MASTER THESIS

Determining the competitiveness of the Dutch agribusiness using the Generalized Double Diamond

- a case study

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Determining the competitiveness of the Dutch agribusiness using the Generalized Double Diamond – a case study

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Abstract

Competitiveness is an important and interesting topic for both business and policy makers in the majority of nations and regions across the globe. The main reason for its growing importance is that changes in the nature of global competition have increased the pressure on organizations to design sustainable strategies to improve profitability (Ketels, 2006). The agricultural industry is one of these industries that is highly competitive. This has to do with the increase of food production and that agricultural innovation in technology and science are essential to promote rural development and reducing poverty (Gerland et al., 2014; Spielman & Birner, 2008). A model that has been highly investigated by many researchers, is Porter's Diamond (1990). The extension of this diamond, the Generalized Double Diamond by Moon, Rugman and Verbeke (1998) can be used by organizations to measure their competitiveness in their domestic market and in an international market. This especially important since many organizations and industries do not solely focus themselves on their domestic market, but compete internationally. The environment in which European companies operate is highly competitive, because of the free trade markets.

The Generalized Double Diamond was applied in order to answer the following research question: *To what extent Is the Generalized Double Diamond Model useable for agricultural businesses to determine their competitiveness in European nations?* To answer this question, a case study was set up around Company X. Factor conditions, business context, demand conditions and related and supporting industries of Company X were investigated in their domestic market and an international market. Via qualitative data gathering, the researcher found that some of the factors have more importance than others. For example, the factor conditions in a nation determine the basis of the whole business. Second, the circumstances of the domestic market and the international market need to be comparable with no insurmountable differences. Third, the model needs to suit the organization: it is not wise to measure the competitiveness of an agricultural conglomerate with the Generalized Double Diamond.

Key words: Competitiveness, agribusiness, West-Europe, Generalized Double Diamond, Porter's Diamond.

Table of Content

List of Tables

1 INTRODUCTION

1.1 SITUATION

Competitiveness is a major topic of interest for both business and policy makers in the majority of nations and regions across the globe. The main reason for its growing importance is that changes in the nature of global competition have increased the pressure on organizations to design sustainable strategies to improve profitability (Ketels, 2006). One type of industry that is constantly innovating, developing and monitoring their products and processes, is the agricultural industry. This can partly be explained by the expected increase in world population (Gerland et al., 2014). A significant increase in production of food must be obtained by acceleration of the rate of technological change, to stimulate the sustainable intensification of livestock and crop production systems (Rehman, Jingdong, Khatoon, Hussain & Iqbal, 2016; Godfray et al., 2010). Next to that, agricultural innovation in technology and science are essential to promote rural development and reducing poverty (Spielman & Birner, 2008).

International organizations, such as the European Union (EU) or the Food and Agriculture Organization (FAO) of the United Nations, have mapped the situation of agriculture around the globe. It becomes clear that the competitiveness of countries and organizations in the agro and food chain is vital for the prosperity of countries (Volk, Erjavec & Mortensen, 2014; Petit et al., 2014). At the basis of this competitiveness among countries lies innovation. Innovation is essential for organizations to stay competitive in highly developed markets. In order for businesses to survive in a competitive environment, continuous adaption and innovation is crucial (Dereli, 2015). Nations are keen on developments that positively attribute to sustainable agriculture and food supply, since a developed agricultural system results in food security, which is a starting point for national prosperity.

The European Union (EU) has got a long history of competing organizations among member states. The EU can be looked at from two perspectives. On the one hand, the organization functions as a whole and measures up to other global economic superpowers, such as the United States. On the other hand, the EU are 29 independent countries which compete with one another. Due to the 'single market' principle, member states are supposed to operate in an economic equal level playing field (Jos ling, 2008). The open economy has forced industries and organizations to not solely focus on domestic competitors, but also on foreign competitors. Being competitive in export activities for businesses is, however, not as easy as it might seem. Achieving success in foreign markets is challenging for businesses, due to the diverse and quirky nature of foreign environments (Samiee & Walters, 1990). In order for organizations to be competitive in foreign markets, knowledge on both the domestic

market as well as the foreign market is essential. Moreover, it is vital for organizations to know and profile their competitive advantage (Porter, 1990). For determining a companies' competitive advantage, various tools and models have been developed over the past few decades.

A variety of competitiveness models can be identified in literature. One model that stands is Porter's Diamond, by Michael Porter. Porter (1990) created his 'Competitive Advantage of Nations'-model in 1990, yet it is still very much applied in modern research. Porter's Diamond can be used by industries to determine their competitive advantage. The so-called 'Porter's Diamond' (Porter, 2001) is a tool for nations and organizations to measure their competitiveness by applying this model. For this, organizations need to analyze the four attributes in the framework, namely factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry (Porter, 2011). These all relate to the domestic market. Next to that, two disrupting factors are taken into account, namely chance and government. Porter's philosophy is that "*national prosperity is created, not inherited. (…). A nation's competitiveness depends on the capacity of its industry to innovate and upgrade. Companies gain advantage against the world's best competitors because of pressure and challenge. They benefit from having strong domestic rivals, aggressive home-based suppliers, and demanding local customers.*" (Porter, 2011, p. 3). However, Porter does recognize that firms compete with one another in markets, while nations do not compete in markets. With the focus on the strength of organizations themselves and the facilities offered by governments, Porter designed Porter's Diamond.

Porter selected a number of nations in which he identified strong industries. Dominant industries within countries were identified and analyzed. The countries and industry case studies Porter executed can be found in Appendix 2. In his model, Porter did not pay much attention to the global power and importance of agriculture (Porter, 2011). Eventually, Porter was able to generalize the Diamond Model, being generalizable among countries and industries. Porter's Diamond has got many advantages in its application, since it has a practical approach. Nevertheless, some scientists have criticized the model: the Diamond Framework ignores the influence of multinationals on countries' competitiveness (Dunning, 1992) and is not applicable to smaller nations in the world (Bellak & Weiss, 1993; Cartwright, 1993). Therefore, several researchers have made valuable contributions to the model or did suggestions how to adapt the model in order to improve its effectiveness for organizations.

The open free trade markets across the European Union force organizations to look further then their country borders. Many organizations have internationalized their processes, such as outsourcing of a part of the production process. Therefore, Dunning (2003) added 'multinational activities' as an exogenous variable to Porter's Diamond. However, in modern global markets, multinational activities

include much more than only an exogeneous variable (Cho & Moon, 2000). The competitiveness of organizations can be determined by investigating the domestic and foreign determinants through the Generalized Double Diamond Model. Therefore, the redesigned diamond model by Moon, Rugman and Verbeke (1998) will be applied in this research. Porter's Diamond might work, but the Generalized Double Diamond will work better. Further information on the benefits of the Generalized Double Diamond compared to the original diamond model will be given in the theoretical framework. The Generalized Double Diamond can be found in the second chapter of this research.

1.2 RESEARCH GOAL

The diamond model has been applied numerous times in industries and specific countries, such as comparisons in ICT between China and Taiwan and Korea versus Japan (Bridwell & Kuo, 2005; Moon & Lee, 2004), or even tourism in Spain and Turkey (Özer, Latif, Sariisik & Ergün, 2012). However, its application in the agricultural industry is very limited to our knowledge. Even if the model was applied in agriculture, this was mostly executed in non-Western settings, for example describing the competitive advantage of Saudi Arabian dates (Gawad, Alkhteeb & Intezar, 2014), identifying barriers to Iran's saffron export (Aghdaie, Seidi & Riasi, 2012) or determining the competitiveness of the Malaysian food processing industry (Ismail & Yusop, 2014). Hence, in this research we will investigate and analyze the competitiveness of the modern agricultural industry in West-Europe. The model that will be applied in this competitiveness-analysis is the Generalized Double Diamond Model by Moon, Rugman and Verbeke (1998). By investigating an industry that is not so much investigated with the Generalized Double Diamond Model (agribusiness), the author expects to find more information on its applicability in this industry. The value of the Generalized Double Diamond for these industries is being examined.

1.3 RESEARCH QUESTION AND STRUCTURE

In order to investigate the Double Diamond Model and its applicableness in the agricultural industry, this research will give an answer to the following research question:

To what extent Is the Generalized Double Diamond Model useable for organizations in the agribusinesses to determine their competitiveness in European nations?

To give a solid answer to the research question, this thesis will be split up in several chapters. In the theoretical section, attention will be drawn to the agricultural industry, the industry in Europe, industry characteristics and food production. Also, the author will elaborate on the Generalized Double Diamond. In the method section, the author will discuss the method that is used to execute this

research and tools that were used to achieve this type of data collection. In chapter four, the results of the research will be presented to the reader. The conclusion and discussion and recommendations will follow in respectively chapters five and six.

1.4 RELEVANCE

This research will contribute to both research and practice in business, by assessing the Double Diamond framework for the European agricultural industry. The model gives an outline of the complete market circumstances. By applying this model, it is expected that the model is more valuable for organizations in the agribusiness to assess whether or not their organization will be competitive in a foreign market. By investigating the Generalized Double Diamond Model in a case study, organizations will be able to identify their corporation in the bigger picture, which will provide practical insights in their competitiveness. From here, they can either decide to expand or resign their business abroad.

2 THEORETICAL FRAMEWORK

2.1 INTRODUCTION THEORETICAL FRAMEWORK

Before we dive into the literature of this research, an outline of this chapter is provided. The author points out what the importance is of and relation is between innovation and competition in section 2.2. In 2.3, the Generalized Double Diamond is explained and in 2.4, the author elaborates on the different components of the diamond. In the last section 2.5, the author will give more information on the competitiveness in the European agribusiness.

2.2 INNOVATION AND COMPETITION: AN INTERPLAY

Localized innovation processes have become an interesting topic among researchers (Malmberg, Solvell & Zander, 1996). Innovative performance of organizations is often explained by the intensity and diversity of the competition in their industry and the relationships with their stakeholders (Bengtsson & Sölvell, 2004). This explains why innovation processes are driven by the burden of competition, but also from synergies that emerge from cooperation (Bengtsson & Sölvell, 2004). According to Porter (1990), competition acts as a catalyst within clusters: in order to compete for human and venture capital, competitors need to continuously innovate their processes and products. Development and commercialization of new innovations especially take place in these competitive communities (Bengtsson & Sölvell, 2004). These new technologies are critical to the prosperity and so survival of firms (Cooper & Schendel, 1976).

Porter (1990) explained that domestic rivalry is valuable for businesses for a variety of reasons. Since competitors are geographically near each other, they have the urge to innovate. Capital markets compare domestic competitors with one another. Next to that, organizations compete for human capital, technological breakthroughs and other competitive advantages. Competitors within the same country experience an equal level playing field. For example, foreign rivals are more remote and lean on their country-specific advantages.

2.3 THE GENERALIZED DOUBLE DIAMOND MODEL

It is important to understand the dimensions of Porter's original Diamond model in order to understand the Generalized Double Diamond Model. Porter's Diamond was designed and developed by Michael Porter in 1990. In his book, Porter describes the essential role of countries in competitive industries (Porter, 1990). Porter identifies differences among countries, since no nation can be competitive in every single industry. As was stated before, competitiveness among organizations is

stimulated by innovation, and innovation stimulates competitiveness. National competitiveness, however, is somewhat more complicated. 'Productivity' seems to be the most meaningful concept of competitiveness at the national level, as the value of the output produced per unit (Porter, 1990). It is also a solid parameter for a nation's prosperity, to indirectly measure the standard of living for its citizens, since productivity depends on both the features and quality of products and the efficiency with which they are produced. "A nation's standard of living depends on the capacity of its companies to achieve high levels of productivity – and to increase productivity over time. Sustained productivity growth requires that an economy continually upgrade itself" (Porter, 1990, p.76). A copy of Porter's original diamond can be found in Appendix 1.

The Generalized Double Diamond is very much alike the original Porter's Diamond. The Generalized Double Diamond Model is the extension of the single diamond model, by transforming it into a global and international model (Hanafi et al., 2017). The Generalized Double Diamond Model is presented in Figure 1. The Generalized Double Diamond Model contains the four main factors, which are similar to the single diamond model. However, the external factors 'government' and ' chance' have been erased from the diamond model. Moon, Rugman and Verbeke found in their research that governments hould not be seen as a separate parameter, but as a factor that affects all different sides of the diamond model. Governments have potentially large impact on competitiveness of organizations or industries. It is therefore that the former aspect of 'government' is more intertwined with all the other factors. The foreign direct investments (FDI) are the multinational activities which are either inbound or outbound.

The other exogeneous factor that was present in Porter's original diamond, is 'chance'. In the Generalized Double Diamond model, this factor is eliminated. This factor is not controllable, nor is it predictable (Moon, Rugman & Verbeke, 1998). Furthermore, it is self-evident that chance is always present under all circumstances. Concerning the other aspects of the Generalized Double Diamond, the content and criteria of the Generalized Double Diamond is similar to the content and criteria of the original Porter's Diamond.

To sum up, there are three important arguments for using the Generalized Double Diamond rather than using the original Porter's Diamond. First of all, the model explicitly includes international and multinational activities. Second, the Generalized Double Diamond is more operationalizable, since the domestic and international activities of a company are managed the same way. Lastly, the model incorporates 'government' into all the facets of the diamond, instead of treating it as a exogenous parameter.

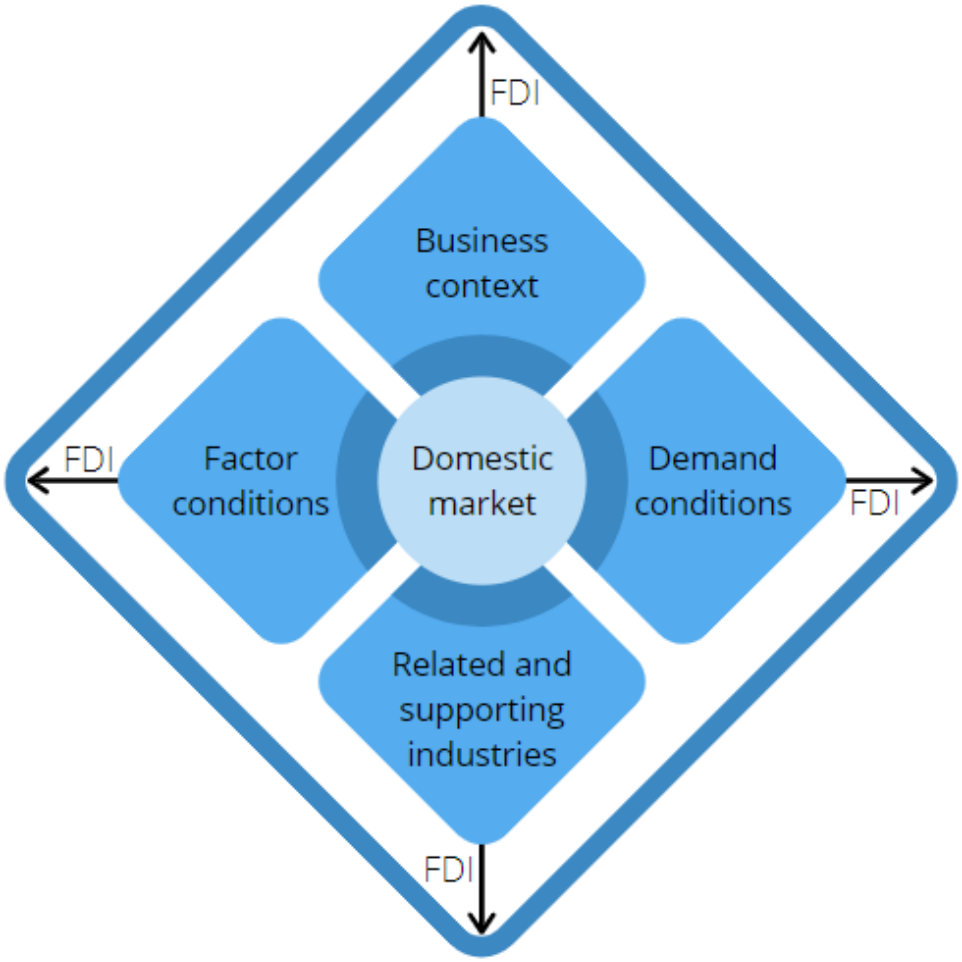

Figure 1 - The Generalized Double Diamond Model by Moon, Rugman & Verbeke (1998)

2.4 Components of the Generalized Double Diamond

The context and explanation of the four components of the Generalized Double Diamond are similar to the four components of the original Porter's Diamond. Therefore, the explanation of these four components by Porter will be used to explain the content of the components of the Generalized Double Diamond.

Factor conditions

The aspect of 'factor conditions' contributes the most to the Generalized Double Diamond. These factors of production determine the flow of trade (Porter, 1990). These factors describe with which the country is well provided. In advanced economies, nations create the most important factors themselves. Nations are therefore most successful in industries where they are particularly good at factor creation (Porter, 1990). Companies can also turn disadvantages in advantages: when they discover the limits of their operations, they are forced to upgrade and innovate. Disadvantages are then converted into competitive advantages. However, these innovations can only take place under

certain circumstances. First of all, companies need to be triggered to take action, mostly by domestic rivals. Next to that, human capital needs to be available to create these innovations. The most important factor conditions are roughly: natural, human and capital resources, infrastructure, scientific knowledge and technical innovation (Porter, 1990).

Demand Conditions

Within globalizing markets, it might seem that the importance of the demand in the home market would diminish. However, the opposite is true. The home market is often times of great value , since it gives organizations a clearer or earlier idea of buyer needs (Porter, 1990). Demanding buyers in the home market pressure businesses to be more innovative and competitive than their foreign rivals. Demand conditions force companies to respond to challenges. The most important aspects of 'demand conditions' are the proportion of the domestic market, demanding and sophisticated buyers and customer needs that anticipate those elsewhere (Porter, 1990).

The demand of a product can be split up in the market value and the market sophistication. Market value is about the market share of the organization and home demand. Market sophistication is about the quality of the product and the buying process, the proximity to customers, sophistication of customers and the importance of the product for the customer.

Related and supporting industries

Industries that are downstream along the supply chain, can take advantage from industries that are upstream the supply chain. Therefore, the presence of a related or supporting industry in the nation that is internationally competitive is an important determinant of national advantage (Porter, 1990). Several explanations are given for this phenomena. First, these suppliers deliver the most effective sources in an efficient way. Second, supplying industries that are present in the domestic market provide their innovations, often based on close working relationships. Companies can take advantage of short communication lines and constant flow of information (Porter, 1990). In case companies work together intensively, buying companies even have the chance to serve as test sites, accelerating innovation. Furthermore, home-based related industries increase the likelihood of adopting new skills.

Firm strategy, structure and rivalry

Managerial systems across countries can differ substantially. There is not one managerial system that is universally applicable. Context and national circumstances largely determine how companies are created and managed (Porter, 1990). Motivation of organizations and individuals within organizations are also of great interest. The goals they hope to achieve give a good indication of their common and individual aims, but this information also reflects the characteristics of national markets and

compensation practices. Attributes to this side of the diamond do not only reflect the managerial system, and the company strategies, but also the structure of the organization and the intensity of competition between local rivals (Porter, 1990).

2.5 AGRICULTURAL COMPETITIVENESS IN EUROPE

Agricultural productivity in the EU growth took a flight over the period 1949 to 1959, when the European economy had largely recovered from the Second World War. In later decades, this productivity increase slowed, but stayed an important component in the development of the sector (Josling, 2008). The events in the first half of the 20th century have had a major impact on the European agricultural policy. Short after the Second World War, Western European countries were struggling rebuilding their economies and restoring political and commercial relationships. At the founding of the European Economic Community (EEC) in 1957 also lies the basis of the current Common Agricultural Policy (CAP) of the EU.

The CAP was created to give consumers the access to good and affordable food (protecting consumers against fluctuations in the world market), to create a common agricultural market and to provide farmers with a stable income (Baltas, 1997). This was especially important in the post-war period, while many people in Western Europe had suffered from malnutrition in the last two years of the Second World War (Josling, 2008). Over time, the CAP has continuously evolved, whereby the accent of the policy moved from a more productivity focused tool towards an environmental focused tool. Also, the CAP enables farmers to innovate (SCAR, 2015). Since the formation of the EU and the introduction of the CAP, the EU has evolved from a significant importer of agricultural goods to a major agricultural exporter (Bureau & Swinnen, 2018). Up to date, the CAP is an important tool within the EU, especially for countries with less favorable agricultural areas, e.g. mountainous areas. The CAP ensures that entrepreneurs can survive in these areas, instead of being too little competitive compared to other entrepreneurs (Bureau & Swinnen, 2018).

3 METHODOLOGY

3.1 TYPE OF RESEARCH

3.1.1 Case study research

According to Smit (2010), the relevance of Porter's Diamond should be refocused to the context of a particular firm. In this way, the framework will add more value to its application in business. This is supported by Rugman and D'Cruz (1993), who conclude their research with the following: "Finally, the real sources of competitive advantage are to be discovered not only by statistical analysis but by interviews of managers and officials, i.e. by field work in the strategic clusters." (p. 37). To meet this requirement, case study research will be executed in this thesis.

According to Yin (2017), case studies are rich, empirical descriptions of phenomena. These case studies are commonly based on a variety of data sources. Case study research with qualitative data collection can be seen as discrete cases and can help reform, extend or replicate existing theory (Yin, 2017). Case studies point out the real-world context with a rich amount of information (Eisenhardt, 2008).

3.1.2 Data collection

For the data collection in this research, the researcher made use of two types of data collection. To start off with, the researcher investigated quantitative and qualitative, secondary data on free trade markets and the strength of different agricultural industries within the EU.

Subsequently, qualitative data collection methods were applied. Qualitative data collection methods are most appropriate in this type of research. Qualitative data was generated from interviews with stakeholders among the organization in different market circumstances. The advantage of qualitative research is that it provides in-depth insight: it is small scale, exploratory, flexible and the results are real-life like and provide many ideas (De Ruyter & Scholl, 1998). Furthermore, qualitative research provides contextualized views of consumption and marketing (Belk, 2013). Semi-structured interviews were executed in order to have flexibility during the interviews and have the ability to go more in-depth on topics (Stuckey, 2013).

The interviews were all executed via video calls. The interviews were all one-on-one and spoken language was either Dutch, English or German. Interviewees all agreed with participating in the research and they were aware of their rights during the interview.

3.1.3 Case profile

Because the research will be executed according to a case study, an organization was selected to investigate. Company X will be taken as the case. Company X is a manufacturer of feed mixers and (automatic) feeding systems for livestock farmers. The organization develops, designs and produces their products themselves. Via a large network of mechanics and dealers worldwide, Company X sells their products to their end customers, which are cattle farmers. Company X's highest priorities are designing new solutions and developing existing technologies, which will help livestock farmers to efficiently manage their farms. The companies' headquarters and production location are situated in The Netherlands. Next to that, Company X owns a second location in another European nation. Along the supply chain, Company X works with organizations across Europe. Their suppliers are not all domestic, yet they are all European. Company X is strongly embedded in the international market. On average, 85% of their total production is exported to over fifty nations worldwide. Their largest international market, however, lies in the European Union.

In order to obtain a reliable study, the company was selected because of their representativeness for the Dutch agricultural industry. First of all, the organization is active in a highly competitive market with domestic and international competitors. Next to that, the organization is structured and there is a hierarchy. Thirdly, the open market in the European Union is vital for the organization. Lastly, the organization is fully autonomous and is not part of any agricultural conglomerate.

3.1.4 Unit of analysis/sample

Nations in Europe are on average extremely competitive. The World Economic Forum investigates the competitiveness of nations every year and publishes their reports annually. In Appendix 3, an index can be found with an overview of 141 countries (WEF, 2019). In this overview, it can be seen that almost all EU member states are in the top fifty, together with North American countries and some Asian countries. When we take a closer look, all West European countries are at least in the top twenty-five (WEF, 2019). The Netherlands is ranked the highest, with a fourth position in the list, followed by Germany, with a seventh position. The position of the lowest ranked West European countries are Austria, Belgium and Ireland, with positions on respectively places 21, 22 and 24.

Since this research will investigate the Generalized Double Diamond Model, information on the companies' domestic market is essential. The headquarters of Company X are based in The Netherlands. Therefore, The Netherlands will be used as the basis of the Generalized Double Diamond Model (the core diamond). The Netherlands has, according to the WEF (2019), a highly competitive market. Therefore, it is interesting to compare it with a nation that has a less competitive market. For the Generalized Double Diamond, a reference market is needed to investigate to determine their

international competitiveness. Consequently, a less competitive European market was selected to investigate via the Generalized Double Diamond Model.

The three least competitive nations according to the WEF (2019) are Austria, Belgium and Ireland. When we put the competitiveness of these countries in perspective with regard to their landscapes, we see that in Austria's landscape did not only have influence on its agricultural policy, it has formed its national agricultural policy. Therefore, this research will focus on the Austrian market as well.

In order to justify the choice of these two nations, more information on these nations and their agribusiness is given in the following section.

The Netherlands

The Netherlands is situated in the Northwest in Europe. Due to the fact that several rivers debouch into the North Sea across the Dutch coast, The Netherlands lies in a Delta. This means the country is predominantly flat, with highly fertile soil. However, compaction of the soil is a threat and a topic of interest over the past few decades (Brussaard, Van Veen, Kooistra & Lebbink, 1988).

The Netherlands is a large player in the global agricultural economy. According to Jambor and Babu (2016), The Netherlands is one of the top 'rich net food net exporters', next to France, Brazil, the United States, Argentina and Australia. Being in this position in this category has several reasons: the countries in general have a favorable climate, they have a leadership position in agricultural revolution and there has been a stable income for farmers (in The Netherlands and France especially via the Common Agricultural Policy, CAP) (Jambor & Babu, 2016).

Austria

Where the Netherlands is a flat country that lies in a Delta, Austria is largely situated in a mountainous area. Austrian's capricious landscape explains the biodiversity throughout the country (Schmitzberger, Wrbka, Steurer, Aschenbrenner, Peterseil & Zechmeister, 2005). Due to their geological variation, farming is one of the most important industries that has helped forming rural areas. Political and economic marginalization, as well as less suitable conditions (e.g. in mountainous areas) are responsible for the existence of these traditional landscapes (Schmitzberger et al., 2005). The agricultural policy objectives in Austria have changed since 1995, when Austria joined the European Union. While the European Union is in favor of safeguarding traditional landscapes, there is a growing concern that EU countries do not meet their intended goals of protecting these (Marggraf, 2003).

Dealing with different circumstances in landscape and legislation in different parts of the country, farms are not managed in the same way. In general, Austrian dairy farms are small scale (Guiomar et

al., 2018). These farms are vital for maintenance of the landscape, since it is not always possible to do this by human hand, let alone mechanically (Tasser, Walde, Tappeiner, Teutsch & Noggler, 2007). Internal factors, such as succession or type of entrepreneur, also makes a great difference in decision making processes in the management of farms (Kirner & Gazzarin, 2007). The heterogeneity among farmers (Falconer, 2000) is opposite to the common view that market and technology determine agriculture.

Even tough farmers are autonomous and their farms are essential for maintenance of the Austrian landscape, there are many insecurities when it comes to Austrian farming. Farmers are not secure of successors and economic and market constraints pressure their existence (Kirner, Payrhuber, Prodinger & Hager, 2019). Therefore, Austria is an interesting country to take a closer look at. Furthermore, the agricultural industry differs a lot from the Dutch agricultural industry, which makes a comparison even more interesting.

3.1.5 Unit of observation

In order to obtain valuable information on the agricultural markets in The Netherlands and Austria, a variety of respondents with different backgrounds were needed. For this, several stakeholders among the supply chain of Company X's machinery were interviewed and interviewees that were not involved with Company X at all. Eight respondents were interviewed in total. The functions and positions of these respondents were very diverse. The researcher spoke with a member of the management team of Company X, the marketing manager of Company X, a Dutch young professional in the agribusiness with international working experience, the CEO of a dealer organization in Austria and other interviewees. A description of their functions are given in chapter 4.6, as well as more details on which respondent covered which topics.

3.2 Operationalizing Double Diamond Model

Most research that has been executed with the Generalized Double Diamond Model, has been quantitative research. However, the challenge in this research is to execute qualitative research, since various researchers have emphasized the importance of qualitative data with respect to the Double Diamond Model (Smit, 2010; Rugman & D'Cruz, 1993). Therefore, interview constructs and coding schemes needed to be set up.

For creating interview questions that contribute to answering the main research question, literature on Porter's Diamond and the Generalized Double Diamond was consulted (chapter two of this thesis). Simultaneously, coding schemes were set up. For creating coding schemes, the method used by DeCuir-Gunby, Marschall and McCulloch (2011) was used. The codes in this research will be theory-

driven and formulated before the actual data collection will take place. According to DeCuir-Gynby et al. (2011), developing these theory-driven codes roughly consists of three steps: "generate the code; review and revise the code in context of the data; and determine the reliability of coders and the code." (p.141).

For generating codes that could be used in the data analysis, theory was used from the literature described in this thesis. In this phase, it is important to extensively discuss codes with others. In this way, the author is not 'narrowed down' to his/her own tunnel vision, but is forced to rethink the codes and to adjust them if needed. Therefore, the researcher discussed these codes with the university's supervisor and the case study organization. After that, codes were reviewed in their context. In this phase, codes or definitions of codes were slightly adapted, to obtain codes that are specific but also describing the constructs that are looked for. Data driven codes were added to the codebook while analyzing the obtained data. The third and last phase is determining the reliability of the outcomes, including discussion on utility and implementation. During a two-hours long session, these coded interviews were extensively discussed.

The interviews all took place via video-calls. On average, the length of each interview was fifty minutes. After the interviews, these were fully transcribed. The length of the transcripts was at least ten pages per interview, up to sixteen pages for several interviews. The interview questions and coding schemes can be found in Appendix 4.

3.3 RELIABILITY

In the case of qualitative research methods, certain rigor is required. Several techniques can be used to create or guarantee the reliability and validity of the data (Long & Johnson, 2000).

3.3.1 Reliability and validity

In qualitative research, it is important to guarantee the validity of the interview construct. Therefore, the researcher will test the interview construct on two independent respondents who are not involved in the rest of the research. If needed, some slight adaptions may be made on the basis of their feedback. Another interesting scenario is expected to occur during this research: the data that will be gathered will be in English, but the mother tongue of all the interviewees will not be English. Therefore, the interview questions will be translated to Dutch and German as well, to increase the validity of the interview construct.

On top of that, the researcher checked transcripts through triangulation. This technique is common in qualitative data research with multiple data sources or investigators (Long & Johnson, 2000). Through triangulation, the chance of validity errors will decrease. For this thesis, investigator triangulation and

data triangulation were applied (Denzin, 2017). The investigator triangulation took place as follows: one interview from a Dutch respondent was be coded by individual readers. Thereafter, their coding results were compared to the coding results of the researcher. Errors and dissimilarities were discussed by both parties. The data triangulation took place though using and applying secondary data. Reports of the European Union and the FAO were used to support the arguments that were found in the qualitative data collection.

3.3.2 Generalizability

One major challenge regarding case study research is analytic generalization (Yin, 2013). By comparing data outcomes with the theory that is described in the theoretical and the method section, the researcher improved the generalizability of the work. Through this method, the generalizations from a specific case can be interpreted with greater meaning. This will lead to cumulative knowledge, which the author strived for (Yin, 2013). However, it will always be a struggle in case study research to find a correct balance between findings in data and generalizability across nations in this particular study.

4 RESULTS

4.1 READING GUIDE TO THE RESULT-SECTION

In this chapter, the empirical results that were found will be presented to the reader. Before the reader takes a closer look at these results, the outline of the paragraphs will be explained.

The Generalized Double Diamond requires research in two different settings. Therefore, the results between the domestic conditions and international conditions were split. As described in the method section, a number of interviews were held. These interviews were about divergent topics in the Generalized Double Diamond Model. To give more insight which respondent replied to which topics, please refer to paragraph 4.6.

The arguments that were given by the respondents, are supported by literature of organizations such as the European Union (EU) or the Food and Agriculture Organization (FAO). These arguments are put together in a separate paragraph under 'supporting arguments'. These paragraphs are only found in chapters 4.2 Factor Conditions, and 4.4 Related and Supporting Industries.

At the bottom of each second sub-section (4.2.1, 4.2.2, etc.), a small paragraph is dedicated to information that is specifically for Company X. This information is certainly relevant for this research, since it is initially a case study research.

Some quotes were used to support the results or to give more context to the reader. The quotes are put in quotation marks and these are all in English. Since the interviews were either in English, Dutch or German, footnotes at the bottom of the page report in which language the interviewee actually communicated. The original quotes are included in Appendix 5.

To sum up: first few paragraphs is data retrieved from respondents; supporting paragraphs provide data from the EU; information for Company X at the bottom of each sub-section; quotes are in quotation marks.

4.2 FACTOR CONDITIONS

4.2.1 Domestic factor conditions

One of the points that were repeated in every interview was that technological innovation in The Netherlands is of high importance. This has a long history: The Netherlands does not have significant raw materials through from which the country can profit. Therefore, the country was forced to distinguish from other countries through knowledge and innovation. The polders are typical example of Dutch innovation, but the general image of the Dutch agricultural industry is also linked to their innovation and their pioneering.

The Port of Rotterdam and the excellent transport system in The Netherlands stood out among the logistic advantages of The Netherlands. The logistic network can partly be explained by the geographical situation of The Netherlands: the country is a large delta, so there are many waterways where inland shipping is highly developed. The mild climate in The Netherlands also makes the circumstances dairy friendly.

The education system for higher education in agriculture in The Netherlands is highly advanced. Institutes that are specialized on dairy management, such as the Aeres University of Applied Sciences or the Dairy Campus provide much research for the dairy industry. Wageningen University & Research (WUR) is a highly recommended research institute on agricultural and environmental studies in the Netherlands. The university provides great advantages for the Dutch agribusiness, since it contributes to the positive image of the Dutch agribusiness. The WUR is internationally one of the top-ranked universities in the field of agriculture and forestry and much of their research is executed in The Netherlands (QS Top Universities, n.d.). As a result, many Dutch graduates use their knowledge abroad to manage organizations or lead research worldwide.

Quote: "When I see how fast graduates of colleges and universities can work at organizations, they do need much knowledge for that. I can only speak for livestock management, but apparently this is equal for arable farming. Last week I had a conversation with someone who studied at the Wageningen University and moved to the United States to work there as an intern and then lead organizations for four and a half years. And that is what I hear on a regular basis, that these managers are Dutch. Then I draw the conclusion: the knowledge system in The Netherlands must be good."[1]

There are, however, also some critical side notes to the level of secondary vocational education in The Netherlands. The level of knowledge is not always adequate for what these students are supposed to be capable of. Furthermore, an imminent shortage of skilled professionals' forces organizations to

[1] Original quote in Dutch from respondent 2.

outsource a part of their supply chain. Next to that, the labor costs in The Netherlands are held at a high level, which force organizations to outsource several production processes in order to stay competitive. As a result, The Netherlands develops a knowledge economy, but falls behind in the manufacturing industry.

Capital resources for agriculture are still very much accessible, but the restrictions of these obligations have evolved over time. Some examples are banks setting sustainability criteria for Dutch entrepreneurs or investigating the background of the applicant of the loan before granting these loans. This also has to do with the circumstances in the Dutch agribusiness, which some of them are of great influence on the future of dairy farming in The Netherlands. One of these is the nitrogen-case, which is very topical. There is much uncertainty about the future of many farms, which causes fear and frustration among dairy farmers.

Domestic factor conditions Company X

The mild climate makes The Netherlands suitable for dairy farming. This is an enormous advantage for Company X, since the vast majority of their customers are dairy farmers.

Company X has a large advantage of their location in the East of The Netherlands. Their geographical proximity to other EU-markets makes it easy to access and cultivate these markets.

Company X also benefits from research institutes such as WUR, but also from the University of Twente and Saxion which are nearby. These universities have specialized domains in ICT and engineering, which help the organization to continuously innovate.

4.2.2 International factor conditions

One type of factor condition that stood out among the Austrian respondents, is the variety of landscape in Austria. Because of these circumstances, organizations that produce machines or systems for livestock farmers, are forced to anticipate on these landscapes. This is particularly so in the mountainous areas in Austria. Farmers in these areas are financially supported to purchase newer machinery through subsidies. Most farmers in the mountain regions are cattle farmers. Poultry and swine farmers and arable farmers are more often found in the flatter areas of Austria.

Another very important topic in Austria is the so called '*Landschaftspflege*' (or landscape-scale conservation). Due to the mountainous regions in Austria, farmers have the responsibility to take care of the land and the environment in the regions that are hard to maintain with machines. These farmers are financially compensated for this, otherwise their businesses could not survive in these challenging circumstances. Taking care of this land means maintaining it and working with. In some of these areas, there are restrictions concerning e.g. the use of fertilizer. There are strict guidelines for farmers in

these regions, especially concerning the environment and animal welfare. Some of these guidelines are certified in quality marks. Many Austrian farms produce under the AMA-Gütesiegel (AGS), which means that animals need to be born, grow up and slaughtered in Austria. Therefore, the market for animal products is steady and not volatile. Another example is the label Austria has that stands for European soy and Danube soil.

The culture of education and research and development (R&D) is strong in Austria. There are several institutions across the country that investigate the impact of agriculture in Austria. One of these institutions is located in the mountain area and is specialized in ruminants and (grass) cultivation in the mountains. The institute works for the national Austrian government or for individual companies, but also reports to farmers and organizations in the industry.

Next to these research institutes, there is also much interest in agricultural education. As a result, many people in Austria are active in the agro or food business. For every farmer in Austria, 32 employees work in the Austrian agricultural business chain.

International factor conditions Company X

Since the landscape in Austria is determinative for a large group of Austrian farmers, Company X needs to be aware of the fact that they assemble and test their machinery in much different circumstances than these livestock farmers are confronted with. This is for example achieved by developing smaller, more compact machines, taking the height, width and turning circle of the machine into account.

4.2.3 Supporting arguments

The value of the output of the Dutch agricultural industry had a value of EUR 28.8 billion in 2018. In Austria, this value was EUR 7.4 billion in 2018 (Eurostat, 2019b). The number of farms (agricultural holdings) in The Netherlands is 55.680, from which 4.2% are very small (less than EUR 8000 of standard output). Austria counts 132.500 farms, from which 31,6% are very small (Eurostat, 2019b).

All the Dutch interviewees mentioned the Wageningen University and Research Centre (WUR). QS World University Rankings has announced the WUR as the best agricultural university in the world (QS Top Universities, n.d.). Next to that, the WUR has a partnership with the FAO (FAO, 2016).

4.3 DEMAND CONDITIONS

4.3.1 Domestic demand conditions

The business context of the Generalized Double Diamond is focused on the strategy, structure and rivalry of an individual organization. Therefore, the direct business context of Company X will be presented here and there will be no separate paragraph for Company X.

Feeding technology, which Company X also develops and sells, is vital for the business operation of cattle farmers. These machines are vital for the daily operations at the farm. Almost all respondents emphasized that the reliability of the machinery is extremely important for the customers of Company X. Another important aspect is that the machines must have a good value for money.

Dutch dairy farmers on average have highly developed dairy farms with innovations and software solutions. For example, many farmers use special eartags to monitor the behavior of their herd. Integrated management systems detect if these cows are feeling well or if they show deviant behavior. Therefore, farmers are also demanding towards organizations in agribusiness that deliver to their farms or which provide technologies. Next to that, farmers want to implement the systems and programs that different suppliers offer so that they have the most convenience from these programs. For example, integrating a system that detects cow activity with a system that monitors the feed intake of the herd provides valuable insight in the behavior of cows. Company X works with several organizations to offer the best possible integrated solution. The increasing importance of software raises new sorts of discussions. For example, do feeding robots belong to mechanization, with service during office hours, or to milking technology with 24-hour service? This namely makes a great difference in how a dealer should organize its HRM and its cost structure.

For a variety of reasons, many Dutch farmers are forced or will be forced to make decisions concerning their farms. This could be investing in animal housing (e.g. for improving animal welfare), starting a second business or even terminate their farm. Because the fixed costs per liter increases, there is less money left for other investments. This means that these entrepreneurs need to make decisions in what they will invest and what not. Because of these insecurities, Company X sees a certain restraint. However, Company X still maintains a large market share in their home country, covering about one third of the total market. Two third of the market belongs to different competitors, both domestic and international. Customers and dealers for Company X value the proximity of the company to their domestic customers.

Company X is very open for suggestions from their customers. The organization produces many machines that are tailor-made. Due to their extensive advice, the best possible solution is developed

and assembled. Dealer organizations for Company X make a plan for prospects. Being a Dutch company 'under Dutch circumstances' is highly appreciated by dealers and customers. Customers get the feeling that they are understood by the company, because they operate in the same nation and the company knows which topics are important in e.g. politics or environmental issues. One respondent stated the following quote about these 'Dutch circumstances':

Quote: "It is a pleasant experience to communicate a plan with a manufacturer, a dealer organization and a farmer. When I hear about other brands, for example French or Italian brands, they are more remote. (…). I find it very pleasant that we can share those plans together."[2]

4.3.2 International demand conditions

The customer demand for Company X in Austria is different from their domestic market. The average size of dairy farms in Austria is three times smaller than the average size of dairy farms in The Netherlands. What is equal to the domestic customers, is that the machinery must be reliable and have a good value for money. Even tough Company X is not originated in Austria, it still has a market share of about one fifth. This market share has however shrunk over the years, since large competitors have gained more of this share. This is due to newer techniques of competitors or some projects of Company X staying behind compared to their competitors.

In chapter 4.2.2, the author mentioned that farmers need to anticipate on the landscape they are working in. This means that compact machines which are not too big or too heavy are preferred over heavy and large machines, especially in mountainous areas.

Austrian farmers expect from organizations to continuously innovate their products and technologies. An example for this is the increasing importance of ICT in society and at farms.

Quote: "Machinery should always be developed further. Farmers also expect that from every manufacturer, not only from Company X, that they keep developing their machinery and that they can present new machinery every so often."[3]

4.4 RELATED AND SUPPORTING INDUSTRIES

4.4.1 Domestic related and supporting industries

The presence of other related industries in The Netherlands have upgraded the products organizations throughout the Dutch agribusiness, since Dutch organizations profit from the same factor conditions. Important related and supporting industries in The Netherlands for feeding technology companies are

[2] Original quote in Dutch from respondent 5.
[3] Original quote in German from respondent 7.

organizations that develop milking technologies and organizations that produce feed supplements. Organizations that develop milking technologies, are particularly important for companies that develop feeding technologies. This is because the end customer of feeding technology companies and milking technology organizations, dairy farmers, have two core businesses: feeding and milking. Since many dairy farms implement more ICT solutions for cultivation of big data, it becomes increasingly important to connect different management systems at dairy farms. Therefore, organizations are forced to intertwine their systems. However, some organizations tend to be very protective of their own software systems and solutions. A struggle for many manufacturing companies within the industry is that the manufacturing-industry has shrunk over the past few decades. Many manufacturing processes have been outsourced to nations where there is much manufacturing. Hence, a dependency on foreign suppliers and industries is created.

Quote: "Sometimes we need to look for the best alternatives. However, some organizations protect their own market enormously. (…) Some others say: well, there are many synergy-effects and many benefits, let's explore the opportunities together. With those organizations we seek for ways to cooperate and to investigate if we can implement the different management programs, so that feeding in milking comes in one overview. And that it works properly for the dairy farmer, that she can manage. But that is easier said than done with one company than with the other."[4]

Domestic related and supporting industries Company X

In order to anticipate on the dependency on foreign suppliers, Company X enlarges their stocks, so they can maintain their lead time. Next to that, they make sure they have at least two suppliers for all parts. Nevertheless, Company X still largely depends on foreign suppliers. As was stated before, the size of the manufacturing industry in The Netherlands has declined over the past few decades. Therefore, Company X has decided to put their focus at engineering, research and development and assembling. The engineering is what Company X does for itself: there is little to no information sharing among their suppliers on research and development. Company X designs and develops their products themselves and outsources the actual production process. Suppliers solely bring an economic advantage. Yet, these suppliers are experts in their domain, such as welding.

4.4.2 International related and supporting industries

The most important related industry in Austria is the food industry. There is a lot of attention for the origin of products and their tradition. Consumers in Austria attach great importance to this, since there is a large market for regional products in every province within Austria and consumers are willing to

[4] Original quote in Dutch from respondent 1.

pay extra for regional products. There are also national policies that stimulate this behavior, such as the AGS. On top of that, Austria has a large share of crop area dedicated to organic farming.

Local production and consumption is an important topic for Austrian inhabitants. This means that, on the food side, it is not naturally interesting for large companies to import food products. On the export side, it is in general not interesting for Austrian food companies to export foodstuffs. This is because of the high cost price due to restrictions and guidelines on e.g. the AGS, stock density and environmental guidelines. The products that are exported are mainly exported to countries where consumers are willing to pay for luxurious products.

Another very important industry in Austria that is not so much in the food- or agribusiness, yet is related to the primary farmers, is the tourism industry. In 4.2.2., the author wrote that landscape-scale conservation is vital for Austrian mountain areas. The revenues that Austria earns throughout the nation from the tourism industry, in winter and summer, is very important for its economy. Next to that, there are many farmers in the country that have a second business in tourism, such as agro tourism or farm shops.

Quote: "Agriculture will always be a very important topic in Austria. It is just so important, also for tourism, that the landscape-scale conservation is maintained. When farmers stop doing that, tourists will stay away as well. They will not visit anymore. (…). They go together, tourism and agriculture, hand in hand."[5]

Lastly, Austria has a research and development industry for agriculture. Institutions that investigate certain phenomena and sell their improvements and knowledge to countries such as China or Eastern Europe.

International related and supporting industries Company X

The related and supporting industries that are present in Austria, do not affect the business of Company X. What is interesting, however, is that the AGS causes limited food export. This means that farms in Austria will not expand with an ultimate goal to export their products.

[5] Original quote in German from respondent 7.

4.4.3 Supporting arguments

Austria has the highest percentage of organic crop area and production methods in the European Union, with a percentage of 24,08. Austria is followed by Estonia and Sweden (resp. 20,57%; 20,29%). The Netherlands has a percentage of 3,5% organic crop land (Eurostat, 2020). Also, 3,16% of the Austrian GDP was invested in R&D. Only Sweden (3,33%) scored a higher percentage on this topic. The Netherlands ended on the 8th place in this ranking, with a R&D intensity slightly below the EU-average (2,07%) (Eurostat, 2019).

4.5 FIRM STRATEGY, STRUCTURE AND RIVALRY

4.5.1 Domestic strategy, structure and rivalry

The business context of the Generalized Double Diamond is focused on the strategy, structure and rivalry of an organization. Therefore, the direct business context of Company X will be presented here and there will be no separate paragraph for Company X.

Company X positions itself as a premium brand in feeding technology. The company claims to offer optimal solutions for mechanized or automatically feeding of livestock worldwide. Company X strives for products with optimal performances which fit perfectly in the business operations of their customers. They do this by constantly investigating and innovating their machinery. On top of that, they take their customer on a 'journey' to find the best possible solution for their individual farm. Because the company has a broad product portfolio, they have a lot of options to offer to their prospects.

The management team of Company X works on involving employees and connecting employees through stimulating own initiatives, organizing meetings and setting and communicating about their goals. The company is very well aware that they position themselves in the premium segment as innovators, and therefore does not compete for bottom prices with their competitors. The feeding technology market is highly competitive with domestic and foreign competitors. It is therefore not easy for companies to increase their market share. Next to that, some of the rivals of Company X do not only provide feeding solutions, but also milking solutions. For these competitors it is easier to guarantee the 24-seven service that dairy farmers need to keep their farm up and running.

Quote: "Luckily we have a broad product portfolio, so if we do not sell a certain technology, there is always an alternative. We will always stay in charge."[6]

[6] Original quote in Dutch from respondent 2.

A large disadvantage for Company X is that their type of product does not require a lot of continuous contact during the expected life cycle. This means that Company X could sell a certain technology, but does not visit their customers on a regular basis after the sales process. It could even be that a customer has no contact with Company X at all, until the moment they decide to buy a new type of feeding technology. That could mean that a customer comes back to the organization after e.g. ten years. It is therefore difficult to maintain a close relationship with the customer. This is very different from the relation between the dealer organization and the customer, while the customer could turn to the dealer organization in the meantime for other products from other brands (such as tractors or other machinery). These dealer organizations are very important for Company X, because Company X cannot provide all the worldwide service on their own. They need technicians around the globe to help their customers as fast as possible. Thanks to technological developments (such as feeding computers or robots) Company X stays more in direct contact with their customer, since these can also be monitored from the headquarters of Company X.

The marketing of Company X focus itself on their end customer, but the company does not directly sell it to their end customer. Company X distributes its products via their network of dealers. Their dealers receive training at their location in The Netherlands once every two years. However, Company X mostly does not get priority at dealers when it comes to ranking their brands. In general, the tractor brands get the most attention at dealer organizations (such as New Holland, John Deere, Fendt etc.). Dealer organizations 'profile' themselves with the tractor brand they sell. After that comes milking technology, feeding technology and haymaking technology.

The Dutch government helps Dutch enterprises by offering places at the 'Holland Pavilion', especially in markets that are more remote (such as Asia or South America). For many Dutch clients of Company X it is not a necessity that the company is Dutch or that the products were manufactured in The Netherlands, though it is useful that the organization knows about circumstances in The Netherlands and that it can also anticipate on these circumstances. Next to that, speaking with a Dutch company under Dutch circumstances does provide advantages for many Dutch farmers.

4.5.2 International strategy, structure and rivalry

Company X has a strong brand internationally. The company is in Austria mostly known for its innovativeness. However, competitors also keep improving their technologies. Therefore, it is important to not fully ignore the competitors, especially since 85% of the total production of Company X is being exported. What particularly plays a role in Austria is that some foreign competitors develop their machinery in capricious landscapes and so they take those circumstances into account.

Since Company X is based in The Netherlands and the landscape is here for the most part flat, they might not prioritize such circumstances. This creates an advantage for competitors.

Quote: "There are other manufacturers which offer the same or comparative products. When these organizations become more innovative, business could get worse for Company X. If competitors become a lot more innovative, it could be a threat."[7]

Machinery with a origin in Germany or The Netherlands is very appreciated and is seen as reliable by Austrian customers. This is very different for countries such as Italy. However, there are also some prospects who rather consider or purchase Austrian brands. Nonetheless, the respondents emphasized that the most important factors in the buying process is that the products fulfill the needs of customers, it performs good and there is a good value for money.

In the feeding technology market, it is important that farmers need the machinery on a daily basis. In case the machine needs maintenance or some part broke down, delivery time of spare parts are very important. There are other providers of feeding technology active in these markets as well, from which some of them can maintain a lead time of less than hours. It is important for Company X to have a lead time under 24 hours (preferably much shorter), since their customers need the machinery on a daily basis. Their cows need to be fed at least once a day. The long lead time is a disadvantage for Company X in some parts of the country.

4.6 DETAILS ON INTERVIEWEES

In Table 1, more information is given about the sources of the data. Eight respondents were interviewed in total, with either Dutch or Austrian nationality. Six of these interviewees had an affiliation with Company X, two of them did not. Some respondents had information only on The Netherlands, some only on Austria and some on The Netherlands and Austria. In the last ten columns, we see which respondent gave information on which topic. Whenever there stands an 'x', this means the respondent gave information on the topic. In Table 2, a brief description of the Because the interviews are anonymized, no further data about the interviewees will be published. For more information, questions or remarks concerning details of the interviewees, please address your questions to the researcher.

As we can see in Table 1 , all respondents had information on 'related and supporting industries' in their home country. This is the same for 'government'. For 'business context' most of the respondents had information. Concerning the 'factor conditions' not all the respondents could answer the

[7] Original quote in German from respondent 7.

questions. This is remarkable, since every respondent is confronted with factor conditions for its home country. For 'demand' even less respondents could answer these questions. For the latter, it is important to guard objectiveness for this factor. In the next chapter (5. Conclusion), the author will illustrate why certain components have more impact in a case study than others.

Table 1 - Interviewee details

			Information on		Factor conditions		Related/supporting industries		Demand		Business context		Government	
Respondent no.	Nationality	Related to Company X	NL	AT	NL	AT	NL	AT	NL	AT	NL	AT	NL	AT
1	Dutch	yes	x	x	x		x		x	x	x	x	x	
2	Dutch	yes	x	x	x		x		x	x	x		x	
3	Dutch	no	x	x	x		x				x	x	x	
4	Dutch	yes	x				x				x		x	
5	Dutch	yes	x		x		x		x		x		x	
6	Austrian	no		x		x		x						x
7	Austrian	yes		x		x		x		x		x		x
8	Austrian	yes		x		x		x		x		x		x

Table 2 - Job descriptions

Resp. no.	Job description
1	Marketing manager Company X. Head of marketing for whole Company X.
2	Export manager and member of management team Company X (seven members in total, including CEO and CFO of Company X). Export manager for most of the Germanic countries.
3	Young professional in the agribusiness work field after a bachelor's degree food and agribusiness. Former intern at international companies in South-America, Oceania and Austria. The latter in 2019 for 5 months, at a company which is a trading company for animal feed.
4	Dairy farmer and customer of Company X in The Netherlands. Works with robotic milking at dairy farm and is member of several local boards (such as the regional water authorities).
5	CEO of dealer organization in The Netherlands. Also a dealer organization for Company X.
6	Supply chain manager at integrated feeding mill company in Austria.
7	Salesman for Company X in Austria.
8	CEO of dealer organization in Austria with several locations throughout the country.

5 CONCLUSION

5.1 THEORETICAL DISCUSSION OF THE RESULTS

In this master thesis, the author investigated the Generalized Double Diamond model with help of a case study to determine its value for the agribusiness from The Netherlands. The purpose of this research was to find an answer to the following research question:

To what extent Is the Generalized Double Diamond Model useable for agricultural businesses to determine their competitiveness in European nations?

The Generalized Double Diamond gives good insight into the position of an industry within a certain nation. The Generalized Double Diamond provides practical insights. It is a practical way for organizations to gain insight into their market position and therefore valuable for individual organizations. Because of the extension in the international market, the model gives insight in modern businesses in which processes of companies are globalized. To give a proper answer to the research question, the theoretical implications will be split up in several sections.

Determining importance of factors

Some of the factors need more attention in research than others. The 'factor conditions' in the model are the basis for every business in every nation. The factor conditions also influence all the other aspects of the model, since they determine the circumstances in which industries will to operate. The total amount of coded information was the most for the factor conditions in both countries. For the 'demand conditions' and the 'business context' it is however important that an organization keeps an objective focus, since it is important to monitor objectivity whilst investigating processes that are focused on the internal side of an organization. If an organization does not maintain objectivity, it will miss the point.

Comparing nations

The Generalized Double Diamond is very well applicable to compare the position of an industry within a specific country. However, due to certain developments it becomes harder to make proper comparisons between the agribusiness in different nations. For example, to compare two member states of the European Union, or two countries in South-East Asia, will bring more realistic outcomes than comparing a country in the continent Africa with a country in the continent South-America. It is important that some factors in the environment of the industries are the same, for example equal supranational powers (in this research: the European Union). This is also important for the factor

'government', since it is intertwined with all aspects of the diamond, instead of being treated as an exogenous variable.

Investigating agribusiness

For the agricultural industry, the company under investigation must have the scale to operate internationally. However, it is not useful to investigate an agricultural conglomerate. The Generalized Double Diamond Model does not seem to be relevant for these syndicates, since these control complete supply chains or even dominate complete markets. It is also important that the businesses which are compared have a comparable context.

5.2 ANSWER TO THE RESEARCH QUESTION

In order to investigate the competitiveness of agricultural businesses in Europe, the Generalized Double Diamond is a model that is very valuable for organizations to investigate their position in the market and in their industry. By investigating the model with qualitative data, an organization is offered direct insight in its position, taking market circumstances in consideration. However, qualitative data collection is highly time consuming. It is therefore important to set the goals for the Generalized Double Diamond first. What does the entrepreneur exactly want to know? For example, does the organization want to know what the education level is of a specific international market, or how the company is seen by their domestic customers? The three most important factors that need to be considered before using the model are determining which factors are most important for the business (1); making sure the circumstances in which the organization operates in nations do not have insurmountable differences (2) and the model needs to suit the organization (3).

6 DISCUSSION

6.1 THEORETICAL CONTRIBUTION

In this research, we investigated how agricultural businesses can investigate their competitiveness by applying the Generalized Double Diamond. The researcher found that some factors of the Generalized Double Diamond weigh heavier than others in investigating the competitiveness of industries. This seems logical in an example: a specific university could specialize in a certain industry, but it would not make sense if the industry is not located in that country, and vice versa. The reason for this is that there is mutual interest, causing a strong synergy. Also, some characteristics in the domestic market and the reference market need to be similar to successfully apply the model. Lastly, the model does not work for all organizations in the agribusiness.

Some other topics that many respondents paid attention to, is the future of (dairy) farming in Europe. Some important topics were chances for successors, sustainability and insecurities towards the future. The Generalized Double Diamond does not emphasize the importance of changing circumstances, unlike Porter did in the original Porter's Diamond with the exogenous parameter 'chance'. This is naturally applicable for all industries that are investigated with the Generalized Double Diamond. This seems logical, but the agricultural sector and the agribusiness in West-Europe is not only subject to politics, but also to climate change.

6.2 PRACTICAL IMPLICATIONS

In this section, the author will point out the most important findings from this research that are applicable for Company X.

The Dutch agricultural industry has a positive image in Austria. This provides a large advantage for Company X. The products of Company X are seen as reliable and innovative, yet the company has got heavy competition from German or local Austrian competitors. However, Company X has an image of being 'the innovator' in its field. It is therefore vital to maintain this image by continuously moving forward and improving technologies and looking at this with a critical eye. It is important to gain insight in the proximity of competitors that are physically nearby dealers of Company X. This is particularly so since the lead time of spare parts might be a deal-breaker for a customer. Also, Company X should be able to provide the same service in Austria as in The Netherlands or Germany. The market in Austria is so close, yet still so far away.

Next to that, Company X has mentioned that it is not easy to keep close ties with their end-customer, because of the life span of their machinery. It could be that the company is not in contact with its customer for ten years, until the customer looks for a replacing machine. Also, competitors of Company X seem to be delivering their products faster to customers than Company X. This has to do with, among other things, the lead time of parts for assembling machinery. Next to that, Company X offers a lot of possibilities for tailor-made products. An option that would be interesting to investigate for Company X, is to develop an application that representatives and dealers could use while mapping their customer's preferences. In this way, prospects can be put in a customer system. Also, Company X gains insight in which type of product is requested in which parts of the world. An additional advantage is that Company X could anticipate on future demand for assembling parts, resulting in a decrease of delivery time. The application could be extended with several plug-ins, such as dealer or customer satisfaction. The collection of all this data will be very valuable for Company X over time. In future, this could even result in an ideal situation where Company X receives notifications from the application when certain parts approach their maximum life span. To prevent breakage and delay in the repairing process, Company X could anticipate on this by sending these spare parts to these dealers or farmers. This application could be tested in a pilot situation before introducing it for their global market.

6.3 LIMITATIONS

The start of this research was at the end of November 2019. During the literature study and writing the research proposal, we discovered that the best way to collect data was to conduct interviews with several respondents from Austria and The Netherlands. To obtain the most reliable data, these interviews would all take place in person, so that synchronous communication of time and place would be achieved. Next to that, the researcher was told that Austrian respondents would highly appreciate a personal visit instead of an online questionnaire or a video-interview. However, a new coronavirus (COVID-19), which is characterized as a pandemic by the WHO since the 11th of March 2020, spread around the globe, causing many illnesses and casualties.

As a result of the international developments and spread and severity of the virus, the Dutch government announced measures. The Dutch government announced strict measures from the 15th of March. After the 15th, the travel advice from the Dutch Ministry of Foreign Affairs was to stay in The Netherlands and not travel abroad, since the circumstances abroad could change quickly. The consequence of this situation for this research was that it was impossible to travel to Austria to conduct the interviews personally. Next to that, it was not possible to meet with supervisors in person and the research had to be done from home, since the university campus was closed for students. Also, interview respondents who were going to participate were hindered in their time schedules or were

not reachable due to communication complications. Lastly, the researcher would participate in peer debriefing sessions with other students. This was also impossible, since it was not allowed to meet with people from other households.

In order to anticipate on the extremely rare situation, the researcher organized the interviews via video-calls. Via these calls, the researcher was able to read some of the non-verbal signs of respondents. Secondly, because not all participants were able to participate due to the circumstances, additional data in the result-section was derived from reports from the EU and the FAO. Even though there is still a lot of data that was retrieved from the respondents, the data gathering was limited. It is expected that the data would be of better quality when the interviews were conducted personally at the same location. However, by complementing the qualitative data from the interviews with literature from the EU and the FAO, the researcher was able to create a proper thesis which gave a thorough answer to the research question.

Another limitation is on the objectiveness of the interviews. The data from the interviews would have been more objective when more respondents were interviewed who were not affiliated with Company X in any way. Most ideally would have been if the number of respondents that were affiliated with Company X was equal to the number of respondents that were not affiliated with Company X. This would mean that at least four more respondents were needed for this research who were not affiliated with Company X. The additional benefit in this would have been that these people would have broadened the spectrum of the thesis. Next to that, some more interviews with actors 'around' Company X (such as dealers, representatives or farmers, both customers and non-customers) would have deepened the data. Also, these respondents could have been more critical towards Company X, which could have caused a more balanced outcome. In order to obtain the best possible results, it would have been interesting to interview at least one farmer farmers and one dealer organization from all provinces in The Netherlands and in Austria. This was however not possible due to the COVID-19 constraints and time restraints.

6.4 FUTURE RESEARCH

The Generalized Double Diamond is a model that is typically investigated by using quantitative data. However, many researchers suggested that using the Generalized Double Diamond for qualitative data gathering would provide much insight in market circumstances. Next to that, it could improve the quality of the model. After investigating the model using qualitative data methods and combining this with extra theory, we have found that it is indeed valuable to collect qualitative data. In future, it would be advisable to investigate the whole diamond with quantitative research and then select two to three aspects of the diamond model which stand out and to find explanations for these. In this way, some

aspects of the Diamond model can be deepened, while others, which might be less relevant, give some general background information. On the other hand, investigating the Generalized Double Diamond through qualitative research also highlights topics that might be interesting for further research, either qualitative or quantitative.

The Generalized Double Diamond Model is a very extended model with many angles. It is therefore very important to set the goals of the research on forehand, as well as the code book and the protocol. Only then, reliable data will be selected and the scope of the research will limit itself to the set framework. For this research, a clear codebook was created where only a minimum amount of codes were added via inductive coding.

Another suggestion for future research would be to actively investigate the cultural aspect with respect to the Generalized Double Diamond. Since the Generalized Double Diamond is a cross-national model, paying attention to the culture of the respondents could explain some of the behavior of the interviewees.

Using the Generalized Double Diamond in research provides much information on a certain industry in several nations. However, it would be interesting to upgrade the model with subjects such as globalization and sustainability. •

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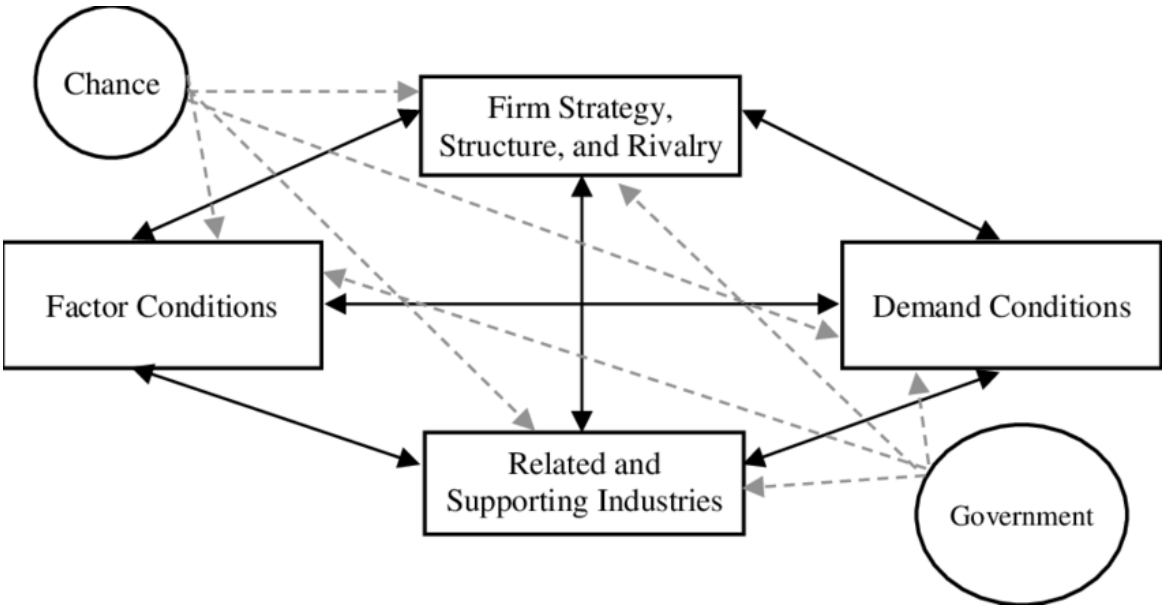
8 APPENDIX

APPENDIX 1

Porter's Diamond Model of Competitive Advantage

Porter, 2011



APPENDIX 2

List of industry case studies and countries (Porter, 2011. p. 26 - 27)

Denmark	Agricultural machinery	Pharmaceuticals
	Building maintenance services	Specialty electronics
	Consultancy engineering	Telecommunications equipment
	Dairy products	Waste treatment equipment
	Food additives	Industrial enzymes
	Furniture	
Germany	Automobiles	Rubber, plastic working machinery
	Chemicals	X-ray apparatus
	Cutlery	Eyeglass frames
	Harvesting/threshing combines	Optical instruments
	Packaging, bottling equipment	Pens and pencils
	Printing presses	
Italy	Ceramic tiles	Dance club and theater equipment
	Domestic appliances	Engineering/construction
	Factory automation equipment	Footwear
	Packaging and filling equipment	Ski boots
	Wool fabrics	
Japan	Air-conditioning machinery	Home audio equipment
	Car audio	Carbon fibers
	Continuous synthetic weaves	Facsimile
	Forklift trucks	Microwave and satellite communications equipment
	Optical elements and instruments	Robotics
	Semiconductors	Sewing machines
	Shipbuilding	Tires for trucks and buses
	Trucks	Typewriters
	Videocassette recorders	Watches
Korea	Apparel	Automobiles
	Construction	Footwear
	Pianos	Semiconductors
	Shipbuilding	Steel
	Travel goods	Video and audio recording tape
	Wigs	
Singapore	Airlines	Apparel
	Beverages	Ship repair
	Trading	
Sweden	Car carriers	Communication products for handicapped persons
	Environmental control equipment	Heavy trucks
	Mining equipment	Newsprint
	Refrigerated shipping	Rock drills
	Semi-hard wood flooring	Teller-operated cash dispensers
Switzerland	Banking	Chocolate
	Confectionery	Dyestuffs
	Fire protection equipment	Freight forwarding
	Hearing aids	Heating controls
	Insurance	Marine engines
	Paper product manufacturing machinery	Pharmaceuticals
	Surveying equipment	Textile machinery
	Trading	Watches
United Kingdom	Auctioneering	Biscuits

	Chemicals	Confectionery
	Electrical generation equipment	Insurance
	Pharmaceuticals	
United States	Advertising	Agricultural chemicals
	Commercial aircraft	Commercial refrigeration and air-conditioning
	Computer software	Construction equipment
	Detergents	Engineering/construction
	Motion pictures	Patient monitoring equipment
	Syringes	Waste management services

APPENDIX 3

Overview Global Competitiveness Index 4.0 2019 Rankings. Source: WEF, 2019

The Global Competitiveness Index 4.0 2019 Rankings

Covering 141 economies, the Global Competitiveness Index 4.0 measures national competitiveness—defined as the set of institutions, policies and factors that determine the level of productivity.

Rank	Economy	Score*	Diff. from 2018† Rank	Diff. from 2018† Score
1	Singapore	84.8	+1	+1.3
2	United States	83.7	–1	–2.0
3	Hong Kong SAR	83.1	+4	+0.9
4	Netherlands	82.4	+2	—
5	Switzerland	82.3	–1	–0.3
6	Japan	82.3	–1	–0.2
7	Germany	81.8	–4	–1.0
8	Sweden	81.2	+1	–0.4
9	United Kingdom	81.2	–1	–0.8
10	Denmark	81.2	—	+0.6
11	Finland	80.2	—	—
12	Taiwan, China	80.2	+1	+1.0
13	Korea, Rep.	79.6	+2	+0.8
14	Canada	79.6	–2	–0.3
15	France	78.8	+2	+0.8
16	Australia	78.7	–2	–0.1
17	Norway	78.1	–1	–0.1
18	Luxembourg	77.0	+1	+0.4
19	New Zealand	76.7	–1	–0.8
20	Israel	76.7	—	+0.1
21	Austria	76.6	+1	+0.3
22	Belgium	76.4	–1	–0.2
23	Spain	75.3	+3	+1.1
24	Ireland	75.1	–1	–0.6
25	United Arab Emirates	75.0	+2	+1.6
26	Iceland	74.7	–2	+0.2
27	Malaysia	74.6	–2	+0.2
28	China	73.9	—	+1.3
29	Qatar	72.9	+1	+1.9
30	Italy	71.5	+1	+0.8
31	Estonia	70.9	+1	+0.2
32	Czech Republic	70.9	–3	–0.3
33	Chile	70.5	—	+0.3
34	Portugal	70.4	—	+0.2
35	Slovenia	70.2	—	+0.6
36	Saudi Arabia	70.0	+3	+2.5
37	Poland	68.9	—	+0.7
38	Malta	68.5	–2	–0.2
39	Lithuania	68.4	+1	+1.2
40	Thailand	68.1	–2	+0.6
41	Latvia	67.0	+1	+0.7
42	Slovak Republic	66.8	–1	–0.1
43	Russian Federation	66.7	—	+1.1
44	Cyprus	66.4	—	+0.8
45	Bahrain	65.4	+5	+1.7
46	Kuwait	65.1	+8	+3.0
47	Hungary	65.1	+1	+0.8
48	Mexico	64.9	–2	+0.3
49	Bulgaria	64.9	+2	+1.3
50	Indonesia	64.6	–5	–0.3
51	Romania	64.4	+1	+0.9
52	Mauritius	64.3	–3	+0.5
53	Oman	63.6	–6	–0.8
54	Uruguay	63.5	–1	+0.8
55	Kazakhstan	62.9	+4	+1.1
56	Brunei Darussalam	62.8	+6	+1.3
57	Colombia	62.7	+3	+1.1
58	Azerbaijan	62.7	+11	+2.7
59	Greece	62.6	–2	+0.5
60	South Africa	62.4	+7	+1.7
61	Turkey	62.1	—	+0.5
62	Costa Rica	62.0	–7	–0.1
63	Croatia	61.9	+5	+1.8
64	Philippines	61.9	–8	–0.3
65	Peru	61.7	–2	+0.4
66	Panama	61.6	–2	+0.6
67	Viet Nam	61.5	+10	+3.5
68	India	61.4	–10	–0.7
69	Armenia	61.3	+1	+1.4
70	Jordan	60.9	+3	+1.6
71	Brazil	60.9	+1	+1.4
72	Serbia	60.9	–7	—
73	Montenegro	60.8	–2	+1.2
74	Georgia	60.6	–8	–0.3
75	Morocco	60.0	—	+1.5
76	Seychelles	59.6	–2	+1.1
77	Barbados	58.9	n/a	n/a
78	Dominican Republic	58.3	+4	+0.9
79	Trinidad and Tobago	58.3	–1	+0.4
80	Jamaica	58.3	–1	+0.4
81	Albania	57.6	–5	–0.5
82	North Macedonia	57.3	+2	+0.7
83	Argentina	57.2	–2	–0.3
84	Sri Lanka	57.1	+1	+1.1
85	Ukraine	57.0	–2	—
86	Moldova	56.7	+2	+1.2
87	Tunisia	56.4	—	+0.8
88	Lebanon	56.3	–8	–1.4
89	Algeria	56.3	+3	+2.5
90	Ecuador	55.7	–4	–0.1
91	Botswana	55.5	–1	+1.0
92	Bosnia and Herzegovina	54.7	–1	+0.6
93	Egypt	54.5	+1	+1.0
94	Namibia	54.5	+6	+1.8
95	Kenya	54.1	–2	+0.5
96	Kyrgyz Republic	54.0	+1	+1.0
97	Paraguay	53.6	–2	+0.3
98	Guatemala	53.5	–2	+0.2
99	Iran, Islamic Rep.	53.0	–10	–1.9
100	Rwanda	52.8	+8	+1.9
101	Honduras	52.7	—	+0.2
102	Mongolia	52.6	–3	–0.1
103	El Salvador	52.6	–5	–0.2
104	Tajikistan	52.4	–2	+0.2
105	Bangladesh	52.1	–2	—
106	Cambodia	52.1	+4	+1.9
107	Bolivia	51.8	–2	+0.4
108	Nepal	51.6	+1	+0.8
109	Nicaragua	51.5	–5	—
110	Pakistan	51.4	–3	+0.3
111	Ghana	51.2	–5	–0.1
112	Cape Verde	50.8	–1	+0.6
113	Lao PDR	50.1	–1	+0.8
114	Senegal	49.7	–1	+0.7
115	Uganda	48.9	+2	+2.1
116	Nigeria	48.3	–1	+0.8
117	Tanzania	48.2	–1	+1.0
118	Côte d'Ivoire	48.1	–4	+0.6
119	Gabon	47.5	n/a	n/a
120	Zambia	46.5	–2	+0.5
121	Eswatini	46.4	–1	+1.1
122	Guinea	46.1	+4	+2.9
123	Cameroon	46.0	–2	+0.9
124	Gambia, The	45.9	–5	+0.5
125	Benin	45.8	–2	+1.4
126	Ethiopia	44.4	–4	–0.1
127	Zimbabwe	44.2	+1	+1.6
128	Malawi	43.7	+1	+1.3
129	Mali	43.6	–4	—
130	Burkina Faso	43.4	–6	–0.5
131	Lesotho	42.9	–1	+0.6
132	Madagascar	42.9	n/a	n/a
133	Venezuela	41.8	–6	–1.3
134	Mauritania	40.9	–3	+0.1
135	Burundi	40.3	+1	+2.7
136	Angola	38.1	+1	+1.1
137	Mozambique	38.1	–4	–1.7
138	Haiti	36.3	—	–0.1
139	Congo, Dem. Rep.	36.1	–4	–2.1
140	Yemen	35.5	–1	–0.9
141	Chad	35.1	–1	–0.4

East Asia and the Pacific · Eurasia · Europe and North America · Latin America and the Caribbean · Middle East and North Africa · South Asia · Sub-Saharan Africa

APPENDIX 4

Factor Conditions

- Factor conditions describe with which the country is well provided from the country itself and/or its government. Some examples are natural, human and capital resources, infrastructure and knowledge and innovation. Could you please describe in what way your country benefits from these factors or is drawn back with respect to these factors? These factors are only measured on a national level.
    - Availability of skilled and unskilled employees;
    - Quality of raw materials;
    - Availability and effectiveness of communication systems;
- Do you think the educational system is sufficient for agriculture in your country?

Codes

Category	**Codes**	**Subcodes**
FCnr	Natural resources	Landscape
		Raw materials
		Measures (either voluntarily or obliged)
		Adaption
		Climate
FChr	Human resources	Attracting employees
		Retaining employees
		Outflow of employees
		Willingness to work in agricultural business
		HR macro measures
		Availability of skilled workers
FCcr	Capital resources	Access to financial means
		Investment in agriculture
		Subsidies for agriculture
FCirs	Soft infrastructure	Access and quality of telephony
		Access and quality of internet
FCirh	Hard infrastructure	Logistics
		Road network
		Train network
FCsk	Scientific knowledge	Overall level of (MBO)-education
		Overall level of (HBO)-education
		Overall level of (WO)-education
		Level of theoretical knowledge
		Level of practical knowledge
		Attention for agricultural studies in general education
		Educational possibilities for successors
FCti	Technological innovation	Importance of innovation
		Innovations from local institutions
		Innovativeness of local agribusiness
FCec	Type of economy	Knowledge economy

Related and supporting industries

Presence of competitive related industries

- Are there any other industries in your country, related to your business, that are strongly competitive themselves? How is the information flow managed among these related industries? What is the level of R&D and innovation of these related industries?

Domestic suppliers that are strong global players themselves

- What role do suppliers play in creating a competitive advantage for Company X?
- *A chain is as strong as its weakest link*. How strong is Company X's supply chain? On product level and process level?

Codes

Category	Codes	Subcodes
RSIprescom	Presence of competitive related industries	Dairy supply chain
		Floriculture
		Tourism
		Food processing
		Milking technology
		Information sharing
		Research and development
RSIabscom	Absence of competitive related industries	Outsourcing
RSIdomsup	Domestic suppliers	Dependent
		Independent
		Cooperation
		Buy-and-sell
		Added value
		Product development
		Process development

Demand conditions

Demand conditions will be split up in two categories: *market value* and *sophistication*.

Size of market → Company X

- What is Company X's market share in The Netherlands and in Austria? And its average market share in Europe?
- What is Company X's expected growth pattern in demand in the coming years?

Sophisticated and demanding domestic customers → Company X, Company X-users

- How does Company X profile itself in the market?
- What are the effects of Company X's image on their customers? What is their behaviour towards Company X?
- To what extent does Company X evaluate its users experiences with Company X?

Codes

Category	Codes	Subcodes
DCsize	Market value	Demand

		Competition
		Forecasts
		Market share
		Market leader
		Home demand
DCsopdem	Sophisticated demand	Quality of product
		Quality of process
		Attitude customer towards company
		Attitude company towards customer
		Continuous improvement
		Tailor-made products
		Proximity to customers
		Sophistication of domestic buyers
DCimportan	Importance of product	Importance of product for customer
		Characteristics of product

Business context (firm, strategy, rivalry)

- How does Company X position themselves in the market?
- In what way do they express this?
- How are the departments within Company X intertwined?
- What is the effect of Company X's managerial system on the organizational culture?
    - Power of employees, rewards for own initiative.
- Do you think the origin of the manufacturing company of machinery has an influence on the farmers decision? E.g. would a farmer prefer an Austrian-made machine over a non-Austrian-made machine?

Codes

Category	**Codes**	**Subcodes**
BCstrat	Position	Branding
		Representatives (employees)
		Representation (at expo, in Oldenzaal etc.)
		Marketing
BCstruc	Structure of the organization	Top-down management
		Bottom-up management
BCmanag	Managerial system of organization	Involvement of employees
		Stimulation of initiatives of employees
		Openness to employees
		Communication among employees
		Setting company goals
		Achieving company goals
		Setting individual goals
		Achieving individual goals
		Position of managers
BCorig	Origin of machinery	Chauvinism (national pride)
		Import taxes
BCrival	Presence of rivalry	Domestic rivalry
		International rivalry

		Geographic concentration rivals

Government

- Could you describe the business climate in your country?
- In what way do governments assist or challenge your industry?
    - Innovations, competitive advantage, smooth business (or not)
- What are environmental regulations in your industry that affect your business?

Codes

Category	Codes	Subcodes
GOVsup	Governmental support	Direct subsidies
		Indirect subsidies
		Brand support
		Funding of institutions
GOVpol	Governmental policies	NL: Stikstof-dossier (nitrogen)
		Traceability
		Stimulation of local production
		Stimulation of local consumption
		Support of technological innovation
		Stimulation to apply newest technologies
GOVeu	European influences	CAP
		Free trade markets in EU
		Sustainable production
		Green Deal
GOVbeh	Behaviour towards governmental institutions	Anticipation
		Innovativeness
		Creativity
		Advocates of the industry
GOVchal	Challenges in legislation	Laws and legislation
		Regulatory burden

Chance

- Could you think of any random event that could shake up the world and/or directly or indirectly influence the agricultural sector? E.g. sudden or gradual event that influences either increase or decrease of product demand within your organization.

Codes

Category	Codes	Subcodes
CH	Hypothetical events	Epidemic/pandemic
		Animal diseases (esp. zoonosis)
		Climate extremism
		Climate change
		Social tensions
		Social insecurities
		Political tensions
		Economic crisis

		Terrorist attacks
		Natural disasters

Conclusion

- Are there any topics that we did not cover yet, but which might be important for this research?

APPENDIX 5

Original quotes

Quote number	Native Language	Language interview	Quote
1	Dutch	Dutch	Als ik zie hoe afgestudeerden van universiteiten en van bijvoorbeeld een agrarische hogeschool of een hogere landbouwschool noem ik het, als ik zie hoe snel die al ingezet kunnen worden, ook heden ten dage, op bedrijven waar ze een bedrijf leiden. Daar ben je toch veel kennis voor nodig. Ik kan alleen maar praten over dierhouderij, maar in de akkerbouw is dat kennelijk ook zo . Vorige week had ik al iemand dat had op de Universiteit Wageningen gezeten en die is naar Amerika gegaan als stagiaire en die heeft vierenhalf jaar vier bedrijven begeleid. En dat hoor ik toch regelmatig, dat het Nederlandse managers zijn. dan is mijn conclusie: kennelijk is het kennis systeem wel goed, het educatiesysteem.
2	Dutch	Dutch	Ik vind gewoon om dat te communiceren met mekaar en met mekaar te delen en met mekaar te volgen en samen een plan te maken, dat is gewoon prettig. En als ik dat dan van andere merken hoor, zeg maar die allemaal Italiaanse merken of Franse merken. Dat is allemaal verder. (…). Dan vind ik het gewoon prettig dat gevoel met elkaar kunt delen.
3	German	German	Es muss immer weiterentwickelt werden. Die Landwirte erwarten auch von jedem Hersteller, nicht nur von Company X, dass sie weitergehen und auch irgendwann etwas ganz Neues vorstellen können. So ist die Position in Österreich kann man sehen.
4	Dutch	Dutch	Nou, dan moet je met elkaar op zoek en dan moet je met elkaar in overleg gaan. En dan is het nog wel een beetje zo dat sommige partijen hun eigen markt enorm afschermen. (…). Een ander die zegt van 'ja, ik zie toch wel veel voordelen'. Of ik zie wat synergie effecten. Die is daar wat meer open voor. Nou die partijen die daar meer voor open staan zoek je samenwerkingsverbanden mee en dan kijk je dus of je dat managementprogramma de koppeling kunt uitzetten zodat melken en voeren dus in één overzicht hebben. En dat ja dat het goed functioneert voor die voor die veehouder dat-ie dat gewoon kan managen . Maar dat is met de ene partij makkelijker dan met de andere.
5	German	German	Aber ich denke, dass Landwirtschaft in Österreich immer ein Riesenthema bleiben wird. Es ist einfach schon so bewegen, natürlich auch der Tourismus, weil die Landschaftspflege gehört dazu. Wenn das nicht mehr gemacht wird, dann bleiben die Touristen auch weg. Dann kommen sie nicht mehr. (…). Es geht wirklich zusammen, die Tourismus und Landwirtschaft. Geht Hand in Hand.
6	Dutch	Dutch	Gelukkig hebben wij een breed programma, dus als we daar een bepaalde techniek niet verkopen, dan is het wel wat anders. Dus dan blijven we altijd aan de bal.
7	German	German	Es gibt andere Hersteller, die dieselbe oder ähnliche Produkte verkaufen. Wie innovativ diese Firmen werden, kann es schlechter werden für Company X. (…) Wenn andere Wettbewerbe auch innovativ werden, dann kann es wohl gefährlich sein für Company X.
8	Dutch	Dutch	Ik denk de Nederlander is een pionier. We zijn een klein land. Wij hebben een rijkere historie in de agrarische sector, zijn relatief in de agrarische sector. (…) Wat dat betreft zijn we over de hele wereld gegaan. Overal zie je Nederlandse veehouders zitten. (…) Nederlandse techniek en de know-how is wereldwijd bekend. Instituten hebben we daarvoor, Wageningen is heel belangrijk daarvoor. Die is alom gerespecteerd in de wereld heel erg bekend. Ze kijken enorm naar Nederland en vooral de Nederlandse landbouw in het algemeen. Dus ik denk dat dat heel belangrijk. Dat helpt ons enorm mee, ook in ons product.

9	Dutch	Dutch	Ook iets wat denk ik Nederland kent, dat je echt die coöperaties hebt en die met z'n allen de kop de goede kant opzetten en dan samen iets op weten te bouwen. Dat blijkt dus dan succesvol te zijn, mogen we wel zeggen, want eigenlijk over de hele wereld werkt het goed. (…) Cooperaties moeten mensen wel echt geschikt voor zijn. Ik heb ook andere plekken in de wereld gezien (lachend) waar ze de koppen net niet allemaal de goede kant op hebben staan en dan heeft die cooperatie ook helemaal geen zin. want dan is het ieder voor zich.
10	German	English	Reliability is in public anytime important. 50 years ago, we would like to say, OK. Reliability is a handshake. Now, this comes away more and more from the new generations. And I would like to say reliability becomes a new picture, but it's still important .