of setting out the boundaries of the scope are likely to be setting the scope either too narrowly or broad. If an analysis misses or takes in too much information, the decision based on the information tends to become insufficient or reluctant for the process. Defining the scope too broad gives the decision-maker a struggle to set the outbound to limit the scope and therefore cover suppliers, products or geographic locations that are not included in the analysis. It may lead to an aspect that is not worth considering when looking externally for a category causes an inaccuracy in the analysis. Similar thinking can be addressed if the scope of the analysis is too narrow, whereas this affects how the commonalities or linkages across similar products or geographic markets being missed out in the analysis. (Porter, 2008). To mitigate this type of wrong setting of the scope of the analysis Porter (2008) emphasised asking two central question:

- What products are in it? Which ones are part of another distinct industry?
- What is the geographic scope of the competition?

Four-step model

Hitt et al (2016) describes an external environment consisting of three main parts; the general environment, the industry environment and the competitor environment. Hitt et al (2016) also gives an example of how an organisation's analysis of the general environment can be conducted, involving four main steps. The primary goal of conducting the analysis is to identify opportunities and threats in which the environment the company is active. The step model will be described below:

Scanning the environment includes examining and analysing the factors in the general environment and is essential as this gives a company understanding of each of the factors and the trends in the general environment. It also gives the company an opportunity to identify

ongoing changes in the general environment. It is important that the scanning of the general environment is in alignment with the business context of a company, for instance, if the company operates in a volatile market, the scanning system should also be designed for that kind of market. The scanning often includes a lot of data and information that is unstructured or incomplete, therefore, it needs to be carefully and thoroughly analysed. When scanning a market, it is common that companies use special software to identify different trends and news information that available in public sources through the internet. (Hitt, et al. 2016)

After the scanning has been conducted, the *monitoring* is done to identify important trends occurring from changes in the environment found in the scanning step. The prerequisite for carrying out a successful monitoring of the market is to find meaningful factors of trends and different events in the environment. Another essential to achieve an effective and successful monitoring is that the company identifies its relevant stakeholders and understand the needs of each stakeholder. This in turn will allow the company to act in order to fulfil these needs of each stakeholder. The scanning and monitoring steps of the external analysis are specifically important when the market is characterized by high technological uncertainty. (Hitt, et al. 2016).

When trends and events in the environment have been identified through scanning and monitoring, the following approach of the analysis is to dig deeper into predicting scenarios and when these might occur. These scenarios are based upon the trends and events analysed and identified through the scanning and monitoring steps. One example of a forecast that a company does is to try to predict when a certain technology will reach a market or how governmental and political initiatives such as tax reforms will affect the market structure. Conducting forecasts that are accurate and can anticipate what the future might hold can be a challenging task, especially when predicting high tech products and markets as these types of markets often have short product life cycles and fast-changing demand patterns. (Hitt, et al. 2016)

The final step of the external environment analysis, *assessing*, is important as it gives the company a deeper understanding of the trends and events analysed and identified in the previous steps of the external environment analysis. The main goal of assessing is to “determine the timing and significance of the effects” (Hitt et al, p, 45) of the changes and trends of the environment. Assessing market information also gives the company an idea of how relevant the information and trends are for the company’s context in the market. One factor that Hitt et al. (2016) point out that is essential when assessing trends is that how a company interpret the collected information of the external environment is even more important than the actual gathering and collection of the data as this allows a company to decide if a trend is considered as a critical opportunity or threat for the company’s position in the market. (Hitt, et al. 2016).

Furthermore, in 2004, Albright presented an example of how an external environment can be scanned in five main steps. The proposed step-model by Albright (2004) is more focused on how a macro-environment can be analysed. The purpose of conducting environmental scanning is to predict different future events, problems and risks in the external environment that will have an effect on an organisation. Through environmental scanning, an organisation's strengths and weaknesses are identified in comparison to threats and opportunities that are present in the given external environment. *The first step* of the framework suggests that the environmental scanning needs of the organisations should be identified. Before the process of scanning the environment, an organisation should clarify the purpose, the people that will participate and decide how much time and resources that can be allocated. *In the second step*, the information is gathered; the information needed of an organisation should be stated into different information elements. One important action in the second step can also be to state different questions and the chosen information sources in order to make the scanning more efficient and focused on the preferred outcome. After the information has been collected it continues to *the third step*, the information has to be analysed to identify different problems and trends that have an essential impact on the organisation. If there are insufficient information collected in the second step, the analysis step will have to be conducted again to ensure that all necessary information and issues are included in the scanning process. *In the fourth step*, the result from the analysis is communicated internally in the organisation. This should be communicated in a clear and concrete way to the right decision-maker in the organisation. Finally, when the result has been presented and communicated, the right decisions should be taken based upon issues and challenges identified from the analysis in order to take measures to respond against threats and opportunities in the external environment. (Albright, 2004)

Another approach of structuring an external analysis is proposed by Hargraves (2008) including four steps: developing commodity plan, determine cost structure, research suppliers and identify key market indicators. The analysis proposed by Hargraves (2008) is focused on supply markets and strives to collect and make data and information useful to allow procurement specialist to make procurement decisions more effectively and better. The four steps will be discussed more in detail below.

The first step, the development of a commodity plan seeks to give a clear picture of the products and services that are included in the analysis which helps organisations to scope the analysis. The specific factors to be examined in the commodity plan are description of the products, size and growth rates of the market, market history. Useful information sources for these factors are interviews with suppliers, visits at the supplier site and different trade magazines. (Hargraves, 2008).

The cost structure of suppliers is also included in the supply market analysis presented by Hargraves (2008) and the sources of information are often annual reports of the suppliers, information given by the supplier to investors, or conferences where the financial performance of the supplier is discussed. Examples of costs of the supplier that may be important for a company to understand are labour cost, transportation, overhead etc. When conducting a supply market analysis, it is essential to gain an understanding of the supplier base history and

structure. (Hargraves, 2008). There are several areas that need to be taken into consideration when doing supplier research to get a good understanding of the market (Hargraves, 2008):

- Number of suppliers
- Fragmented or consolidated industry
- Intelligence on the following:
 - Availability of low-cost suppliers
 - Possible supply channels
 - Geographic distribution of suppliers
 - Recent M&A activity

Identifying the key market indicators when making a supply market analysis is one of the most challenging and vital part. The market indicators could be identified for either a specific commodity, industry or spend area. Key market indicators in a supply market analysis is important due to two aspects. Firstly, it provides information and insights of the current market state and can be used to support previously research findings. Secondly, market indicators provide information on market trends, market cycles and seasonal variations, especially when the indicators are reviewed and examined over time. With this type of information on the different market trends will in turn support supply chain managers and purchasers to foresee changes and shifts in the market that could affect the price or the supply of certain products and goods. Hargraves (2008)

Hargraves (2008) listed in his article four main market indicator categories:

- Economic indicator
 - This is considered as the highest level of the indicators and includes aggregated data of pricing, employment and production
- Pricing indicators
 - The measures for this indicator include traditional pricing indexes, for instance Consumer pricing indexes and import and export indexes
- Employment indicators
 - This indicator simply covers employment rates and number of unemployment claims in a certain market.
- Production indicators
 - This includes rates of production capacity, statistics on industrial production, inventory levels and gross domestic production (GDP)

In addition to this, Lobermeyer and Kotzab (2010) argue that when conducting a supply market analysis, one of activities that are most critical for a high quality and successful analysis is to collect and document data in an accurate and structured way. Collecting and documenting data is an essential step in the analysis since it determines the quality of the overall analysis and how well the analysis can be applicable. It is important that the data collection is made in a structured way in order to ensure that the data has high quality and transparency in the process. To support the process of collecting data and documentation, it can be beneficial for the analyst to use a template where findings, assumptions, sources and conclusions are presented. This will

help the analysts to perform the data collection process in a more structured way. In addition to this, another tool that can be helpful is a research manual in which different aspects are listed and stated to further improve the quality of the first step. Lobermeyer & Kotzab (2010) argue that there are certain aspects that should be included in the research manual. First of all, in the research manual, an introduction and background of the research area should be stated. This will give the analysts an overview of the background as well as the purpose of the analysis and a better understanding of what actually is required from the analysis. Secondly, there should be a collection of best practice tools and structures of the analysis. Having such an overview simplifies the accessibility of different appropriate methods to grasp the analysis. Thirdly, the research manual should also include different guiding questions. The goal of these questions is to give way for the analysts to start with the analysis and to support the analysts and get him or she to think more thoroughly about the analysis and what should be included in it. (Lobermeyer & Kotzab, 2010)

Having a research manual plays a vital role for analysing supplier markets as it gives the opportunity that the market analysis is both valid and utilisable. The template together with a research manual also increases the reliability of the analysis as well as improving the structure and the execution of the analysis. Apart from the increased quality of the analysis by using these tools, the time perspective is also affected, it is often more time-consuming than expected to conduct a market analysis and having a template and research manual decreases the time it takes to conduct the analysis. (Lobermeyer & Kotzab, 2010).

2.2.4 Dimensions in an external analysis

As brought up in the previous sub-chapter, there are many ways how one can approach an external analysis in different steps to make the analysis process more structured. Below, different frameworks and analysis tools will be presented. The chapter will divide the external environment to three different levels suggested by the current literature: macro, meso or industry-specific, and micro or competitor analysis.

Macro-factors

The general environment of an external environment consists of factors that impact the society and thereby the company and the industry in which the company operates (Hitt et al., 2016). There are seven factors that Hitt et al. (2016) outlines: demographic, economic, political/legal, sociocultural, technological, global and sustainable physical. See figure 5 below. As opposed to the industry environment and the competitor environment, the opportunity to directly affect the factors in the general environment are low. Therefore, it is essential for a company to first recognize trends for each of the factors and thereafter predict what impact each trend will have on the general environment. (Hitt et al. 2016). Further, according to Van Weele (2000) the main part in a macroeconomic analysis is the general business and economic environment including important factors that have an impact on the balance of the supply and demand such as inflation, labour cost, price index etc. The approach of analysing macro-factors should be based on the

specific market characteristics and business needs that are present in different types of industries and companies. Therefore, what will be included in a macro-analysis will likely be different for every company. (Hung, 2019). In addition to this, Sammut-Bonnici & Galea (2015) highlight that a company has to take the resources available, capabilities and what competence the company has into consideration when analysing macro factors.

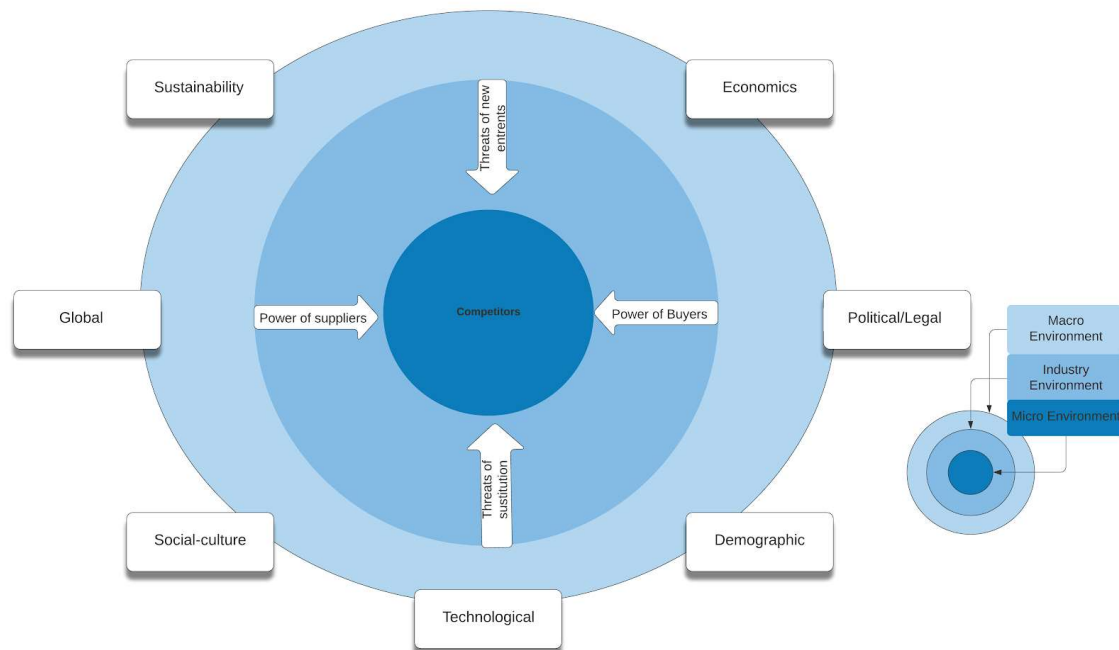


Figure 5, External environment (Hitt et al, 2016)

PESTEL is a market analysis tool consisting of the following aspects: Political, Economic, Socio-cultural, technological, environment, legal) which are similar to those factors in the “general environment” by Hitt et al (2016). This framework can be used when an analysis is required of aspects and dimensions of a market situation on a macro-level. The PESTEL-framework has two primary functions for a company. Firstly, it can be used to examine the environment in which a company operates. Secondly, it allows companies to gather information on external dimensions in order to foresee situations that it might face in the future. (Yüksel, 2012). It is therefore considered as an analysis framework of preconditions in a market and is thereby a suitable tool for strategic management (Yüksel, 2012). According to Witcher & Chau, 2010, PESTEL is used to both identify opportunities and risks in markets in which companies are active.

In addition to this, Allen (2001) points out reasons and why it is important to conduct an external analysis of the macro-environmental factors as of these in PESTEL. Firstly, it can provide a good understanding of the macroenvironment, thus avoiding major surprises. Secondly, it gives a company a better ability to identify opportunities and risks. Thirdly, when the opportunities and risks have been identified, it allows a company to improve its planning and have better response time. Finally, a thorough understanding of the macro-environment also enhances the understanding of the self-awareness for the organisation. This puts the

organisation in perspective to its internal environment and thereby minimize the risk of being blind and looking too much inward. A good understanding of the external macro environment both among senior managers and employees improves the proactive mind-set and planning rather than short-term reacting and fire-fighting approach to different challenges and events. Furthermore, what is also worth addressing in the context is the importance of including macro factors in the decision-making mechanism of a strategy as the external environment has become more globalised and as distances between buyers and suppliers have grown. Therefore, it is of more relevance to incorporate economic, cultural, political and social macro-factors in the decision-making process as macro-factors can have the ability to affect the total cost of ownership. (Butter & Linse, 2008).

Even though the PESTEL framework includes fundamental knowledge in analysis of a macro environment, there are some disadvantages pointed out in the literature. Yüksel (2012) argues that PESTEL has the disadvantage that since the framework has a qualitative approach, it does not allow for quantitative measures of the factors. Further, Yüksel (2012) highlights that the factors in PESTEL are measured in general terms and independently evaluated, meanwhile the factors may have different importance for a given business context.

Industry-specific

While the macro-environment includes external factors such as political, socio-cultural, economic etc, the Industry-specific seeks to examine external factors that affect a certain industry with a focus on the competitiveness, in which a company is active in. (Hitt et al, 2016; Huang 2019). The most common framework found in the literature explaining how to approach the industry-environment is Porter's five forces model. Therefore, this framework will be presented above as presented by Porter in 1979, whereas additional perspective from more recent research also will be brought up regarding the five forces model. Moreover, Van Weele (2000) uses the term mesoseconomic factors which are focused on different industry sectors and the information required for this analysis is often available through industrial agencies or centralized statistics. Furthermore, Van-Weele (2000) states different aspect that are important when looking into an external environment on a meso-level. These are supply-and demand analysis, utilization rate, order situation and sales, inventories and market structure. All these aspects are according to Van Weele (2000) important when examining a specific industry in a geographical area, for instance the steel market in USA.

Porter's five forces

In 1979, Porter presented a model consisting of five competitive forces in order to describe what factors that affect the competitiveness in an industry. The five forces are outlined in figure 6 below and will be explained more in depth. Thereafter, other researcher's findings and perspective of Porter's five forces model will be highlighted.

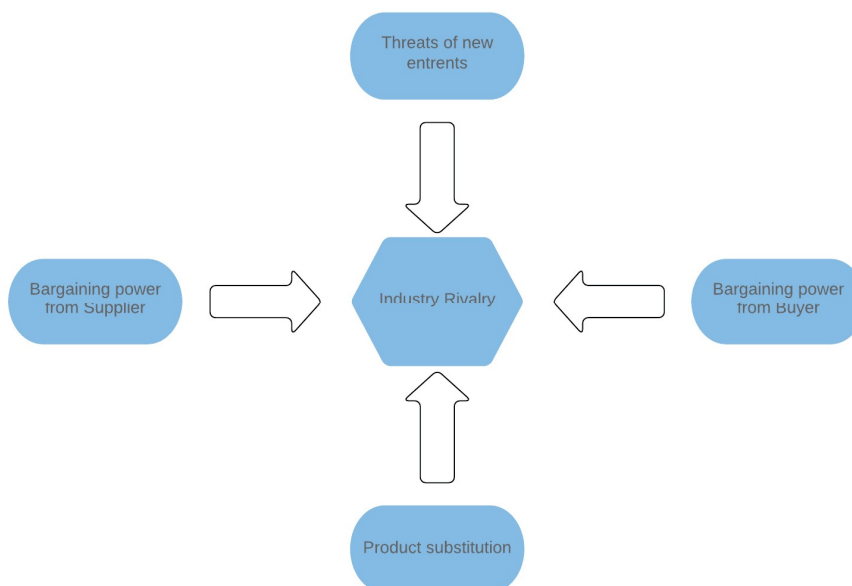


Figure 6, Porter's five forces

Threat of new entrants refers to the ability other companies have to enter a new market in order to gain new market shares and important resources in the market. According to Porter (1979), there are six major sources of barriers to entry which together determines the degree of the threat of new entrants in an industry. The six barriers are economies of scale, product differentiation, capital requirements, cost disadvantages independent of size, access to distribution channels, government policy. (Porter, 1979).

Bargaining power of suppliers and buyers is essential regarding the competitiveness in an industry and both these aspects are important to take into consideration when evaluating an industry or a market. The most significant dimensions that the buyers and suppliers can influence in a market is the price and the quality of goods and products. Suppliers may have the ability to raise their prices or reducing the quality of the goods sold and thereby exert bargaining power over other market players in an industry. Likewise, customers can achieve a more powerful bargaining position in the market by forcing down the price of products and goods or increasing the quality requirements of products and components. If a supplier or a buyer is considered as powerful in an industry is dependent on several factors. For instance, a group of suppliers are more powerful if dominated by a few numbers of companies or if the product the supplier sells is unique or the switching costs of the products the suppliers sells are high. Further, the suppliers can build up a powerful position in a market if there are no obligations to sell other contending products or if the industry is not considered as an important customer group. In contrast, a buyer group has a powerful bargaining position in these market situations: Firstly, if the buyer for instance purchases large volumes, it can benefit from lower fixed costs. Secondly, if the products are standardized and have low degree of differentiation, the buyer has the opportunity to easily change source of supply. Thirdly, in each tier or industry in a supply chain, there exists a different market dynamic in each industry. If a high value component is purchased from one industry, it creates incentives for the buying to somehow lower the cost of the component, whereas the buying firm later in the chain buys component which stands for a low share of the total cost of the product, the firm has low incentives to lower the cost of the component. (Porter, 1979)

Substitute products are an ongoing threat for a company who operates in an industry where the profit margin is high. Because the natural force in business when return in an industry is above average, the business lives under continuous threat of being switched to substituted product, intensified competition through new players in the market or new innovative product that can disrupt the industry. This can generate consequences for the industry in terms of price reduction or performance improvements that attack the players in the industry's profit margin through pressure on them to adept technology in the industry or more players in the industry. (Porter, 1979)

The industry rivalry force explains how the rivalry among competitors and what actions companies may take to maintain a strong position in the market. Examples of such actions are introduction of products, price competition or marketing incentives. Whether a market has intense rivalry depends on several factors. If there are many competitors present in a market or if the competitors have the same degree of power and size, the rivalry is most likely to be

intense. This is also the case if the industry is growing slowly, resulting in high competition for market shares, or if there is no significant differentiation of the products and services, the fixed costs are considered as high leading to prices that are cut or if the barriers to exit the market is high. (Porter, 1979)

The weaker these forces are in a market, the easier it is for a company to find a competitive position and achieve high performance. Therefore, a company's strategic goal should be to find a way to defend itself against or influence the competitive forces. In order to understand and cope with each of the force's impacting the market, it is important to understand the competitive status of the force's, which requires deeper analysis; one could examine: What factors determine the bargaining power of suppliers? With a knowledge of the underlying factors affecting the force's, provides a groundwork for a company to set up its strategy. It also gives a company a prerequisite to identify strengths and weaknesses of the company and also areas where the company can gain advantages of strategic changes. Finally, having the knowledge of the sources of the force's position also helps a company to identify opportunities and threats of the industry as well as finding a way of diversification in the market. (Porter, 1979).

Furthermore, throughout history, the model of Porter's five forces has been a recognised and well-established analysis tool for professional supply chain managers. However, there are researchers who have addressed criticism and highlighted the need for Porter's model to be redesigned and further developed in order to be more relevant and applicable in today's business context. For instance, Grundy (2006) argues that Porter's five forces model has limitations and gives examples of how the model can be further developed. One of the critical aspects that is highlighted of the model is that it is deeply focuses on macro-environmental factors whereas factors on a more specific level such as different segments in product markets is missed. The model is also insufficient in terms of the variations in value chains that may appear as well as segmentation of buyers. Although the model provides a tool to identify critical forces to analyse the competitiveness in an industry, it does not provide any guidelines or tools for actions and measures to deal with these competitive forces. In today's fast changing markets and business contexts, boundaries of a system or industry unit has become much more dynamic and fluid which Porter's five forces does not take into consideration. Finally, the model does not either include the market growth aspect or other macroeconomic factors such as political, economic, social and technological. Porter's five force is also linked with other strategic analysis tools as there is an interdependence between these. (Grundy, 2006).

Furthermore, Dobbs (2014) emphasises drawbacks and challenges that often occur in using Porter's five forces model. One of the challenges in using the model that is that many managers and companies only understand the model and its forces in a very shallow way, which may lead to an insufficient analysis of the market which in turn could lead to bad decision-making and lack of important aspects in the analysis.

Porter himself in 2008 points out common pitfalls when using the five forces framework. These are outlined in figure 7 below:

Common Pitfalls when conducting an analysis of the industry (Porter, 2008)

- Defining the industry too broadly or too narrowly
- Making lists instead of engaging in rigorous analysis
- Paying equal attention to all of the forces rather than digging deeply into the most important ones
- Confusing effect (price sensitivity) with cause (buyer economics)
- Using static analysis that ignores industry trends
- Confusing cyclical or transient changes with true structural changes
- Using the framework to declare an industry attractive or unattractive rather than using it to guide strategic choices

Figure 7, Common Pitfalls by Porter (2008)

Furthermore, Porter’s five force can be rather difficult and tricky to score, and different factors affect each of the forces. The current methodology taught by Grundy (2006) is that each force is considered as either favourable, neutral or unfavourable. Using such a scoring method increases the risk that the person applying the model gets a rather static scoring and not weighting the different score relatively to each other. A more flexible method that considers the relative importance of the different forces is a vector format. The model below illustrates its relative importance to the other forces. (Grundy, 2006)

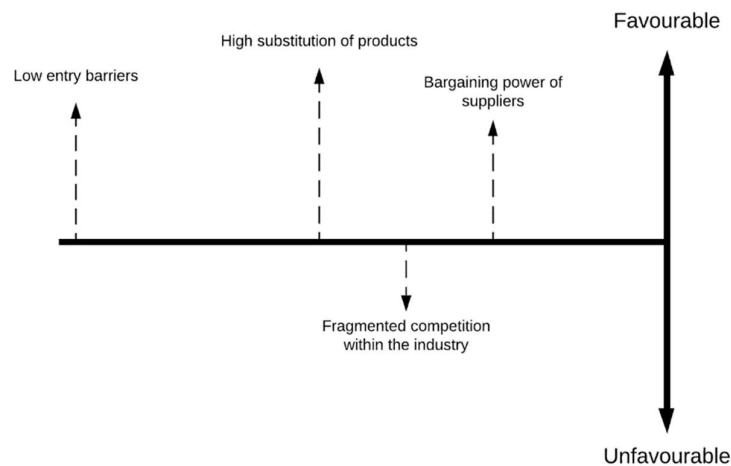


Figure 8, Weighed forces (Grundy, 2006)

Grundy (2006) also highlights the need of being aware of growth drivers and breaks in a market over time in order to understand the competitiveness and these should be a part of a joint system. The illustration in figure 9, the user of the tool can judge growth drivers and growth breaks by appreciate the significance of each driver or break in the industry so a final judgment of the future of the industry can be made.

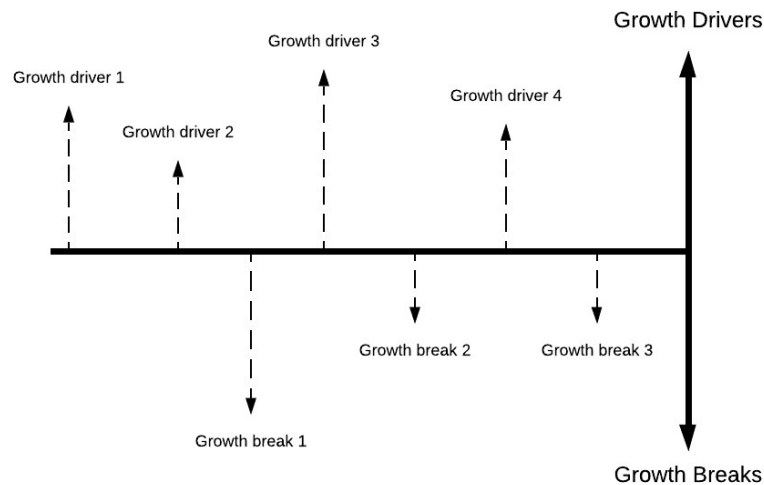


Figure 9, Growth Drivers (Grundy, 2006)

In the generic external system by Grundy (2006) below, the model is visualising the interdependent factors as the five forces, the PEST-factors, growth drivers in the industry, life cycle of the product and the inner circle which refers to the “competitive climate” shown in figure 10. It has similarities with the model of the external environment presented by Hitt et al (2016), but the difference is that growth drivers is highlighted in the model below.

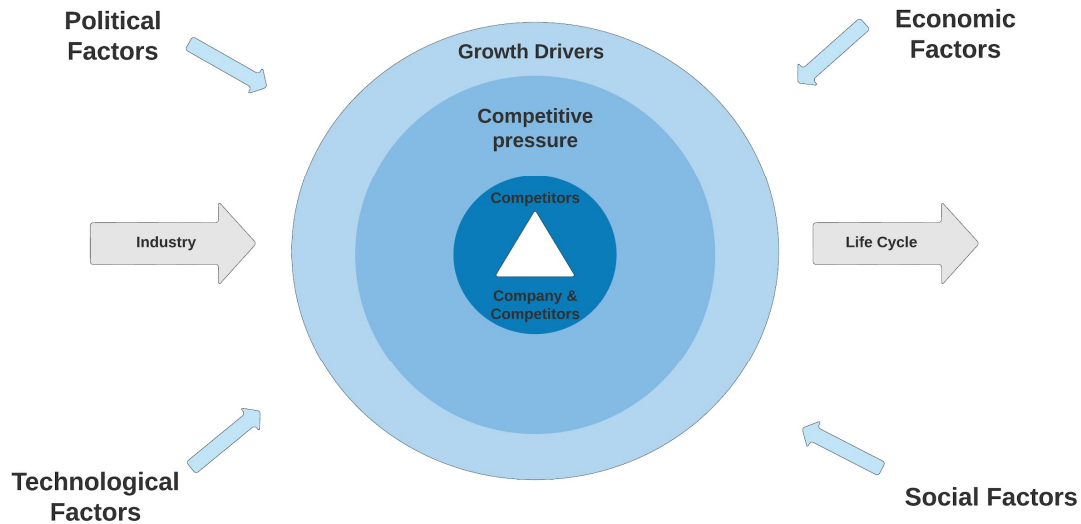


Figure 10, Generic external system (Grundy, 2006)

Competitor analysis

A competitor analysis seeks to analyse the market more in detail than the meso-analysis and the industry-specific analysis. It recognises and tries to predict a competitor's actions, responses and intentions. By analysing these three different parts of the external environment, a company gains prerequisites in order to determine its strategies, how the mission and vision should be formulated and take corrective measures and actions to remain competitive. (Hitt et al. 2016). Van Weele (2000) uses the term Microeconomic analysis which aims at analysing both strengths and weaknesses of suppliers and products which can be done by collecting information such as financial audits of suppliers, analysis of the cost of suppliers, and how well suppliers can meet quality requirements. Based on these two explanations by Van Weele (2000) and Hitt et al. (2016), a competitor or microanalysis intends to analyse actions, responses and supplier performance on a more detailed level on a single enterprise, either on a supplier or a competitor.

Analysis tools for the competitor analysis

There are different analysis tools on a more detailed level as the competitor or the microanalysis is focusing on an individual entity. A value chain analysis helps a company to understand the flow of products and information between both different suppliers and customers (Simatupang, Piboonrunroj, and Willams, 2017) and SWOT analysis is commonly used by enterprises to examine and analyse different competitors as well as build up strategies (Huang 2019). Therefore, these two models will be explained below more in detail.

Value chain analysis

In 1985, Porter presented a framework “Value chain” that companies can use to better identify in what step the customer value is increased, a better understanding of the competitive advantage (Porter, 1985). By conducting a value chain analysis, a company can gain a deeper understanding of the relationship it has with its customers, suppliers and other companies of the industry where the company is active (Simatupang et al. 2017).

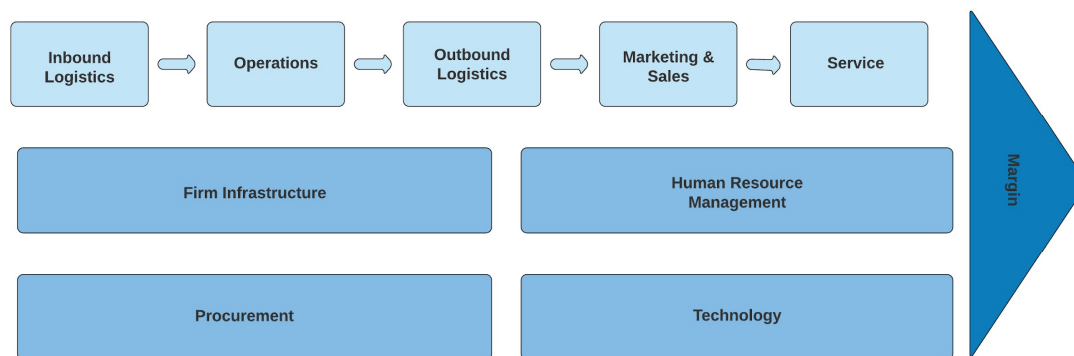


Figure 11, Porter's value chain (Borja de Mozota, 1998)

A value chain is defined as: “the linked set of value-creating activities all the way from basic raw material sources for component suppliers through the ultimate end-use product delivered into the final customers’ hands” (Shank, 1989, p.50). A value chain can be a helpful tool to understand the position of a product in the value chain and how the product is connected by suppliers, the own company processes and the final customers. According to Simatupang et al., 2017, a value chain analysis is conducted in order to identify the stages of the Value Chain where the firm can increase value to the customer or lower costs. The value chain analysis covers not only the activities performed in the own organisation' but also the activities that comprise activities outside of the own organisation to gain a total overview of the value activities forming the transformation of a product from raw material to the final customers. (Simatupang et al., 2017). Another approach of applying the value chain analysis is made in the article, *a practical approach to supply-risk management*, where the approach is more directed into identifying risks in a value chain. According to Bailey, Barriball, Dey, and Sankur (2019, p.3: “A typical approach for risk identification is to map out and assess the value chains of all major products. Each node of the supply chain—suppliers, plants, warehouses, and transport routes—is then assessed in detail”. Every risk that is identified in the chain of activities gets registered and monitored continuously. This is the first step in their approach to working with a value chain analysis of a risk perspective. In the following step, each risk which has been identified in the value chain should be scored by three dimensions: (Bailey et al., 2019).

- Impact on the organisation if the risk materialises
- The likelihood of the risk materialises
- The organisations preparedness to deal with that specific risk

Based on the dimension explained above, each identified risk gets assigned a tolerance threshold score which represents the organisation's risk appetite. It is important to have this procedure in place, as it allows the management for prioritising and aggregating threats to critical high-risk products and nodes in the value chain which can materialise in a disruption. (Bailey et al., 2019).

SWOT

SWOT analysis is a strategic analysis tool that has gained a lot of attention over time. The model consists of both internal and external factors. The internal factors are Strengths and Weaknesses and the external are Opportunities and Threats. The model has not only increased in popularity over time among managers and decision-makers to use in strategic decision making, it has also increased the number of business areas where the model is applied. The SWOT analysis is a rather simple tool that describes each of the factors mostly in relation to the own organisation. Throughout history, there has been criticism highlighted among both professionals and scholars. (Vlados, 2019).

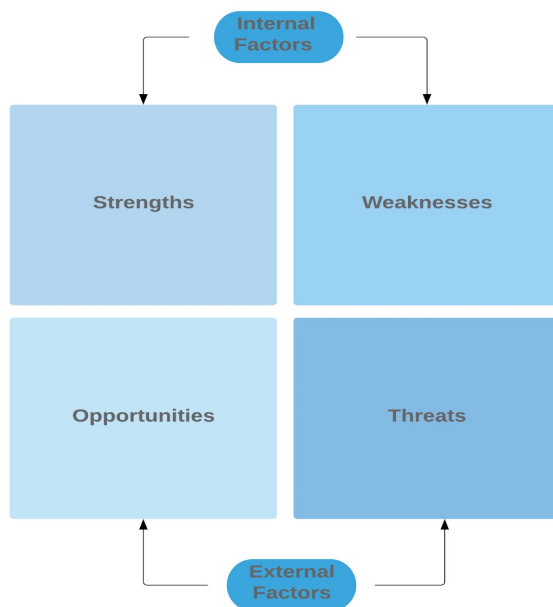


Figure 12, SWOT matrix

Hill and Westbrook (1997) criticise SWOT in terms that the model only can be used for describing a situation in general terms. Further, Nixon and Helms (2010) argue that the theoretical support of the SWOT model is lacking and that the model only takes into consideration of the current situation and not includes how to predict and interpret an environment that is constantly changing. Nixon and Helms (2010) further points out that the SWOT analysis is lacking empirical testing since the factors often are based upon expert's interpretation.

Supply market analysis

Apart from the factors and frameworks presented above within the structure of the three different analysis levels, Lobermeyer and Kotzab (2010) suggest that a supply market can be analysed based upon four main aspects shown in figure 13 below:

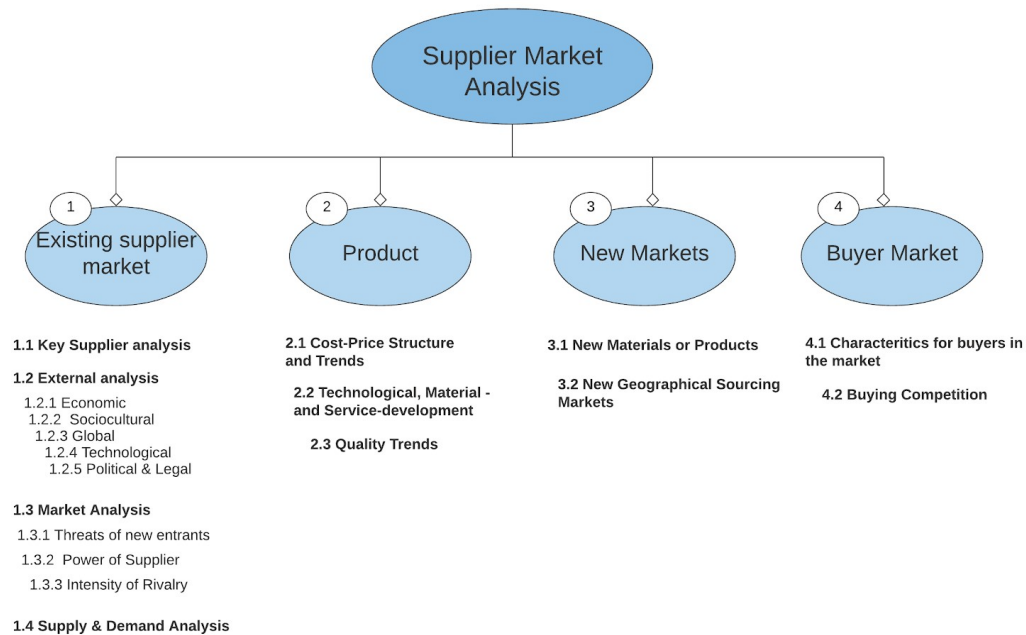


Figure 13 Supplier Market Analysis (Lobermeyer and Kotzab 2010)

As stated in figure 13, some of the factors included in the framework is included in the previous chapter in the levels of macro, meso and micro. In the first main part, “existing supplier markets”, the factors in the PESTLE framework (macro-analysis) are included as well as industry rivalry (industry-specific analysis). Therefore, what will be discussed more in-depth in this chapter to nuance the theoretical framework is the supply and demand criteria, the second aspect, product, the third aspect, New markets and briefly the fourth aspect.

Supply and demand analysis are included (1.4) in the first aspect, as this gives the analyst or purchaser an idea of the future demand and trends of a product. This can be done, for instance by looking into the demand structure of the product, how stable the price of a certain product is and how the demand consistency is etc. The criteria when studying the supply and demand structure is outlined in figure 14 below (Lobermeyer and Kotzab, 2010):

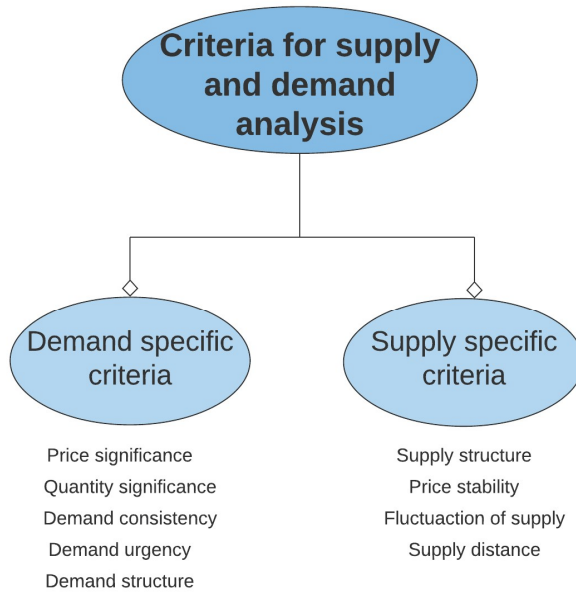


Figure 14, Criteria for supply and demand analysis (Lobermeyer and Kotzab, 2010)

It is clear that Lobermeyer and Kotzab (2010) also differ in their proposed framework compared to the macro, meso and micro perspective by focusing more the product itself being sourced, as the second central aspect is covering. The relevant information for this aspect is to identify and analyse factors that influence the “*price, performance, or characteristics of the product itself*” Lobermeyer & Kotzab (p 251, 2010). Analysing these influencing factors is essential to understand the entire sourcing process, as it enables the procurement function to get knowledge and insight into the product. Where the formation of the prices and which factors that impact the quality of the product and how the materials are developed. The three areas that the product characteristics are grouped into are cost-price structure & price trends, technological-, material-, and service-developments and quality developments. The cost-price structure and price trends aim at analysing the factors affecting the price of the product being purchased and gain in-depth knowledge about the cost structure of the product, which also gives the purchaser the ability to choose the most affordable sourcing alternative (Lobermeyer & Kotzab 2010). The technological-, material-, and service-developments in the second dimension shown in figure 13 covers, to some extent, the innovation perspective within strategic sourcing. It is crucial to examining different innovations in the market taking place and identifying technological developments of products and also finding best-practices among market players. The quality area seeks to analyse factors affecting the quality of a product and compare it with the cost analysis. (Lobermeyer & Kotzab 2010).

The third leading dimension of the supplier market framework by Lobermeyer & Kotzab (2010) focuses on new potential markets and what other alternatives there are both in terms of the product itself but also alternative geographical sourcing locations. This dimension is especially important since it allows procurement to be open for new alternatives and not only

pay attention to current suppliers and products. When exploring alternative geographical sourcing places, there are opportunities and advantages such as lower prices, but Lobermeyer & Kotzab (2010) also emphasises on essential to have in consideration the overall complexity that international sourcing involves. Lastly, the fourth dimension focuses on the attractiveness of the own organisation in the market and focuses on the buying power of the organisation related to the supplier characteristics and the other buyers. In order to compare other buyers in a market, it is central to look into factors such as switching costs and how differentiated how the market is itself. (Lobermeyer & Kotzab 2010)

In addition to the proposed framework above by Lobermeyer and Kotzab (2010), these authors also highlight important general aspects to take into consideration when analysing a supply market and making strategic decisions. For instance, it is of importance that the decision-maker has the information of the market, understands the information and the facts of the market as well as different market alternatives. All these three are covered in the Supply Market Analysis framework. Further, Lobermeyer & Kotzab (2010) argue that in order to conduct a dynamic market analysis, it is insufficient to only look into the first dimension of the framework, as a market is not limited to a geographical area with a limited number of supplier alternatives. It also is essential in the analysis to cover trends and changes in the product itself. New markets also have to be included in the analysis, which is brought up in the third dimension. The third dimension includes both the opportunities of new markets to source from and alternative products which are considered as significant. (Lobermeyer & Kotzab, 2010)

2.2.4 Additional aspects

Apart from the above-mentioned factors in the previous chapters, additional aspects and perspectives in the context of external analysis will be presented to increase the transparency and get a nuanced base for the theoretical framework. The literature highlights that one of an external analysis goal is to identify risks in a market, therefore this aspect will be covered. Further, the sustainability perspective will also be discussed as well as other additional aspects identified in the literature such as purchasing portfolio analysis. The additional aspects are added as these are giving a broader perspective on external analysis, which is necessary as the report is partly aiming at providing improvement suggestions of how a current external analysis can be improved.

2.2.5.1 Supply chain risk in external analysis context

One of the main goals of conducting an external analysis is to identify risks which gives companies the opportunity to take appropriate actions to mitigate the risk (Witcher & Chau 2010). Procurement is also a function that has been faced with increased challenges over time whereas the risk awareness and risk management play a relevant role when dealing with external factors affecting the supply chain and the market in general (Holweg, et al. 2011). When looking externally in the business environment from a supply risk perspective, it is important to identify supply chain risks such as disturbance in supply chains that are geographically dispersed, bankruptcy of the supplier or that the supplier's quality of the product in is not fulfilling the product requirements of the buying firm (Bailey et al., 2019).

In recent decades the development of outsourcing, globalisation, higher market complexity, and market dynamics has increased the relevance of adding supply risk parameters when doing an external analysis. The trends of globalisation and outsourcing have impacted supply chains to become more dispersed all across the globe, where the number of international suppliers has increased in numbers. (Harland, Brenchley and Walker, 2003).

Consequently, a supply network setup with many different suppliers all across the world, makes it altogether difficult to avoid disruption in the network since risks need to be identified and monitored throughout the whole supply chain (Bailey et al., 2019). In addition to this, there are other challenges such as checking for potential risk in the supply chain, the reduction of inventory levels and safety stocks across the supply chain. This has amplified the probability of turbulence inside supply chains as these have less ability to handle variance on the demand or supply sides and become in greater terms vulnerable to disruptions in the supply chain. (Bian, Shang & Zhang 2016).

Nowadays, in this globalised environment organisations are encountering supply risk regardless of how a company's supply chain is configured. While supply chain risk is inherent and inevitable in a supply chain, what management can control is the granularity of supply chain risks exposure it accepts. (Bailey et al., 2019). Zsidisin (2003, p.222) defines supply chain risk as follows:

“Supply risk is defined as the probability of an incident associated with inbound supply from individual supplier failures or the supply market occurring, in which its outcomes result in the inability of the purchasing firm to meet customer demand or cause threats to customer life”

According to Cousins, Lamming, & Bowen (2004), the likeliness of disruption or an unexpected event which is caused by an individual supplier or disturbance in an entire market can easily be mitigated depending on the risk strategies implemented by the management. Tomlin (2006) outlines three various strategies that can be applied in order to mitigate supply risk. The first strategy is defined as a mitigation focused strategy; an action that is made on precautions basis, before a disruption has taken place. The second strategy is the contingency strategy; an action is made when the risk occurs, as contingent sourcing from another supplier. The third is an acceptance strategy; when the overall cost of dealing with the uncertainty through contingency and mitigation strategies is higher than losses of a potential disruption. On the contrary, scarcity of resources, tight cost controls at organisations and lack of risk analysis tools make it hard for managers to explicitly see the benefits of working with supply risk management (Kähkönen, Lintukangas, and Jukka Hallikas, 2017).

Although recent research has classified supply risk management as a vital aspect to have in consideration when constructing a supply chain, in many cases, the supply risk objectives are not included in the functional strategy for procurement. In contrast, the objectives are usually set to cut cost, reducing inventories, and improving in-stock product availability and risk management is viewed in many cases as a process that slowed down the velocity of achieving those objectives. (Manuj and Mentzer, 2008)

Besides that, the supply risk aspect is often neglected as an objective for procurement and it is an area that has drawn much attention recently (Bailey et al., 2019). One approach to handle supply chain risks is to have a systematic way of making judgement and incorporated a risk management process (Hofmann, Bode, Busse, and Henke 2014). A common risk management approach according to Hofmann et al., (2014) comprises of four parts:

- Risk identification
- Risk assessment
- Risk handling
- Risk monitoring

The logic behind this process is stated by the authors Hofmann et al. (2014, p. 162)” to *determine, implement and monitor an optimal combination of avoid, defer, reduce or transfer all relevant risks*” so that the level of overall risk in the supply chain is following the corporate’s risk preference and strategy. However, as this research solely has a focus on the external analysis in a strategic sourcing perspective, the risk identification part is the step which brings the highest interest, as initially in every sourcing project it is vital to identify the potential risks that later can cause disruption or unwanted events in a supply chain. (Hofmann et al., 2014).

2.2.5.2 Sustainability

With a risk perception in mind, another potential risk factor that has gained momentum within procurement is the sustainability aspect, partly because of a variety of different stakeholders pushing corporate structure to become more aware of its sustainability footprint (Hofmann et al. 2014). As the emergence of sustainability is putting pressure on businesses to adopt, procurement is one of the business functions that have the strategic ability to adhere to sustainability goals into the corporate structure (Crespin-Mazet & Dontenwill 2012).

Furthermore, to manifest how sustainability can be taken into account in a supply risk context, businesses can select suppliers that are accomplishing the ethical, environmental and social dilemmas and thereby having sustainability as an important factor in the value chain. If a firm does not take these aspects into account, it may lead to a harmed reputation, financial implications, e.g. that consumers boycott product due its trespassing of the sustainability requirements, which eventually could lead to a severe financial damage and in this sense viewed as a supply risk factor. (Hofmann et al. 2014). Therefore, businesses have become more aware of the importance to start to include sustainability into the business and thus achieve corporate legitimacy (Crespin-Mazet, Dontenwill 2012).

2.2.5.3 Purchasing portfolio analysis

In 1983, Kraljic presented a purchasing portfolio analysis which can be used to determine an appropriate supplier strategy by grouping items into different buying categories (Gelderman & Van Weele 2003). One of the main ideas of the purchasing portfolio matrix is to get the most possible from buying power and reducing the supply risk, whereas the model is a relevant model in the context of risks in external analysis supplier markets. The matrix consists of two dimensions: profit impact and the risk level of the product being sourced. Both these dimensions are then divided into either low or high which results in a 2x2 matrix with a total of four product categories: leverage, strategic, non-critical and bottleneck. (Wagner, Padhi and Bode, 2013) The purchasing portfolio is described below in figure 15:

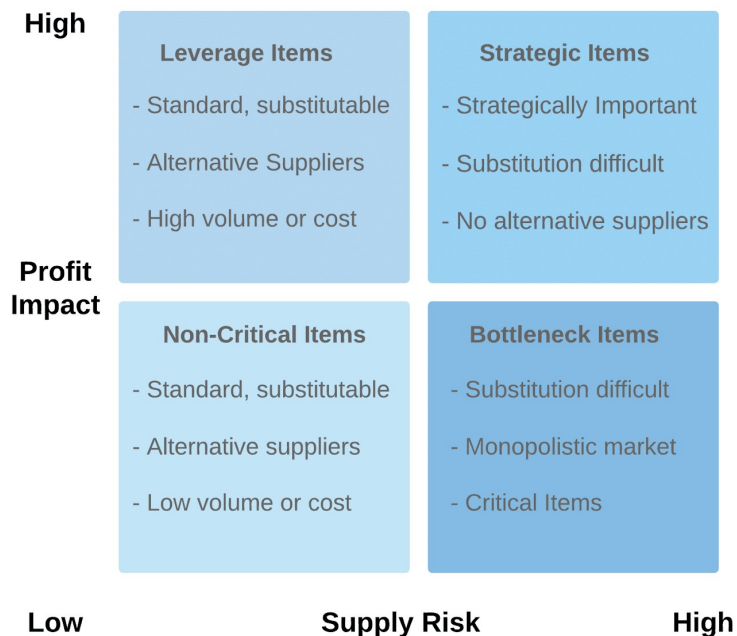


Figure 15, Kraljic Purchasing Portfolio Matrix (Wagner, Padhi and Bode, 2013)

In the Kraljic's Portfolio Matrix, the horizontal axis is measuring the supply risk, which is divided into three different factors: Market risk, performance risk and complexity risk. Market risk considers the availability of potential supplier for the commodities, the market characteristics (Monopoly or Oligopoly) and the entry barriers to the market. The second supply risk Performance includes supplier quality and performance-related issues. It also takes the aspect of adapting to new technology. (Wagner, Padhi and Bode, 2013)

Lastly, the third aspects are the complexity risk which is associated with problems with standardisation of the service or product, which partly includes how easy it is to switch to another product or service. On the longitudinal axis, in figure 15, the commodity's profit impact

on the company is illustrated. This aspect has three dimensions. Firstly, impact of profitability addresses the profitability of the purchase on each commodity. Secondly, the importance of purchase is considered which raises the issue of how important the commodity is for the business, Lastly, the value of purchase explains the tangible and intangible cost attached to the purchase of the commodity. (Wagner, Padhi, and Bode, 2013).

Depending on the importance and the dynamics of the supplier market, the category is adhering to one of the four different purchasing strategies that companies may apply for each of the item category. For *non-critical items*, the focus should be on efficiency of the purchasing processes, standardisation of products, optimization of order volume and inventory. As *Leverage items* have low risk and high profit impact, it allows the company to use its purchasing power, for instance by tendering, target pricing or opportunities of product substitution. When dealing with *Bottleneck products*, the most suitable approach is to secure supply through ensuring the correct volume, high control of the inventory or different backup plans. Finally, the *Strategic items*, which have both high risk and high profit impact, the company should build a strong relationship with the supplier in order to secure the supply of the commodity. (Wagner, Padhi, and Bode, 2013).

Despite that the model is widely used by companies, there are also critiques and limitations of the model highlighted in the literature. Gelderman and Van Weele (2002) conclude that the dimensions in the portfolio is rather general and that it does not provide indicators for specific strategies, but also that the portfolio does not take specific circumstances in the supply chain into consideration. The portfolio provides a set of purchasing strategies, however, it does not support purchasing managers how the implementations of these strategies should be proceeded or how one can effectively switch from one strategy to another (Gelderman 2000). In addition to this, Wagner, Padhi, and Bode (2013) argue that the model is dependent on the subjective judgement of the user. Gelderman and Van Weele (2003) argue that the portfolio should be developed and elaborated with companies' specific circumstances and situation, thus creating a more dynamic analysis tool.

2.3 Summary of the academic literature

The presented literature above includes many aspects and factors that are important when looking into and analysing an external environment. Some authors suggest that an external analysis should be divided into different distinct levels whereas Loberymeyer and Kotzab (2010) use a supply market framework with some additional aspects, mostly focusing on the product itself and what is affecting the price and demand structure as well as new markets. Further, the additional dimensions as of risk management, sustainability and purchasing portfolio analysis were also added as these are important in the context of analysing and examining an external analysis. These were also added to bring up a nuanced perspective of the external analysis frameworks to make it relevant for the purpose of the study which partly is to provide improved suggestions of an existing external analysis. These included supply chain risk management, sustainability and portfolio management. The supply chain risk perspective was included as one of the main focus in analysing external markets is to identify risks as well as opportunities (Albright 2004). The sustainability aspect was brought up as this is a prerequisite for many companies and how they act, which could be interesting to see how this aspect can be linked to analysing external markets. Finally, Kralic's purchasing portfolio matrix was brought up in the literature review as it covers the supply risk aspect of the external analysis and is a cornerstone of the category strategy implementation phrase at the case company.

3 Methodology

This chapter describes how this study has been approached. This includes the chosen method, how the empirical data has been collected and what research strategy has been chosen. The analysis process will also be brought up as well as the qualitative assessment of the study.

3.1 Research strategy

A research strategy is set to explain the research question and purpose going to be explained through the collection of data. Either qualitative or quantitative are the two different strategies that can be used to gather data throughout the research. As this study aims at gaining a deep understanding of what factors are important and what challenges there are in external market analysis and how existing frameworks can be optimized based on these, a qualitative research has been chosen. When researchers aim at seeking deep knowledge and understanding of a certain problem or topic, qualitative research is an appropriate approach according to Collis & Hussey (2013). This study is an explorative research as the research is advancing across an environment out to the unknown to answer a research question based on "What" (Yin, 2018). It seeks to find deep knowledge and understanding of what factors and aspects are important to include in an external analysis and what challenges there are when conducting an external analysis at a case company by interpreting both respondents' perspective and documents, making the study suitable for a qualitative approach since the researchers' own interpretation of the data will be included.

In order to gain deep knowledge of what factors are important for an external market analysis and to get knowledge to optimize a current external analysis framework, a case study has been chosen at a multinational company based in Gothenburg with a well-developed department working with external analysis. To collect relevant data for this study to fulfil the purpose and answer the research questions, both existing research and empirical data has been collected to expand the transparency and understanding of the research field. A literature review was conducted in order to get a better understanding of the input and perspective of the existing research. Empirical data was collected through interviews and documents to get new insight and give way for interpretation of a current framework and what factors and challenges are present to get a broader perspective of the identified research problem.

It is important to also highlight the downsides and disadvantages of conducting qualitative research. Qualitative research includes subjective judgements of information and the findings and how these are presented are to a large extent based upon the author's interpretation (Kothari, 2004). In contrast to a quantitative research approach, there are no statistics or figures being collected or analysed. However, as this study aims at identifying relevant factors to be included in an external analysis to be able to optimize a current framework, it is necessary to choose a qualitative approach since this allows for deeper understanding of a phenomenon.

This research seeks to both get knowledge through existing theories and literature and by collecting empirical data. According to Collis & Hussey (2013), deductive research has the

approach of looking into existing literature and developing concept of the theories which then are tested based upon empirical observation. In contrast, inductive research seeks to develop theories based upon patterns and finding from observations of the reality (Collis and Hussey, 2013). In this study, theories and researchers' different perspectives have been presented. Further, the data that has been collected has been compared with the theories to identify similarities and patterns with the existing theory. However, the purpose of the research partly is to optimize a framework and to add new inputs and insights to the existing literature. Therefore, the study has not a pure deductive, nor inductive approach, but can be argued to have an abductive approach.

3.2 Research design

The choice of research design is important to take into consideration. According to Yin (2018) the research design is in a logical sequence to connect the empirical data to the research question, the structure of the research and how analyses of the empirical material have been conducted. The research design chosen for this research is a qualitative case study as it was considered as the most appropriate design in order to fulfil the purpose of identifying important factors and challenges, requiring deep knowledge of the research problem. The chosen data collection method for this study has been primary data through interviews and secondary data through documents. According to Kothari (2004) the main goal of conducting research is to identify new knowledge and find answers to present information of the truth that has not been outlined previously.

Further, Kothari (2004) argues that a research can be considered as an exploratory study when the objective is to become more familiar with a phenomenon or to gain new insights of it. As this study focuses on a research area through collection of data to get new insights and to gain new knowledge and insights of external market analysis, it can be argued that this research is an exploratory research. According to Collis and Hussey (2013), a research questions formulated with what and how is appropriate for an exploratory study, which further strengthen the argument of this study being of exploratory character

Case study

According to Yin (2018), a case study is an appropriate research method when seeking depth into a real-world context, where a distinct phenomenon is examined, and the aim is to describe the case in a comprehensive and accurate way (Marczyk, DeMatteo, & Festinger, 2005). A case study is often conducted when the research is of qualitative character and is carried out through an observation of for instance a unit person, a social unit, a group of people, or institution seeking to find deep knowledge rather than broad knowledge (Kothari, 2004). This study is conducted at a company where in-depth knowledge has been gained through the data collection, which is in line of how a case study is described. Despite that there are several advantages of a case study such as gaining real insight from the reality, information of people's own experience and gaining deep knowledge of a unit, it is important to highlight the drawbacks as well in order to be transparent. Yin (2018) for instance emphasis on authenticity

of the findings in terms of generalizability since in case-study research, without a diversified respondent base, where respondents from other organisation are missing, the studied phenomenon can be questioned on the ability to generalise the result. Further, it does not give the opportunity to compare the result with a broader sample of units and it is usually very time-consuming to conduct a case study (Collis & Hussey, 2013). Moreover, it can be difficult in the process when setting the scope of the case study approach, argued by Collis and Hussey (2013). These issues have been taken into consideration through this research in order to make sure that the overall quality of the research is not lacking, by for instance having regular follow-up meetings, plan the empirical data collection thoroughly and realistic time plan.

3.3 Data collection

In order to fulfil the purpose of the report and answer the research questions thoroughly, both primary and secondary data has been collected. The primary data was gathered through semi-constructed interviews, both inside of the case company as well as respondents outside of the company. Secondary data is a mixture of academic literature within the research area but also a document collected at the case company that states the current processes and guidelines of external analysis.

3.3.1 Interviews

The primary data consists of interviews conducted at the case company together with secondary data of documents. Having both interviews and other data collection methods is beneficial since it increases the amount of information and thereby increases the knowledge of the phenomenon. It also gives the interviewer advantages such as interpreting the respondents' reaction and identify if any topic is unclear for the respondent, thus leading to opportunity of directed follow-up questions which would not be possible through a survey or questions sent by email (Kothari, 2004)

According to Bryman and Bell (2011) there are three different main types of interviews. Structured interviews, unstructured and semi-structured interviews. There are different advantages of the different degrees of structure of interviews. Semi-structured interviews open possibilities for the researchers to be flexible in the collection process, as additional questions can be asked to cover areas that not initially were thought of when the question were formulated, thus gaining deeper insights. Since the research is focusing on a single company, case study, an in-depth approach is according to Yin (2018) a more appropriate choice of method.

Furthermore, throughout semi-structured interviews, critical follow-up questions can be asked to gather additional insights to the outcome of the research as well as the opportunity for respondents to freely discuss the subject (Bryman and Bell, 2011). Another rationale to why semi-constructed interviews were preferred as the collection method for the primary data, was due to its scarcity of time and to obtain all the necessary data, as Bryman and Bell (2011) motivate semi-structured interviews to collect valuable and relevant information when time

limit could be an obstacle. The choice of semi-structured interviews was considered as the most appropriate interview method for this study because of the rather complex topic and that a more of a discussion than structured interviews were required to really understand the external analysis processes at the case company.

3.3.2 Interview performance

In total, 10 semi-structured interviews were conducted with respondents having one of their main responsibilities to conduct external market analysis. Interviewing relevant people for the aim of the research is important as this provided good input and led to a deep knowledge of the perspectives of the respondents. The interviews were conducted through web-meetings due to the fact the respondents either were geographically located elsewhere or that the respondent preferred that method as this was considered as less time-consuming and more flexible. Each of the interviews took between 30-60 minutes which is outlined in table 1.

Furthermore, Kothari (2004) highlights the importance of a fair and ethical approach when conducting interviews, for instance, the interviewers should be friendly, polite and accept if any respondents do not wish to be part of an interview. These aspects were taken into consideration through the data collection. To minimize the risk of miss-interpreting any of the information provided by the respondents during the interviews, all interviews were recorded and within a reasonable time, the interviews were also transcribed. All respondents gave their permission to be recorded during the interview. Recording interviews are important since it can be difficult during an interview to have time to take notes of everything said and it is easy to forget essential parts of the discussions. The questions asked during the interviews were based upon an interview guide (see appendix A). Due to the exploratory approach of this research and that the research field is to some degree unknown, the interview guides were also semi-structured. This was helpful during the interviews as it was not required to ask questions that had only been stated prior to the interviews. Having a semi-structured interview guide enables the study to collect all the most relevant aspects of the phenomenon, but also be flexible during the interviews so that topics which emerged during the interview could be covered (Bryman & Bell, 2011). As the respondents of this study had different main responsibilities and background, the interview guides were constructed with some differences, however, the main structure was followed during all interviews. The guide covered the different areas of external analysis by having a standard interview questionnaire asked to every respondent in the study. However, as the selected respondent were chosen to find new insights into the phenomenon, some additional questions in the interview guide could be added depending on the expertise of the respondent or if the respondent had a position outside the case company.

3.3.3 The process of selecting respondents

The respondents of this research were chosen to gain as much new insight and valuable input as possible. In total, 12 respondents were contacted through email where a brief summary of the research area and the purpose of it was explained (see Appendix B). The reason why 12 respondents were contacted, was due to the fact that these were considered as relevant for the study and that it was reasonable with this number of respondents given how much time there were to perform the overall study. All except two responded and accepted to participate in the interview. This sampling process was done through a snowball sampling method, according to Berman and Bell (2011), where employees at the organisation who was recommended by the supervisor and later were contacted to participate in the research or respondents who could provide an outside perspective of the case company. The selection criteria for the respondent was that they have previous knowledge of conducting external analysis and thereby give knowledge, experienced challenges and new insight of external analysis. The contacted respondents were in accordance with the selection criteria, who could provide new insight into the existing knowledge regarding the topic or respondents which possessed a prominent knowledge of external analysis. The selected respondents were diversified by nationality, hierarchical position and location which may have increased the transparency and perspective. The respondents outside the organisation were also chosen according to the snowball method.

Table 1, List of respondents

Respondent	Company	Title	Date	Time	Approach
1	Case Company	Risk Managers	22/4	60 min	Online
2	Case Company	Category Manager	8/4	30 min	Online
3	Case Company	Category Manager	8/4	30 min	Online
4	Case Company	Category Manager	14/4	30 min	Online
5	Case Comapany	Category Manager	1/4	45 min	Online
6	Case Company	Strategic Sourcing Analyst	9/4	30 min	Online
7	-	Cheif Operation Officer	27/3	45 min	Online
8	Ethos International	Sustainability Advisor	30/3	30 min	Online
9	Ethos International	Senior Sustainability Advisor	31/3	45 min	Online
10	-	Market Analysts	27/3	30 min	Online

3.3.4 Secondary data

Secondary data is according to Kothari (2004, p, 111) data that has “*already been collected and analysed by someone else*”. The secondary data of this study consists of a document that has been created by the case company as a guide for their employee to use when conducting external analysis. It consists of information that the external analysis aims at studying and covering where four different analysis tools are included. Apart from the interviews conducted, it was needed to also include this document in the research as this provides valuable information on the existing external analysis framework and guidelines, thus making it relevant in order to examine external analysis from the case company’s perspective, which was helpful to get a holistic view of external analysis at the case company. When collecting secondary data, it is important to be careful how reliable the data is since it has been out of control of the researchers. Further, it is also essential to make sure that the secondary data is suitable and adequate for the purpose of the study. These aspects were taken into account in this research and the document was thoroughly analysed and assessed based upon the aspects pointed out by Kothari (2004). The document was provided by the case company after it had been requested to complement the interviews with an official external analysis guide or framework to get a better understanding of what approach the case company has of conducting external market analysis.

Literature review

After the purpose and research question was formulated, the next step was to conduct a literature review. By reviewing prior literature with a critical and extensive lens, an understating of the relevant concepts and existing theories was gained. The literature process was conducted through a comprehensive review of the literature with a variety of scientific articles and books in the specific research area. Databases such as Google Scholar and Gothenburg University’s Supersök were the most commonly used databases, but specific scientific journals relevant for the topic of external analysis were also used. Different search words were used in the databases and online search tools and over time evolved to get a wider scope of the existing literature. At the beginning of the literature search, *external analysis* was the frequently used search word but over time when the search process evolved, synonyms to external analysis such as *Market intelligence*, *Supply Market Analysis*, or *Market Analysis* were used.

3.4 Analytical process

The primary data of this study was written down in text form through transcribing interviews and the secondary data of the document was also in text form. When analysing qualitative data that are presented in text form, it is common that researchers do not use a protocol that is predefined. Instead, it is common that the material is read by the researchers several times to get a good understanding of the material and to identify the key themes to describe the meaning of phenomenon being studied (Denzin & Lincoln, 2018). The analysis process has partly been conducted in accordance with Denzin & Lincoln (2018). The empirical findings were read many times to identify the actual meaning of the data and to see patterns of the data to present and analyse it in a relevant and accurate way.

Furthermore, Collis and Hussey (2013) present a general analytical procedure that can be used when analysing qualitative data. The analysis method is a systematic procedure of how data can be analysed and interpreted. The steps in the analytical process is the data reduction step, which includes the process of selecting, focusing, simplifying, abstracting, and transforming the data into a written form (Collis & Hussey, 2013). Thereafter, the second step is data displays, where the data is visualized in a matrix by selecting and displaying the data of the phenomenon. By doing this type of visualisation and coding of the data, it allows the researcher to go into the next step of the analysing process, the conclusion and verification step. In this step it allows the researcher to go through the material and try to identify similar phases, patterns and connects between the aspects and thereby makes a final conclusion of what has been collected in the research. The process according to Collis and Hussey (2013) has been followed to process the data in a systematic and accurate way and analyse the data to ensure high quality of the report and in particular the analysis.

Qualitative assessment

The qualitative assessment is important to take into consideration throughout a research process. Bryman and Bell (2011) outlines two main aspects that qualitative research is judge upon; trustworthiness and authenticity. Trustworthiness includes four sub-aspects which are credibility, transferability dependability and confirmability.

According to Bryman and Bell (2011), credibility is achieved if the findings are presented to people within the social reality of the research field to get confirmed that the researchers have interpreted the reality in a credible way. To achieve this, meetings with supervisors at the case company and the university have been held frequently to get their views and perspective of the research process and findings. Transferability means how well the research findings can be generalizable in other contexts and cases. In qualitative research, high transferability is often difficult to obtain since qualitative research tends to use case studies and limited samples. As this research is a single case study with a limited sample of interviews, it is possible that if a similar study had been conducted at another organization active in another context, the result

would have been different, which addresses the fact the findings of this report should be interpreted carefully regarding its transferability. Further, dependability in qualitative research can be achieved through auditing of the research process, statement of the research problem, choice of respondents and what data analysis method to choose. Such auditing can be conducted by colleges or other relevant people who act as auditors. During this research, the supervisor at the university has often given comments and had a critical lens of the report to ensure that dependability has been reached. Supervisors at the case company have also frequently assessed the report. The confirmability means the ability to strengthen and confirm while the researcher has understanding that it is almost impossible to be an absolute objective. The researcher should not let personal opinions, values of theoretical orientation affect the research process and how data is presented and concluded (Lincoln & Guba, 1985). This aspect has been considered throughout the report and objective approach have been considered throughout this study.

Furthermore, according to Lincoln and Guba (1985), authenticity covers partly the aspect of a fair view of the research, thus if the research has depicted a correct and fair view of the different opinions and perceptions that different respondents or a social group have given throughout a research. This aspect was ensured by regular meetings with the supervisors at the case company and an ongoing critical reflection of the different parts of the research.

4. Empirical data

In this chapter, the empirical data collected at the case company will be presented. Firstly, secondary data will be presented which shortly describes the case company's current approach of conducting external analysis, with some key figures and in more detail how its current external analysis processes are carried out and what tools and frameworks that are used. Thereafter, the primary data in terms of interviews conducted will be presented and the respondents' perspective and views on external analysis will be included.

4.1 The case company's current external analysis framework

Below, the current frameworks and processes that the case company will be presented in order to get an overview and understanding of how the main processes and working procedures are structured. The data in this sub-chapter consists of the secondary data collected at the case company through the external analysis framework document.

One of the main elements of the purchasing department's business processes is strategic sourcing which is primarily conducted to identify saving potentials, implement category strategies, search for new suppliers. This is done to have a good understanding and knowledge of the market and industry structure of respectively buying categories from which the case company sources. The strategic sourcing analysts are responsible to support the category managers in the strategic sourcing process. The main tool that is used to perform strategic sourcing is a 7-step strategic sourcing process presented below in figure 16.

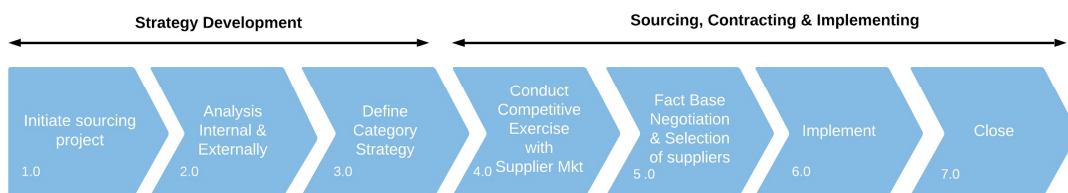


Figure 16, The case company's strategic sourcing process

The second step of the 7-step process above; *internal and external analysis* is an essential part to get a deep understanding and overview of both the company's internal requirements and the external markets. These two analyses allow the company to identify external and internal factors and thereby linking the internal requirements and the external environment. As these analyses are conducted in the beginning of the process of a sourcing project, it is an enabler and prerequisite to both develop category strategies, make fact-based decisions, choose right suppliers and choose appropriate supplier strategies.

The case company has listed 9 different reasons why external analysis is conducted which are the following:

- **Enable fact-based decisions**
- **Build up the baseline and business case for a project**
- **Provide insights to contract settings**
- **Optimize sourcing approach and tender strategy**
- **Generate innovation/digitalization opportunities**
- **Provide insights to Supplier relationship management (SRM)**
- **Used to create category strategy**
- **Reduce category risks**
- **Ensure right KPI:s for projects**

There is also an overview of 7 different aspects of an external analysis that should be examined and analysed when conducting external analysis in the second step of the strategic sourcing process. These seven aspects are listed below:

- **Industry structure** - This is to get an overview of the value chain of the market, identifying market leaders and how fragmented the market is and the forecast of the structure of the industry
- **Industry profitability** - Examination of how profitable the industry is of a certain category
- **Market size and growth** - Investigates how large the market currently is, its geographical dispersion, how the market has historically grown and is expected to grow.
- **Product substitution** - Part to investigate whether there are product substitutes in the market.
- **Technology trends** - Examination of what technologies there are in the certain market, how mature is the technology in the certain industry and what impact does the technology have on the price, quality and pricing?
- **Customer profiles** - What power does the customers have in the market, which are the dominating customers and what are the switching costs for customers in the market
- **Buying practice trends** - How does the buying pattern in the market looks like and how is the price of products affected by those buying patterns.

Apart from these aspects comprising the overview of an external analysis at the case company, there are four tools that are used when conducting an external analysis. These tools have not been created by the case company itself but are existing tools and models from existing literature on purchasing and supply chain management. The four models are Porter's five forces model, SWOT-analysis, Value Chain analysis, and Kraljic's supplier segmentation model. All these models are presented in the literature-review chapter above as a part of the academic research. Furthermore, there are also stated in the document by the case company with examples of sources of information to use when conducting the external analysis. The information sources are summarised in table 2 below and consists of ten external sources and three internal sources.

Table 2, List of information sources

External informational sources	Internal informational sources
Supplier search website	Category Buyer
Industry Associations	IDM&S Buyer
Exhibitions	Case Company's Commodity Outlook tool
Industry Magazines	Internal Experts
Industry Analysts	
Industry Networks	
Suppliers	
Trade Councils	
Annual Reports	
Social Media Networks	

4.2 Primary data - interviews

This chapter explains the respondents view on external market analysis what they consider as important aspects when conducting an external analysis. Different challenges of the process of conducting external analysis expressed by the respondents will also be brought up.

4.2.1 Important aspects of external analysis

From the interviews, there were different aspects discussed and highlighted by the respondents as important parts or basis to conduct an external analysis in a smooth and efficient way. These aspects will be presented below:

Clear internal requirements

There are many aspects showing why conducting a market analysis is important to achieve an effective sourcing strategy. The degree of importance of conducting a market analysis is argued differently among the respondents. In general, it is important not only look into the external analysis when exploring market and external trends, but also the internal analysis and identify the link between the internal requirements and what the external market has to offer. If the

internal requirements are not well-defined, respondent 6 emphasised the risk of being decoupled from the environment and not see the total picture of the business context.

Respondent 5 who is responsible for the IT category emphasises on the characteristics of the IT industry that it has few numbers of suppliers that have a big part of the total market shares within a niche industry, making it more common to already have a rather good picture and overview of the existing players on the market. Even though this is the case, it is still necessary to get market information from different sources in order to be updated.

“Many of the IT suppliers are very niched and there are not so many to choose from which makes it tricky” - R5.

External analysis of IT industry at the case company is emphasised by respondent 5 to be more characterized by investigating and analysing the existing suppliers in terms of financial information, annual reports and reference calls etc. rather than examining other external factors such as political risks, legal requirements or general environmental information. Further, respondent 5 is arguing that it's extremely important that you are following the requirement from the internal orders since the deals in the IT category are generally is a big investment.

Furthermore, respondent 2, responsible for sourcing of casting material, a market which consists of a few numbers of suppliers is only conducting external analysis when major changes in the market occurs such as the tariff-war between China and USA. The external market analysis is not conducted frequently or in specific time intervals. The main reason for analysing external factors in the market in that category has been due to price changes of the current suppliers or general major changes in the market. Most of the time, macro factors affecting the price development of the commodity is the main aspect to take into consideration when looking externally in the market. Moreover, respondent 2 highlighted that it can also be a big challenge to get the supplier to really understand and be aware of what measures and drawings of products that actually is required internally, leading to a complex situation when analysing external market factors in industries with few and large suppliers.

Innovation

Another aspect that contributes to the importance of external analysis is that it enables the case company to find new technologies and innovation among suppliers in different markets and finding new market entrants and suppliers that may offer more value and efficient supplier performance in the long-term. This is in accordance with R3, R4 and R5 who argue that innovation may be the most important output from the external analysis. Further, R6 argues that technological trends and benchmarking with other competitors are an essential part to gain a picture of what is happening on the market.

External contact network

Further, one element that brings value and is important when analysing external factors and getting valuable information is to have a wide and relevant contact network. The value that this brings is that people among different suppliers with good insight and experience within different industries can provide valuable and sometimes unique information about the latest trends and events occurring in different markets. Networking with suppliers and industry organizations can be a good advantage by the fact that information can be gained quickly from people that are considered as reliable sources. For instance, R4 points out the following regarding finding information:

R4: *“I am a member of the global organisation corporate real estate network that continues to send me information. I used to participate in some of their conferences and workshops, this is one of important things to keep and be active in, there we find companies similar to us and that have similar jobs to ours, we can openly talk to each other, so it is an important part of the market knowledge “*

R10 who is working for a market research company and conducting market analysis mostly within the information and technology industry with the primary source of information by contacting other companies to get a deep understanding of the market characteristics and trends and latest changes in the market. This respondent even stated: *“it is extremely important to have a broad contact network when conducting market analysis”*. Similar to R3 and R5, according to R10, the reason why companies in the market are contacted as the primary and most important source of market information is simply that the companies who are operating within a certain market are the one who has the best insight and can, therefore, provide the right information. However, there is also a disadvantage of relying too much on an existing network. It can be difficult to evaluate if the information is biased from the supplier or market player. According to respondent 7, in order to build a deep understanding of the market environment, it is essential to base the decisions on data and different macroeconomic indicators. It is also important to have access to accurate and reliable data of the price indexes of different commodities.

Internal contact network

It is not only the information provided by external sources that can be valuable. Having people internally within the organisation with particular knowledge and experience of specific industries is also in many cases essential to make a thorough external market analysis which is emphasised by respondent 3, 5 and 10. Markets that are being analysed that offer unique components for the case company and are considered as a core and strategic component, it can be more beneficial to contact people within the organisation that have a long period of experience within that certain industry rather than looking externally in the market. R3 and R5 stated the following during the interview, R3: *“Good input is close cooperation with engineers and colleagues internally who helps to inform what is happening on the market”*, the importance of having such approach is also confirmed by R5: *“there are many talented*

employees within their organisations within their areas, they are often experts within their areas."

Risk management

Respondent 1, whose specialization is within risk at the case company's procurement function, emphasizing on the importance of continuously having a risk perception in mind when looking externally in the market. *"The company needs to be resilient in such a crisis - and therefore we need to work with risk management in an early stage so that we can mitigate the risk that can affect our supply chain"*. The respondent 1 is part of a team that has developed a new risk-evaluation tool for the case company, which enables the category managers at the case company to work in a proactively manner to identify and mitigate supply chain risk within its current and future setup of the supply chain. In the new risk tool which is developed to assess the risk level at supplier in the supplier selection phase. The risk assessment tool is based upon five aspects, dependency, the criticality of the service or component, the status of the company, operation, and the financial situation of the suppliers, each of parameters later value and summarized into a final-evaluation score which is presented in a Kraljic's matrix. The tool is in the early implementation phase at the case company, some category managers are in the try-out phase, but eventually, every category manager will have access to the risk assessment tool.

" We can only avoid that we know and can measure, and it is inevitable to avoid that we are not monitoring, a pandemic outbreak of this scale was not a part of the equation"- R1

One aspect that is considered as basic to get a good understanding of the market risks being analysed is to have close cooperation with the suppliers in the existing supplier base, which is emphasized by respondent 9. In addition to this, respondent 8 and 9 also highlighted the sustainability factor, which nowadays is of importance to have in mind when looking externally out in the environment. This is explicitly said by the respondent 8:

"Risk is measured as the aggregated value of when likelihood, benchmark against potential financial profitability. So, the impact on this scenario is the potential at any given risk has a negative influence on the company or the society, therefore in my meaning environmental, human rights or corruption cannot be set apart from any other organisational impact, whether it is an operational, reputational or strategic risk. Because I believe that in 2020 we cannot separate the sustainability risk impact from the classic risks, it is somewhere in twined".

4.2.2 Complexity of external analysis

Insufficient information of the internal requirements

Several aspects contribute to the complexity of conducting external analysis at the case company. One issue that is prevalent within the IT category is to create a linkage between the internal requirements and the external market, according to respondent 5. Often the internal analysis has insufficient information in terms of not clearly stated requirements and functional and technical specifications. This results in that it becomes more difficult also to know what the relevant and vital aspects and inputs in the external analysis which in turn are also making the bidding and negotiations with suppliers difficult.

Category specific characteristics

As the case company's manufacturing footprint consists of factories widespread throughout the world, and the external analysis needs to be linked to the internal requirements from the different subsidiaries. Whether the internal requirements are too specific for each factory, it can be a challenging step to set the internal requirements before it is possible to apply the external analysis on the category. Since when the responsible person at the case company is conducting an external market analysis for a category or a certain defined product group that is unstructured, it is more common that one of the most valuable market information is collected by requesting information from experienced people within the organisation to get necessary input according to R3 and R5. This, in turn, leads to uncertainties and a more complex external analysis.

Further, according to R6, it can be tough to find relevant and valuable market information when there are many suppliers within a category and argues the following:

“it depends a lot which category it is, some are more well defined than others, if you are sourcing tools for instance which often are sourced from small workshops. It can be incredibly difficult to google information that is relevant, that market is so fragmented so that can be challenging...If you are doing it on robots, there is a lot of information about that market and that market is very well-defined” - R6

Dynamic markets

The IT sector is a fast-changing industry with continuous innovations and applications offered on the market, making it difficult to foresee and predict changes and the future event in the market, something that is stressed by R5. In order to facilitate against the fast-changing nature of the IT industry and the complexity of predicting market changes and trends, it is essential to have flexibility in the contracts with the few numbers of suppliers being sourced from. This can act as a support and help to be more prepared for changes and simplifies the external analysing since less risk is needed in the examination of external factors. As the market is difficult to foresee, information from external professionals are used in terms of purchased consultant reports.

External information gathering

In today's globalised and technological society where communications and information sharing has never been easier and more available than before, there is almost an infinite number of different information sources and a vast amount of data available. This is also present for the case company where most of the market analysis is based upon data and information from a mix of both different external sources as well as internal sources. In the previous chapter, in table 2, there are information sources listed as examples that can be used as input when analysing different markets which will be discussed below from the respondent's perspective.

Despite that some of the information sources are used more than others, there is almost always a mix of different sources used when conducting external market analysis. Information sources that commonly are used are visiting fairs, exhibitions, industry magazines, industry websites and search tools on the Internet. Not surprisingly, the Internet as an information source is included in almost all analysis. Having access to the Internet and a vast amount of data available gives many opportunities to find much information fast. However, it also creates challenges in finding the correct data and handling the vast amount of data to make it useful and value if the information is relevant and reliable. The challenge of grasping the vast amount of market data is especially emphasized by managers and analysts who are not using an existing contact network but instead have to rely upon the information available on the Internet.

Estimating the cost of products and having a clear and accurate cost structure from suppliers is important to know what the case company is paying for and to get as low price as possible with high quality and service. This can be a challenge as some of the suppliers are not always willing to share detailed information regarding the cost structure and thereby making it difficult to include this parameter into the external analysis with high reliability, as emphasised by R1 and R3. On the other hand, R4 claims that the network of contacts that can provide valuable information is a good help and makes the external analysis less challenging:

“I do not have any challenge when using the external analysis tool.” I can use the networking, the companies and contacts I know, first round of tender, let's say we have 15 suppliers, we will get very good and informative data from them, in terms of market information.”

Additionally, R8 states that having a comprehensive understanding of the industry and corporation with the suppliers being sourced from is vital in order to identify risks in the market. Having a large supplier base within a category makes it complicated when, for instance, examining risks in general but also in a sustainability aspect which has increased awareness in general both among companies and customers.

Below in table 3, the important aspect and challenges that has been identified in the empirical material is summarized:

Table 3, Summary of important aspects and challenges from the interviews

Respondent	Important aspects of external analysis					Challenges of conducting external analysis			
	Clear understand of the internal requirements	Innovation	External contact network	Internal contact network	Risk Management	Insufficient information of the internal requirements	Category-specific characteristics	Dynamic markets	External information gathering
1					X				X
2	X		X						
3		X	X	X			X		X
4		X	X						X
5	X	X	X	X		X	X	X	
6	X	X	X				X		
7			X						
8					X				X
9			X		X				
10			X	X					

4.2.3 Use of the current framework

The existing framework at the case company presented in the previous chapter gives each employee working with external analysis an overview of what aspects and factors an external analysis could contain according to the set models and analysis tools set by the management. Although these frameworks exist, there are differences to which degree and how the frameworks are used among the respondents when conducting external market analysis. Despite that there are models and frameworks presented by the case company, it does not contain any clear guidelines or defined steps to conduct the external analysis.

Respondent 6 argues that Kraljic's and Porter's five forces models are helpful models when segmenting existing suppliers and investigating the market dynamics but points out the importance of finding new suppliers and that there is a lack of guidelines how new suppliers can be found. Respondent 2 also uses the Kraljic's model and often the SWOT in the current framework. Regarding the SWOT analysis, R6 is not using this model for the entire market, instead it is applied on each supplier to build an understanding of the dimensions in the SWOT on individual companies.

The type of material or service that is being purchased from suppliers have an impact on which model being used by one the respondent responsible for facilities categorised as indirect material. Respondent 4 expressed uncertainties using Kraljic's:

“I’m not familiar in using Kraljic process, I try to use it when I was doing my strategy, but in my personal opinion I found that it was more connected to direct material and for categories that are not so service related but more direct material related “- R 4

On the other hand, respondent 4, indicated that SWOT analysis, and Porter's Five Forces - market trends, industry structure, and also making a category risk analysis is important to have in mind when doing external analysis of the supplier market. R4 stated *“You need to look at industry profitability, knowledge and trends, cost profiles and so on”*. Furthermore, according to respondent 3, there are currently no checklist of what to include in an external analysis but instead R3 is using internal network, engineers and experts, to provide him/her with relevant input. Other procedures that R3 is using its own experience and benchmarking with other companies. Despite having a long experience and having a clear mindset and processes of how the external analysis is conducted by R3, emphasized the following:

“I think it is of value to use an external framework to think outside the box and add new perspectives in the decision-making” - R3

Despite that the external analysis tool is urged to use among category managers in the strategic sourcing process and 4 of the respondents at the case company are to some degree using the framework, respondent 5 is however not using any of the external analysis frameworks, but instead looking more into the internal requirements since *“setting the internal requirements is the basic foundation”* and then try to link these with the few suppliers that are available in the external market.

It is confirmed that three of the models in the existing external analysis framework is being used to some extent among the category and strategic sourcing analysts. However, none of the respondents did not mention the Value-chain analysis model in their current approach of doing an external analysis. Below is a short summary of which of the current parts of the external analysis framework is used by employees at the case company:

Table 4, Summary of use of the case company's analysis tools

Respondent	SWOT	Porter's Five Forces	Value Chain Analysis	Kraljic's	Non of the models
2	X			X	
3					X
4	X	X		X	
5					X
6	X	X		X	

5. Analysis

This chapter will more thoroughly discuss the empirical findings in combination with the academic literature. Current frameworks tools found in the literature compared with the existing tools used at the case company will be highlighted. Structural issues that may occur when conducting external market analysis will also be brought up. Thereafter, main challenges and important factors will be discussed. Lastly, improvement suggestions of the current framework will be provided.

5.1 The current analysis tools

The current analysis tools used in the current framework will be discussed below with the respondents' input and how the literature is approaching these.

Porter's five forces is currently included in the framework at the case company. As the literature is suggesting nuanced and updated approach of the five forces model, there are opportunities for the current way of working with the model to be improved.

Research has both pointed out criticism against the model as well as suggested new measures to use the model and its aspects in a more efficient and clear way. The suggestion of how the forces better can be handled is to weigh against each other presented by Grundy (2006). This could be one measure for the case company to have better control of and a clearer picture of the present forces in relation to each other in respective industries. Further, as the Porter's five forces model is argued to be included in the industry-specific analysis (Hitt et al, 2016; Huang, 2019), it could be argued that it should be included in an industry-specific analysis at the case company and clearly stated that when using Porter's five forces model that it is the second the level of the external analysis that is being conducted, creating a more structured overall analysis.

According to figure 8 and 9 (Grundy 2006), a more comprehensive map of an industry can be viewed for the decision-maker. The Porter's five forces is used as a foundation in the framework to build an understanding of the industry and were different layers is added with other types of aspects such as growth drivers, macro aspects; Political, Economic, Social, and Technological, and the competitive position in the industry to gives the decision-maker a greater understanding on the forces on a micro level in the industry.

By using this model, a more dynamic picture of the industry can be shaped and therefore provide the decision-maker with a more comprehensive understanding of the industry where aspects from every level can be summarized and visualized for the decision-maker. In addition to this, there are common pitfalls when using the Five forces model that Porter (2008) outlines. In order to make the use of the model more effective, it could be an advantage to add these pitfalls as reminders into the existing framework, to make the industry analysis more effective and accurate. This may also lead to more certainty among the analysts to use the model.

SWOT. One of the most commonly used analysis tools at the case company is the SWOT analysis and has also gained a lot of attention among managers and decision makers throughout history. The literature reveals that there is critique pointed out against the SWOT analysis. The case company is a multinational company operating in a dynamic business context, meanwhile Nixon and Helms (2010) highlight that SWOT is not an optimal framework as it only covers a current situation that does not include how to foresee different changes and future events, especially in markets that are dynamic and are constantly going through changes. Further, there is also highlighted in the literature that the Strengths, Weaknesses, Threats and Opportunities of a company is a result of other factors being analysed. Albright (2004) for instance proposes a framework to analyse macroeconomic factors of a market whereas S, W, O, T are identified when these are analysed. Therefore, it could be argued that the SWOT analysis is not an appropriate tool to use solely in a dynamic business context due to its general character and lack of clear guidelines. As the SWOT analysis is covering the internal factors strengths and weaknesses of for instance an own organization or a supplier, it could be classified as a not pure analysis framework of external factors. However, Albright (2004) points out that the strengths & weaknesses and threats & opportunities are identified through the external scanning, it could be argued that the SWOT is not solely a framework for analysing external factors but more considered as a result of it. In addition to this, the current procedure of using the SWOT model can be applied on single supplier rather than an entire market or industry to identify overall factors affecting the market. This makes the model more appropriate to use when analysing the market on a micro level or as a help tool to categorizing information from the macro and industry analysis. With the critique pointed out by Nixon and Helms (2010), it is reasonable to not consider the SWOT analysis as a main tool to use and more as a help tool.

The Kraljic model is suggested by the literature to be used for segmenting purchasing items into different groups based upon the supply risks and the financial impact of the purchasing organisation. This is done in order to choose the correct strategy to use against the suppliers and thereby leverage its buying power depending on how the supplier market characteristics are in the industry. Currently, the Kraljic model is a part of the external analysis whereas R6 claims that it is a helpful tool to segment already existing suppliers and not explicitly used to analyse external factors for instance. As the aim of the Kraljic model is to segment suppliers and to choose an appropriate supplier strategy, the model could more applicable and be more relevant in later stages in the strategic sourcing model as it does not per se analyse an external environment but is more used for segmenting suppliers based upon what type of product being sourced. This is verified by R1 who is confirming that the Kraljic model is more appropriate to use in later stage of the strategic sourcing process. Therefore, the Kraljic's model should not be seen as a tool to use when actually analysing external markets, but the information and risk assessments conducted while analysing the external environment, can be used as input when determining the purchasing risk level.

Value Chain is when the external analysis is going into detail and mapping the chain of activities in the value chain from a supplier or an industry. This is a process which gives the decision-maker a visualisation of the potential opportunities and risk in the chain of activities. According to Simatupang, et al (2017) the model is a vital tool to identify where in the chain it

is possible to increase value to the customer or lower the cost. Another area where the model can be useful for managers is to find where risk exists in the value chain (Bailey et al., 2019). This is because the model enables visualisation of the entire value chain, and thereafter every node in the chain can be assessed of the risk aspect, either if it is sustainability related or supply-risk related.

5.1.1 Lack of macro factors

The current external analysis tools at the case company is not based on any structural levels of which type of environment is being analysed. As suggested in the literature, an external environment can for instance be divided into three levels, the general environment, industry environment and the competitive environment (Hitt et al., 2016). Taking the perspective of how the external environment is analysed, it is important to be aware of what type of environment that is being studied and analysed. Having a clear structure of conducting a market analysis is pointed out by Lobermeyer & Kotzab (2010) to be important in order to increase the quality and efficiency of the analysis. This reveals that there are opportunities for the current framework at the case to be improved by having a better structure. One example can be to apply different analysis levels in terms of grouping the analysis based on different analysis levels according to the literature.

When examining the seven aspects that the case company consider as essential on what should be included in an external analysis, it is clear that these covers mostly the competitive forces in Porter's five forces model. These aspects are the industry structure, product substitution, technology trends and customer profile, which directly or indirectly can be referred to one of the forces according to Porter. The other three main aspects *Industry profitability*, *Market size and growth*, and *Buying practice trend* are also covered in the literature. All seven aspects are spanning over both industry specific, micro-aspects and to some degree the macro-factors, revealing that the perspective is rather broad in the current framework, however, there are factors presented in the literature that are currently not included in the case company's framework. The most significant part that is not emphasized in the current external analysis framework but pointed out as vital in the literature when examining an external environment is macro-factors.

Hitt et al (2016) proposes a general environment framework that include macro-factors on top of the industry environment. By adding the general environmental layer on top of the industry level, it gives the decision maker an external-environment aspect to be aware of before going into the industry factors in the external analysis. As markets and value chains have become more globalised and dispersed (Holweg, et al. 2011), these factors should not be neglected, but analysed thoroughly and carefully. As the case company have their value chains present across the world with many different subsidiaries being globally and locally sourced, it is important to consider these macro-factors at the case company when analysing external markets. Another argument why the macro-factors are essential is that these may have an influence on the total cost of ownership (Butter & Linse, 2008). Therefore, examining macro-factors and take these into consideration, could support the case company in decreasing the total cost of ownership or gain a better control of it.

The outlined factors in the general environment by Hitt et al (2016) are slightly similar to the ones in the PESTEL framework. Despite that these factors are not explicitly outlined in the current framework at the case company, it is clear from the interviews that these are important. Respondent 2 for example is mentioning the development of the tariff war between China and the U.S as one of the reasons why external market analysis has been brought up and conducted in R2: s category. Other respondents have also expressed the importance of understanding the technological development, both internal in the industry but also external from a macro perspective. The fact that the general environmental factors are not commonly analysed at the case company, could be because these factors are not clearly stated as vital and important to analyse before the more industry-focused aspects are analysed and not directly emphasised in any of the current four analysis tools. According to Hit et al., (2016), the global markets have become more turbulent and complex where a lot of factors outside of the organisations influencing which arises the importance of adding macro factors into decision-making process at the case company. Similar to Hitt et al (2016), Grundy (2006) and Lobermeyer & Kotzab (2010) include macro-factors as important. Therefore, it can be argued that these factors should be added and not be neglected and could be added as an important improvement suggestion of the current framework at the case company to gain a more holistic and comprehensive external analysis.

When scanning and analysing external markets, it is suggested by Hitt et al. (2016) macroeconomic factors such as political/legal, demographic, economic, sustainable physical, sociocultural, global, technological. In the seven main parts of analysis proposed by the case company, the only factor of the ones pointed out by Hitt et al. (2016), is the technology trends, whereas the others are more focused on the specific industries and how competitors and buyers affect the market. Not only the current framework lacks macroeconomic factors, the respondents seem to omit the macroeconomic factors and instead focus more on industry specific factors and how to search for new suppliers. The pure macro-perspective tends to be missed or neglected in the external analysis at the case company, therefore, adding these factors would increase the transparency and understanding of the external environment.

5.2 Structural issues

The literature suggests a variety of different guidelines for conducting an analysis of external factors. It is also highlighted that the need of having a clear structure of conducting an external analysis is essential for its efficiency and outcome. The current framework and guidelines at the case company does not present any structure per se but is only presenting factors to include as important when conducting an external analysis and different tools that can be used. Further, the current framework is also not giving any guidelines for how the tools and frameworks should be used in relation to each other. Lobermeyer & Kotzab (2010) and Becker et al. (2017) argue that a clear structure is important for the outcome of an analysis of external market factors and the fact that clear guidelines are missing. Therefore, it could be argued that the efficiency and quality of the current external analysis at the case company would be increased if such guidelines or clearer instructions would be included. From the interviews, it is evident that the scope of the external analysis and what frameworks that are used is varying depending on

whom the external analysis is conducted by. One reason for this could be that each respondent is responsible for different buying categories, thus analysing different markets with different market dynamics and characteristics.

The framework suggested by Albright (2004) suggests that already in the first step when scanning an external market, it is vital for an organization to recognize what is needed from scanning the market as well as how much resources and time the external analysis will require. In the current framework, there are no such guidelines or instructions to estimate the time and resources needed for external analysis. Therefore, it could be beneficial to add that parameter in the current framework to have better control and knowing the scope better at the beginning of the analysis process to increase the overall quality of the outcome of the analysis. Further, as the market environment differs among the category managers, whereas a generic framework is currently used, which could lead to a more efficient analysis process if the time and resources are estimated by each of the category managers before starting with the external analysis.

As is highlighted by Hitt et al (2016) and Van Weele (2000), where the external analysis is structured in different dimensions such as general, industry and competitive level it can enhance the outcome of the analysis. It could be beneficial to have a good understanding of what dimensions should be covered in each of the analysis levels, thus gaining a better structure and understanding of the external analysis.

5.3 Main challenges

5.3.1 Information search

Finding relevant and correct information is vital in every organisation to be able to make fact-based decisions and to get a holistic view of the market (Lobermeyer & Kotzab, 2010). Having a lot of information available also creates challenges as there are many different information sources that employees have access to. The case company also uses a variety of different information sources to conduct external market analysis and differ among category buyers as the type of information required is depended on what type of market being analysed. The information sources stated in the framework consists of a wide range of internal and external sources that can be used. However, there are no certain guidelines when the different types of sources are appropriate to use in different market situations and for the different levels of analysis in the current framework. Similarly, there are examples of sources listed in the literature, but these tend to be more listed as internal and external information sources rather than giving examples of when these are appropriate to use in different contexts,

Furthermore, the literature points out that having a clear structure of conducting an external market analysis and how the information is gathered. Respondent 6 has highlighted that there are difficulties when searching for suppliers through search tools on the internet and that this is especially tricky when the market is fragmented. Further, Becker et al. (2017) point out the importance of standardisation of conducting external market analysis to achieve a successful and make sure that relevant factors are included. Based on the assumptions that that case

company has challenges in finding information of suppliers and markets when the market is fragmented, it could be argued that guidelines of conducting market search should be more specifically stated and emphasised in order to support the market research process for employees responsible for fragmented supplier markets.

5.3.2 Internal requirement understanding

Another dimension that was highlighted at the case company as important to get a more holistic view of the external analysis is the link between the internal requirement and how external markets are identified, analysed and evaluated in order to meet the internal specifications. Respondent 6 argued that there is a risk of being decoupled from the environment and lack of having the total business context if the internal requirements are not clear and understood. Respondent 2 also points out the importance of internal requirement but stated that it is important for suppliers to be aware of the requirements. The literature does point out the importance of linking the internal processes with external suppliers (Novack & Simco, 1991), however, there are no significant guidelines or procedures in the current frameworks presented in the literature that suggests how the internal requirements can be added as a dimension or aspect in an external analysis framework itself. If the products or service being sourced have tricky or very detailed requirements, it could be beneficial that the internal requirements are more closely coupled to the external analysis as this could make the process of finding information and analysing markets easier. Finally, the internal requirements and processes have both been stated by the literature and the respondent as important when scanning external environments. Therefore, it could be argued that an understanding of internal requirements could be beneficial to consider as a prerequisite before starting to analyse the external environment.

5.3.3 Number of suppliers

One aspect that is playing an important role in the execution of an external market analysis is the number of suppliers included in the buying. In categories with a few suppliers, the category buyers tend to have a better understanding of the market than those with a large number of suppliers or fragmented buying category. Input from Respondent 6 regarding the number of suppliers also reveals that the external analysis is likely to be more complex when there are many numbers in a category, especially when the market is fragmented. This statement is to some degree confirming what Lobermeyer & Kotzab (2010) highlights regarding the scope of a supplier market research. According to Lobermeyer & Kotzab (2010) it is not only the existing supplier markets that needs to be analysed since a market generally extends a certain geographical area and is not limited to a certain number of suppliers. The products itself, new markets and the buyer markets also must be included to increase the dynamic of the analysis. Based upon that, it could be argued that the dynamic of the analysis decreases and thereby also the quality of the analysis decreases at the case company if the market consists of many players meanwhile being a fragmented market.

5.3.4 Static nature of external market analysis frameworks

The procedure of conducting external market analysis differs among the analysts rather widely. One reason for this could be that there are different types of markets being examined and analysed whereas the scope differs greatly and how the information is collected as well as what factors are important to be covered. The framework at the case company does not consider what markets being analysed but is a generic framework and not of dynamic structure where dimensions such as market characteristics and number of suppliers are included. Similar to the framework at the case company, the frameworks and analysis presented in the literature are suggesting different frameworks and factors to take into consideration regardless of which type of market being analysed or number of suppliers in the category, while the interviews reveals that these factors do play a role in how the external analysis is conducted. Since the current framework lacks flexibility such as guidelines how to approach the external analysis based upon the type of market, geographical scope and the number of suppliers in the category, it could lead to decreased effectiveness of the analysis process.

5.4 Risk in external analysis

As mentioned earlier, it is vital to add macro factors in the scope of external analysis since the macro-events and trends mentioned by Hitt et al. (2016) is somehow shaping the industry parameters. This can partly be linked by the fact that economies have become more globalised and turbulent, increasing the supply chain risk on organisations of external events such as natural disasters, pandemics or trade-wars. This is in line with the respondent 1, who highlights that being active in a modern setup of a supply chain should have a supply risk parameter in the equation when analysing external markets and selecting suppliers. Moreover, Manuj and Mentzer (2008) argue that the risk parameter is often lacking in the overall objectives of procurement, but it is important to consider this parameter. Due to this the advantages of having a supplier in a low-cost market that generate a lower total cost of the unit for the product should surpass the level of the risk of having quality issue or disruption risk in the supply chain when the supplier is selected and integrated into the supply chain of the company (Manuj and Mentzer, 2008).

One model that is considering the supply risk perspective is the Kraljic's Purchasing Matrix, which is used by two of the employees at the case company when doing an external analysis. However, respondent 1 argues that the model should be a mandatory step where every new and existing suppliers are grouped based upon the supply risk and procurement's profit impact. Thus, the Kraljic model is more applicable on a later stage in the strategic sourcing process. Nevertheless, what can be good to have in consideration is the risk appetite of the organisation, as is stated in Bailey et al. (2019) when looking out in the external environment.

Nowadays, sustainability risk is entwined in the risk equation which was advocated by respondent 8 and 9 who highlighted that sustainability risk cannot be excluded from the risk perception scope as it may affect companies in a negative financial result. Hofmann et al. (2014) also argues that sustainability is an important factor when and impact the financial situation for a company. Along with the statement from respondent 8 and 9, Hitt et al. (2016) have also brought the sustainability aspect into consideration when looking externally, in the *sustainable physical* point among the macro factors. Lastly, Procurement is one of the functions that has the greatest ability to adhere the sustainability goals into the corporate structure (Crespin-Mazet and Dontenwill, 2012).

5.5 Improvements of the current framework

Below, improvement suggestions will be discussed based upon the challenges and important factors identified in the empirical data as well as the academic research. Each improvement suggestion will be presented and lastly, a summary of these will be presented in the end of this chapter where also the current framework will be depicted in order to provide a clear picture of how the existing framework can be modified to become more efficient and

Setting the scope

Based on the important factors and challenges discussed above, this chapter will cover improvement suggestions for the current framework. Firstly, according to Porter (2008), the scope of analysis is an essential part to gain a more structured and effective analysis. In the current framework, there are no guidelines or directives of how each category manager should scope the external analysis. The respondents did not express that setting the scope of the analysis is one of their main challenges, however it may be one of the reasons why other challenges are prevalent such as difficulties in finding correct information and uncertainty of which framework to use. During the interviews, the respondents did not mention what actually an external analysis is for them but focused the discussion more on suppliers and issues regarding qualifications of suppliers. Therefore, having a clear scope and knowledge of what the external analysis actually covers should be argued as an improvement suggestion of the current framework.

Furthermore, as identified in the literature, it is vital to have a clear structure of an external analysis to achieve an effective analysis. During the interviews, it has become clear that the scope varies a lot and that the process is lacking a clear structure. Further, the frameworks used today are not categorised in any defined sequence, which could be a reason why the current frameworks are used with some uncertainty and in some cases not even at all. The process of analysing an external market looks different depending on the supply market characteristics. Executing external market analysis needs a structure and clear scope that every analyst needs take into consideration. In addition to this, having a clear understanding of the internal requirements have both been highlighted by some of the respondents and in the literature. Therefore, raising the question to oneself regarding the internal requirement is a vital part

before starting with the actual external analysis. This is something that must be looked up internally in the organisation. As discussed previously in the report, there are many differences between the markets being analysed at the case company. Therefore, it could be beneficial to always ask the question of what affect each analysed factor has on the certain buying category, thus making the scope of the analysis more relevant.

External analysis based upon levels

As the macro-factors are often lacking in the process of analysing external markets at the case company and that the major improvement that can be adopted at the case company is to structure the framework into the three analysis levels provided in the literature (Hitt et al., 2016; Huang, 2019; Van Weele 2000). These consist of macro, industry and micro.

As the macro-factors are the part of an external environment that an organisation has the least opportunity to affect, these factors should be analysed and evaluated carefully. According to Manuj and Mentzer (2008) risk objectives are in many cases lacking in the objectives of procurement, therefore it could be argued that the risk parameter should gain closer attention when scanning macro-factors. This becomes even more relevant as Hitt et al. (2016) point out that markets have become more turbulent, dynamic and complex. Therefore, the risk parameter could be added as a step when analysing macro-factors for the case company. What also needs to be addressed in the macro-factor environment is how it affects the total cost of ownership of a category, as changed macro-factors can influence the total cost of products (Butter & Linse, 2008). Instead of only evaluating the macro-factors and outlining what aspects that are important in each of the macro-factors (political, economic, socio-cultural etc), it could be beneficial to also add what impacts these may have on the organisation and the ability for the case company to make correct long-term decisions to gain as much advantages of different markets as possible while managing risks. Therefore, after each of macro-factors have been evaluated and analysed, it should also be included how any aspect may affect the organisation in the future and how the organisation should deal with these.

Furthermore, as of today, the current framework does include Porter's five forces model which is also suggested by the literature as a relevant tool to use when identifying and analysing competitive forces of a certain industry. However, Grundy (2006) argues that the forces can be challenging to compare with each other as the framework only states the forces in a static form and not giving way to put the forces in relation to each other. Therefore, to improve the current way of working with Porter's model it can be suggested that these should be weighed against each other to identify which forces that have the most significant impact in a specific industry. In addition to this, the growth drivers included in the Grundy (2006) model gives the decision-maker a clear picture of the future of the industry, as it enables the decision-maker to list the drivers and breaks parameters to base the outlook of the industry.

Regarding the micro-analysis, where the analysis is further scoped down to include single suppliers and market players, Huang (2019) and Van Weele (2000) argue that the SWOT analysis and the value chain analysis are appropriate frameworks to use when analysing single companies. Therefore, the SWOT model and the value chain analysis could still be a part of

the framework, however, used when conducting the microanalysis. The micro-analysis can both be conducted on competitors as well as single suppliers. Even though, the procurement function is mostly focusing on analysing single suppliers, it could also be beneficial to analyse competitors' actions and responses in a market. Hitt et al (2016) expresses the need of analysing competitors when scanning an external analysis.

Below in figure 17, a structure external framework is presented on how it can be based on the dimension of Macro, Industry, and Micro. Also, in every dimension is the relevant models presented so that it is clear for the decision-maker to conduct the analysis.

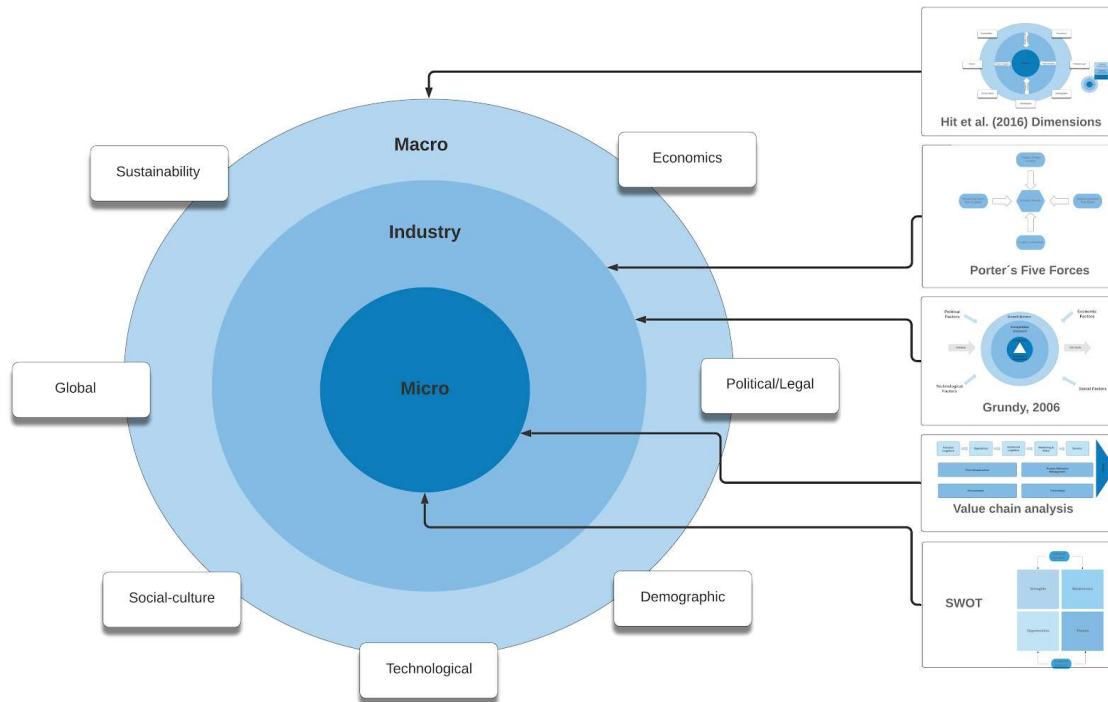


Figure 17 External analysis based upon dimension

Structured analysis

The current framework lacks a clear structure and includes four main analysis tools. There are no clear guidelines or a logic sequence at which part of the external analysis the certain analysis tools should be used.

To begin with, when conducting an external analysis of the environment, it is important to set the scope in a precise way so that it covers all the relevant factors that are worth to have in consideration. For instance, Porter (2008) suggests two areas how the analysis can be scoped down to make it more relevant.

- What products are in the market? Which ones are part of another distinct industry?
- What is the geographic scope of the competition?

In addition to the two questions stated by Porter (2008), it can also be beneficial to include other questions when setting the scope of the analysis. For instance, it is important to have in mind what the internal requirements are, and what type of information and what the most significant external factors are for respectively category, as these differ a lot within the case company.

Based on the output of the two above questions mentioned by Porter (2008), the user of the analysis should start to look at the geographical regions that the suppliers in the industry are located to see what macro factors that are influencing the different market or region on a macro level. This is leading the decision-maker into the following of the analysis, to analyse the macro-factors. This step focuses on identifying factors that are important to evaluate when looking externally in the environment, as Political/Legal, Economic, Social-culture, Technological, Sustainability, Global and Demographic according to Hitt et al. (2016). According to Albright (2004), this is needed to predict future events, problem and risks in the external environment, whereas, Hitt et al. (2016) highlight the importance of scanning the environment to identify the trends and factors that may shape the industry. In this step, the macro-factors can be summarized where threats and opportunities are stated for each of the factor that may affect the industry. Likewise, to what Porter (2008) is highlighting as advise when doing an analysis, it is vital to put emphasis on the most important macro-factors that has the potential most significant impact on the industry. In this step can be appropriate to have in mind the scanning, monitoring, forecasting and assessing procedure explained by Hitt et al. (2016) to get the most comprehensive analysis of the macro factors and how the trends and factors may change over the strategic sourcing period, three years.

After the macro-factors have been evaluated, the external environment focuses on the industry-specific factors. These are the forces in Porter's five forces model. It is not only the competitive forces that should be included in the industry-analysis but also growth drivers that shape the growth trends in a certain industry. As the current framework at the case company only states the five forces in a static way, an advantage could be to introduce the process of also weighting the forces. This is to evaluate not only what different aspects are shaping the forces but how

powerful each force is in relation to each other. This would allow for a nuanced way of working with Porter's five forces model. In addition to this, Grundy (2006) highlights the importance of examining growth drivers that are shaping an industry. Similar with the proposal above that forces should be weighed against each other, Grundy (2006) also suggests that growth drivers and break drivers should be weighed against each other to get a clear picture of what drivers that have shaped the industry and what drivers that are likely to shape the industry in the future. Having both the competitive forces and growth drivers into consideration when analysing the industry, could lead to a more comprehensive industry-analysis. Porter (2008) highlights some common pitfalls that are important to take into consideration when using the five forces model. Having these in mind would allow the case company to decrease the risk of using the model ineffective and guiding the analyst through the industry-analysis process. What is an advantage of using the Grundy model (2006) is that in the model the decision-maker can see the forces on the macro level and include them in the decision-making process on an industry level in order to increase the effectiveness of the process.

After the macro-factors and the industry-specific factors, the next step is to analyse the external environment on a micro-level. In this level, an examination of how the competitors are navigating in the supplier market should be conducted. Here it is about identifying action and responses that is done by the competitors to achieve an advantage in the competitiveness of the supplier market. It can be appropriate to use value chain analysis of the competitor to see how they are structuring its value chain in order to deal with the threats and opportunities that are present in the environment. As a part of conducting the micro-analysis, a SWOT analysis can be conducted to state the threats and opportunities but also the strengths and weaknesses the organization itself has in the given context.

6. Conclusions

A thorough literature review and the processed empirical material throughout the research that have been summarized, categorised and analysed to answer the research questions:

What are the important factors of the execution of an external analysis at the case company?

There are several important factors to take into consideration when executing an external analysis. First of all, the case company is active in a dynamic and complex business environment, where the external analysis spans over several different types of markets. What has been identified during the interviews is that the parameter of having a broad and relevant contact network is essential, since this enables the analysts to easily find relevant information in many cases. In general, finding information is an ongoing problem in every external analysis process since it is a time-consuming activity to continually be updated about the latest trends and market activities in the market. Linking the internal requirements is also an important factor in external analysis as this enables a company to not only investigate the external environment but also make sure that the internal requirements are met. Having a clear picture of the internal requirements makes the external analysis more relevant and precise, which should be a question to consider before starting with the external analysis itself to increase the quality of the outcome of the analysis to make it as much relevant for the internal organization as possible.

In addition, when looking externally in the market it is essential to understand the organisation's risk appetite to have the boundaries set early in the strategic sourcing process. Further, experience among colleagues and a broad contact network, internally as well as externally are also important factors that may lead to a more effective external analysis process. Another important factor that has been identified is that the risk perspective should be included when examining external environment and evaluated based upon findings from the different steps in the external analysis.

What challenges exist when conducting an external market analysis at the Case company,

There are challenges at the case company when conducting an external analysis. For instance, finding relevant information can be challenging and what information sources to use throughout the analysis. Another aspect that contributes to a challenging analysis is that markets are dynamic and complex. This makes it hard to predict the development of trends and other types of structural changes within a category. Further, if the supplier market of the category is fragmented and the internal requirements for the category needs to be adjusted to many different local requirements, the external analysis becomes a difficult task. This study can also conclude that when analysing external environments is that it is difficult to achieve a structured analysis process since there are many different categories and great differences when it comes the supplier market characteristics.

How can these factors and challenges be managed to improve an existing external market analysis framework?

One of the findings in the study which has been identified is lack of a rigorous structure in the external analysis framework, users of the external analysis framework tend to use four different tools in the framework in different ways. It is vital when conducting external analysis to inform the decision-maker in which sequence the different analysis tools should be use in order to give maximum insight. If the framework becomes more standardised, where all the steps in the external analysis are of mandatory characteristics and have higher relevance, it could enhance the outcome of the external analysis step at the case company. Further, by implementing the different dimension in the external analysis, where every dimension has specific requirements that is clear for the user and gives a more holistic view over the external environment and may therefore improve the outcome of the analysis.

7. Recommendations

The recommendations that this study provides are based upon what factors and challenges and the suggested improvements of the framework discussed in the analysis. Firstly, it is vital for an organization to divide the external analysis into different analysis levels to gain a more structured and effective external analysis. For companies that conduct several external analyses in different types of markets both in terms of size and characteristics, it is also important to define the scope of the analysis to make it clear where the geographical scope of the analysis cover and what type of markets. Having a logic sequence is also vital as this helps analysts to follow certain defined steps to support a more structured analysis

There are many tools that have been brought up throughout this study and it is essential to be aware for which purpose the tools have and at which analysis level each tool is used. Regarding Kraljic's purchasing portfolio model to segment suppliers, the model is not appropriate to use as an external market analysis tool itself, but it is more relevant when segmenting product or product groups for the purpose of segmenting suppliers in order to choose the suitable supplier strategy. Therefore, the Kraljic's model can be moved to the following step in the Strategic sourcing process. Macro-factors are covering a macro perspective of markets and economies that over the years have become more complex and dynamic, which makes the risk management perspective highly relevant when studying these. When studying a certain industry, the Porter's five forces model is a relevant tool, however, the static nature of the tool itself makes it to some degree insufficient, therefore when using Porter's five forces model, it can be an advantage to put the forces and the factors affecting the forces in relation to each other to get a more holistic and comparative view of the forces. Growth drivers and break drivers within the industry can also be beneficial to include as these are shaping the industry trends, thus gaining a more holistic perspective of the industry analysis.

In figure 18, the sourcing process of the case company is presented with the existing and the new models that should be included when conducting external analysis. Furthermore, as previously discussed, the Kraljic's model is not included in the external analysis step of the strategic sourcing model, instead it is moved to the following step in the process, Define category strategy.

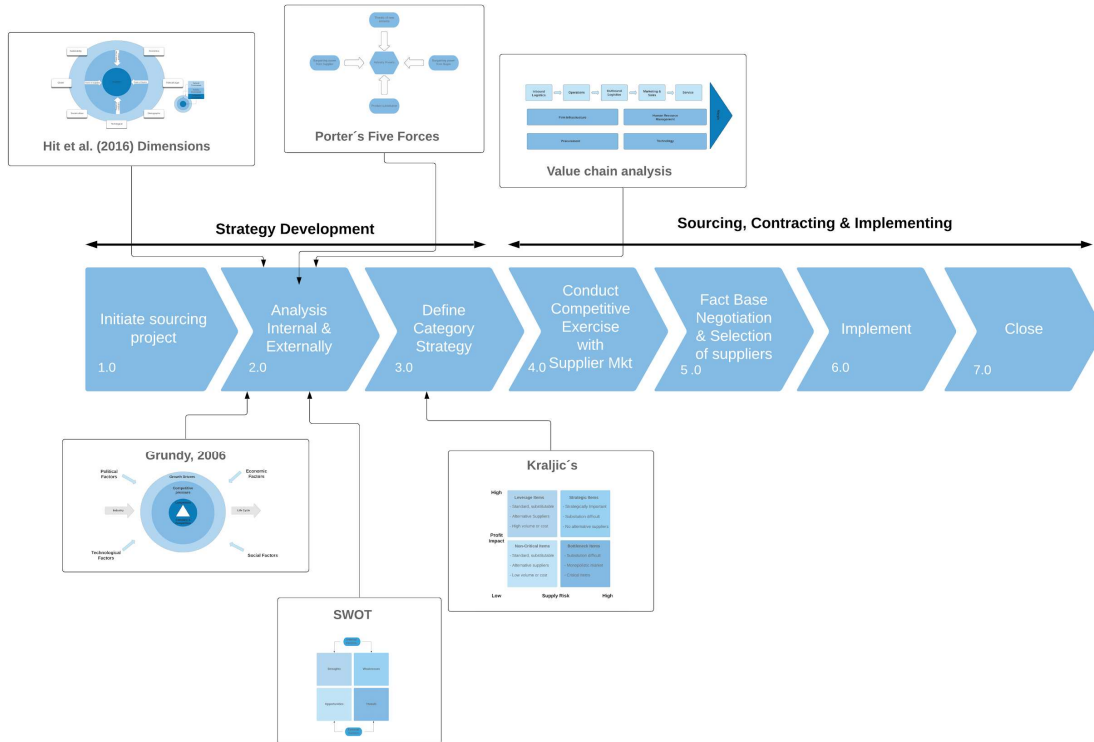


Figure 18 The updated Strategic Sourcing process with the new external analysis framework

8. Further research

This research has identified and analysed different factors and challenges that are important when conducting an analysis of external environment. Currently, there are many different frameworks and tools that the literature is suggesting for analysing external markets. From the case company's perspective, the process of external market analysis differs widely depending on the market being analysed and the required information and process is different. It has also been identified that the scope of the analysis is lacking at the case company which could lead to an unstructured and inefficient analysis process. The analysis tools found in the literature does not take into consideration which type of markets being analysed. Therefore, external market analysis tools could become more directed and get a more relevant scope if they were more dynamic and included the aspect of what type of markets that are analysed. Further, the risk perspective has become more relevant when studying external markets due to aspects such as market complexity and globalisation. Therefore, further research on how the risk perspective can be inherent in external analysis framework would be interesting which could broaden the perspective on external analysis.

Further, it would be interesting if an additional case study had been conducted on another business context to further analyse the research problem and to see if similar result of the study also had been reached and what the most significant differences had been.

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Appendix

Appendix A - Interview guide

Interview guide
1. Could you please explain your role in the organisation and your main responsibility areas?
2. How long have you been working with your current responsibilities?
3. In which way do you think external market analysis can create value in the strategic sourcing process?
4. For which purpose have you mostly analysed external markets? In what type of industry did the market analysis cover?
5. What do you think are the most valuable inputs when conducting an external market analysis and to identify risks in markets? Why do you think these are most valuable?
6. Do you use any framework when analysing external factors and risks in different markets?
7. Do you currently have a standardised working process of conducting market analysis?
8. What have been the main sources of information when you have conducted market analysis? Were there any particular reasons for choosing these sources?
9. What do you think is the most challenging in the process of analysing external market factors?
10. Do you think there are any missing parts when analysing external factors in the current working procedures you have? Why 11. Do you think there are any missing parts in the current external analysis frameworks?

Appendix B – Invitation to interview

Dear,

We are two master students in Logistics and Transport Management at the School of Business Economics and Law at University of Gothenburg. This semester we are doing our master thesis for Group Purchasing at a case company. The main topic of the thesis is External analysis of markets and aims at helping the case company improving its current processes of conducting external market analysis.

Many experts highlight that supply markets have become more complex and dynamic due to globalization and that the need for a deep understanding and complex knowledge of the supply market from which an organization is sourcing is essential for successful strategic sourcing. It is important that the process of the market analysis is well-defined in order to gather market information and conducting a supply market analysis in an efficient way with high quality. Previously, the external analysis included areas of innovation, industry trends and competitor insights, however, new areas are now being explored to be added in an external analysis such as risk factors in a market analysis context but also tools for interpreting the market with macro factors.

Our supervisor at the case company has recommended persons that she believes have the right experience and knowledge of external market analysis in the organisation to provide us with valuable insights and perspectives. Therefore, we are writing to you because we believe that you are a suitable candidate for an interview for our master thesis. The interview will be conducted either through a phone call or Online web meeting where we will be interviewing you on this matter and the interview will approximately takes 30 minutes. Could you please confirm if you will be available for an interview and then we will invite you to a meeting in Outlook. We have planned to conduct our interviews during the period of April.

We are of course aware that the outbreak of Covid-19 has in many cases changed the working routines and put higher pressure on the time schedule for many. Despite this situation, it would be very valuable for our master thesis if you had the time to participate in an interview and provide us with your expertise.