Cross-Border Business Development

in the Dutch-German Borderland

Collection Volume 1

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Preface

Like a marker pen on a map, the Covid-19 pandemic drastically highlighted the persisting existence of borders that used to play an ever decreasing role in people´s perception and behavior over the last decades. Yes, inner European borders are open in normal times. Yes, people, goods, services and ideas are crossing the border between Germany and the Netherlands freely. Yet we see that the border can turn into a barrier again quickly and effectively and it does so in many dimensions, some of them being not easily visible.

Barriers hinder growth, development and exchange and in spite of our progress in creating a borderless Europe, borders still create barriers in many domains. Differing labor law, social security and tax systems, heterogeneous education models, small and big cultural differences, language barriers and more can impose severe limitations on people and businesses as they cross the border to travel, shop, work, hire, produce, buy, sell, study and research.

Borders are of all times and will therefore always exist. But as they did so for a long time, huge opportunities can be found in overcoming the barriers they create. The border must not necessarily be a dividing line between two systems. It has the potential to become a center of growth and progress that build on joint efforts, cross-border cooperation, mutual learning and healthy competition. Developing this inherent potential of border regions asks for politics, businesses and research & education on both sides of the border to work together.

The research group Cross-Border Business Development at Fontys University of Applied Science in Venlo conducts applied research on the impact of the national border on people and businesses in the Dutch-German border area. Students, employees, border commuters, entrepreneurs and employers all face opportunities as well as challenges due to the border. In collaboration with these stakeholders, the research chair aims to create knowledge and provide solutions towards a Dutch-German labor market, an innovative Dutch-German borderland and a futureproof Cross-Border economic ecosystem.

This collection is not about the borderland in times of COVID-19. Giving meaning to the borderland is an ongoing process that started long before the pandemic and will continue far beyond. The links that have been established across the border and those that will in the future are multifaceted and so are the topics in this collection.

Vincent Pijnenburg outlines a broader and introductory perspective on the dynamics in the Dutch-German borderland.. Carla Arts observes shopping behavior of cross-border consumers in the Euregion Rhine-Meuse-North. Jan Lucas explores the interdependencies of the Dutch and German economies. Jean Louis Steevensz presents a cross-border co-creation servitization project between a Dutch supplier and a German customer. Vincent Pijnenburg and Patrick Szillat analyze the existence of clusters in the Dutch-German borderland. Christina Masch and Janina Ulrich provide research on students job search preferences with a focus on the cross-border labor market. Sonja Floto-Stammen and Natalia Naranjo-Guevara contribute a study of the market for insect-based food in Germany and the Netherlands. Niklas Meisel investigates the differences in the German and Dutch response to the Covid-19 crisis. Finally, Tolga Yildiz and Patrick Szillat show differences in product-orientation and customer-orientation between Dutch and German small and medium sized companies.

This collection shows how rich and different the links across the border are and how manifold the perspectives and fields for a cross-border approach to regional development can be. This publication is as well an invitation. Grasping the opportunities that the border location entails requires cooperation across professional fields and scientific disciplines, between politics, business and researchers. It needs the contact with and the contribution of the people in the region. So do what we strive for with our cross-border research agenda: connect!

<table>
<tr><td>Vincent Pijnenburg
Professor
Cross-Border Business Development</td><td align="right">Patrick Szillat
Associate Professor
Cross-Border Business Development</td></tr>
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Growth along our borders

Since the Schengen Agreement came into effect in 1995, it has become the most normal thing in the world. Crossing national borders, without border checks. There are around 100,000 such border crossings every day between the Netherlands and Germany, alone.

For people who live near the border, it is even more commonplace. Many of them cross the border for work, shopping or fuel. And they communicate with their neighbours over the border in their own dialect.

Today we tell our children how it used to be. How we had to wait until the stern-faced border guide had checked our passport, before waving us through.

The COVID-19 pandemic seemed to turn back time. Suddenly, all across Europe, borders re-emerged. Roadblocks were set up, and numberplates were carefully checked. Only essential travel was permitted.

At the urging of the Netherlands and Germany, unlike in much of Europe, the border crossings between our two countries remained open. In these extreme circumstances, the excellent relationship between our countries – at every level, from heads of government through to local mayors – became clear, once again. Our countries were put to the test, and came through with flying colours. A key element in this success was the Taskforce established with neighbouring countries by the Prime Minister of North Rhine-Westphalia, Armin Laschet.

These observations offer marvellous prospects for the future. They underline what we can achieve through good cooperation and the will to solve problems. After all, cooperation in the border areas is of value, to us all.

It encourages the economic growth and innovative capacity of the border regions. It is specifically in these regions that businesses can gain most from the proximity of large sales markets on the other side of the border, and in the rest of Europe. And it is specifically here that there is space for future solutions, for sustainability and innovation.

Close cooperation also improves the physical and social infrastructure. On both sides of the borders, people have better access to each other's facilities, from schools and public transport to theatres and cinemas.

In our country, the COVID-19 crisis brought about another effect. Online working led many people to realise how attractive our border regions are. People who work from home (for at least part of the week) can more easily opt to live in a periphery region where life is cheaper, greener and less crowded than in our country's western conurbation. In the border regions, there is still often a sense of community, with a flourishing community life.

I know from personal experience just how attractive that life is. Born, raised and still very much at home in Limburg, not far from the borders with Germany and Belgium, I am a true border dweller, a *grenslander*. As Secretary of State for the Interior and Kingdom Relations, I am also responsible for the border regions.

Together with my fellow Ministers, I helped direct a further billion euro to the Dutch regions, and some of that funding benefited the border areas, too. Together with our neighbours, we are working on agreements to improve cooperation and to remove obstacles.

To intensify contacts with our neighbours, we have organised the Grensland Conferences', while border information points *(Grensinfopunten)* provide locals and local businesses with information about what it means to work, study or do business on the other side of the border.

We also encourage meetings between young people in the border regions. Via the Unbounded *(Onbegrensd)* project, we encourage cross-border initiatives in sport and culture. When people speak each other's language, they understand each other, better. The result is a generation of young Europeans, whose horizon extends beyond their own national boundaries. Young people for whom Europe naturally starts in the border region.

This fascinating book was written, under the editorial lead of Vincent Pijnenburg, with this spirit of cooperation in mind. It examines the current status of the border regions, the challenges we face and the benefits we can derive. Together, let us learn to make better use of the opportunities available, and create new perspectives. Rather than limiting opportunities, our aim is to achieve unbounded growth along our borders!

I wish you all an excellent read!

Secretary of State for the Interior and Kingdom Relations

Raymond Knops

The Editors

Vincent Pijnenburg

Born ‚On the Borderland Mountain' on the Dutch-German border, raised in the Dutch-German border region and obtained a doctorate in cross-border cooperation. These are the ingredients that have made Vincent a ‚borderlander', someone who sees the border as an opportunity and acts accordingly. For him, being on the road in the Euregio every day is a matter of course.

As Head Professor, Vincent is responsible for leading the research group and for setting up and conducting applied research in the field of cross-border cooperation. He ensures that the Euroregional idea is further embedded within the bachelor programmes of FIBS and in the region. This takes the form of conducting research together with colleagues, students and the professional field, organising euregional business meetings and setting up and carrying out cross-border projects.

Patrick Szillat

Born and raised in Mönchengladbach, Germany, I grew up with frequent journeys to the Dutch side of the border, sparking an early interest for the Dutch "manier van leven".

Being a region-enthusiast, I dedicate my research towards digitalization & sustainability in cross-border relevant topics, aiming to foster prosperity of the region on both sides of the border.

Currently, I am Associate Professor of the research group CBBD. Furthermore, I lecture on topics such as e-marketing, marketing management, entrepreneurship, market analysis and e-commerce in the MBA, MSc in Business and Management and BSc. in Marketing Management. I am also the programme manager of the MSc programme Fontys runs in cooperation with the University of Plymouth.

Before joining Fontys International Business School, I studied in the Netherlands, the Czech Republic, Great Britain and Poland. After my study, I worked for medium-sized IT companies in the insurance, network engineering and RFID technology as well as IT-Consulting sectors in marketing, sales and business development.

Jan Lucas

As a pupil, Jan Lucas attended a bilingual German-French school in the administrative district of the then German capital Bonn. Thinking across national borders in a European context has been his guiding principle ever since. Helping businesses and workers to identify opportunities in cross-border economic activity and to remove obstacles to seizing these opportunities is an exciting and meaningful challenge that he tackles at the research chair Cross-border Business Development. As a doctor of economics, his focus here is on quantitative, empirical analyses of economic activities and opportunities in the border region.

Table of Contents

Chapter I

Towards an inclusive and multidisciplinary approach to borderlands

An analysis of and guidance for cross-border cooperation along the Dutch-German border.

Vincent Pijnenburg
Chair Cross-Border Business Development
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Abstract

Despite decades of European financial stimulation for cross-border projects, the attention for cross-border cooperation (CBC) is still volatile. Depending on, among other things, political and economic tendencies, it is a hot item, or not. Irrespective of the trend, it is difficult to encourage citizens in the borderland to engage in cross-border behaviour. And without commitment among citizens at grassroots level, CBC will primarily remain an enjoyable pastime for the Euroregional elite. This introductory chapter outlines how CBC has been shaped and fleshed out in recent decades. In addition, it answers why CBC has proved so difficult to implement in practice. Finally, this article clarifies why an inclusive and multidisciplinary approach is necessary for the vitality of the Dutch-German borderland. By way of illustration, we will zoom in on the Rhine-Meuse-North Euroregion, one of the four Dutch-German binational Euroregions along and across the national border. An inclusive and multidisciplinary approach to borders is intended to contribute to a breakthrough in the practice of cross-border cooperation.

1. INTRODUCTION

The year 2020 explicitly highlights the problems associated with CBC. Covid19 emphasized the dichotomy between two very different narratives: the Euroregional network on the one hand, also referred to as the 'Euroregional bubble' (Pijnenburg, 2019), and citizens at grassroots level on the other hand. Or, to put it another way, good intentions versus daily reality. In one narrative, citizens and companies experienced the negative consequences of living and conducting business in the border region. Their daily urban system was split into two or even three different realities at times, due to the differences in legislation, policy and measures enforced by the Netherlands and the countries on its borders. Crossing the border to go shopping was made nearly impossible for all border residents, even those who normally do their daily shopping in a supermarket or pharmacy on the other side of the border. Furthermore, entrepreneurs who live on one side of the border and run their business on the other side of the border were often left out in the cold when it came to financial compensation. Retail businesses in the border region that rely heavily on consumers from the neighbouring country were also hit particularly hard by this dissuasion policy designed to prevent cross-border movement.

The other narrative is that of the existing Euroregional network, which is primarily made up of administrators, politicians and government bodies. A network that sustains itself through mutual congratulation. This is perfectly understandable in view of the exemplary role that administrators and other public figures have. A network that fulsomely praises the excellent coordination between the neighbouring countries during the Covid19 crisis in order to further strengthen existing relationships (Grenslandconferentie, 2020). A positive message: that is what citizens and above all the Euroregional network needed. But doesn't this completely disregard the majority: citizens, including entrepreneurs, who were hugely inconvenienced on a daily basis by the constraints imposed on life in the border region? In most cases, the national administrations on each side of the border only took action when citizens and entrepreneurs had already been subjected to extreme duress.

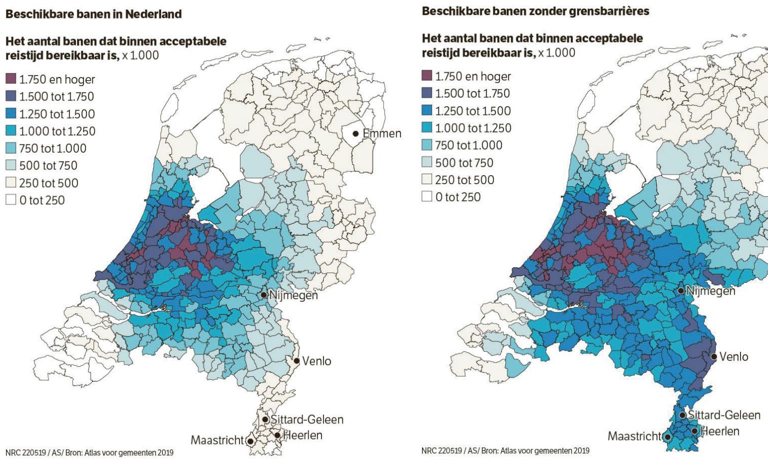
A recent study by ITEM (2020) shows that little consideration was given to the border regions when rolling out national measures to keep the coronavirus under control. As a result, entrepreneurs who work in one country and live across the border in a neighbouring country were not eligible for compensation in some cases, for example, the temporary financial support arrangement for entrepreneurs (Tijdelijke overbruggingsregeling zelfstandig ondernemers). Incidents of this nature have a negative impact on how people see living on one side of the border and running a business on the other side. And it is precisely those administrations that are so eager to improve that image, at least during this term in office. In addition, systematic monitoring of Covid19-related data also often tailed off completely at the border (Birch & Platform 31, 2020). Finally, communication in the border regions generally left much to be desired, making it difficult for tourists, students and employees to find out what measures were in force in places just a few kilometres away from their homes. In short, the way borders are perceived and used still results in major challenges for the border regions.

At all events, Covid19 has clearly shown that CBC is anything but self-evident along Europe's internal borders. During the Covid19 pandemic, the border regions had to lobby energetically, all the way up to the seat of power in Brussels, in order to promote the interests of entrepreneurs in the border region. In addition, recent research by Birch and Platform 31 (2020) also clearly indicates that the border regions are not so resilient and actually very vulnerable to sudden economic shocks like that caused by the Covid19 pandemic.

This vulnerability in border regions and the impact of the negative side-effects of the Covid19 containment measures for such regions can be attributed to some extent to a lack of CBC. Even though CBC is currently seen as a hot topic by many public authorities, the unprecedented opportunities of cross-border cooperation remain mere words, confined to policy papers and fated to never be implemented in the form of decisive and concrete action. Despite the increased influence of people on the use of space across the border due to the growing mobility that decades of cross-border policies encouraged by the European Union (EU) have prompted (e.g., shopping, working and studying), many national policies still considers the national border the end of the planning jurisdiction. The border is usually seen as an end, a closure and a protection, thus plans and policies often simply stop at the border, leaving the area across usually untouched: as if it were no man's land.

In spite of the great potential that cross-border cooperation could have along Dutch-German border regions—as shown by various studies (Boekema et al., 2013) as for example illustrated in figure 1, there is a general lack of cross-border political will to develop an integral approach for the borderland (Van Houtum and Eker 2015, p. 41). Due to the largely non-binding character of CBC to date and the lack of a clear problem owner, the general public has not yet been reached. In other words, CBC is not yet bearing fruit in spite of its decades long history. Furthermore, border regions face more serious regional and economic problems than ever before, which are putting pressure on the quality of life in the border area.

Figure 1 - The number of jobs that can be reached within an acceptable travelling time. On the left, the number of available jobs within the Netherlands. On the right, the number of jobs available without border barriers.



Source: Atlas voor gemeenten (2019)

This chapter examines cooperation in the Dutch-German border region. In spite of the challenges in respect of CBC, the border between Germany and the Netherlands has been a fairly stable area for the last 200 years and, as a border between two members of the Schengen Agreement, it is also largely barrier-free. Crossing the border is unimpeded by any obstacles. Despite the fact that there is no wall in this region, the border still affects our thought patterns and habitual approach to daily life and work, which are coloured by a primarily inland-oriented national focus. Nevertheless, from a European perspective, this border area is still a frontrunner in CBC. The existing sound basis should, in principle, provide a platform for structural cooperation.

After this introductory section, chapter 2 looks at the main methodological and conceptual background of the study. Chapter 3 explores the meaning of borders. Following on from this, chapter 4 explores the theme of CBC and describes the current situation in relation to CBC in 2021. Finally, chapter 5 presents the results and conclusions.

2. RESEARCH PROBLEM, RESEACH AIM & RESEARCH APPROACH

People have talked about CBC at all kinds of levels and in all kinds of forums for decades. And those discussions have led to many worthwhile initiatives, including several INTERREG projects. At the same time, in spite of numerous good intentions, we see that the number of people who live, work or study on the other side of the border is still very limited. An economist would question whether the benefits justify the costs. Or is there perhaps a sociocultural barrier? In other words, do social and cultural aspects lead to a lack of mobility? In addition, nothing is known about the motives of people who do live, work or study on the other side of the border. Is their cross-border mobility the result of initiatives at a political and administrative level, does it simply reflect pure chance, or is it a rational calculation?

In fact most people have adequate reasons to stay where they are. And the figures confirm this. When we consider the four European freedoms - the free movement of goods, capital, services and labour - as the cornerstones of the internal European market, we see that goods and services cross national borders with little difficulty. As a result, the trading relationship between the Netherlands and Germany, which includes both goods and services, is only exceeded in terms of trading volume by the trading relationship between two much larger global nations, the United States and Canada. There can be no doubt that the sheer volume of trade, worth roughly 193 billion euros, is evidence of an intense trading relationship between the Netherlands and Germany. This statistic indicates that many companies do business with companies in the neighbouring country.

The capital flows between the Netherlands and Germany are also immense. Investments from the Netherlands generally end up in the German federal states of North Rhine-Westphalia, Hesse and Bavaria. Of the total investment volume in Germany, 25% comes from the Netherlands (CBS, 2020). However, when we look at the free movement of 'labour' in Europe, the figures paint a completely different picture. There is hardly any cross-border commuting to work (i.e. labour) and the number of people who live on the other side of the border is also small. Only about 43,000 people living in Germany cross the border every day to work in the Netherlands. Many of them are Dutch nationals who live in Germany and work in the Netherlands. The flow in the other direction amounts to just over 9,000 people who live in the Netherlands and travel to their work in Germany (Grensdata, n.d.). So, in spite of the Schengen Agreement, a European or Euroregional labour market is still very much an illusion.

The question is what can be done to reduce the 'personal effort' and increase the 'benefits', and who is responsible for this? One example of 'personal effort' is the time you have to invest in familiarizing yourself with regulations or laws. And lower house prices or a higher income are typical examples of the 'benefits'. From a recreational point of view, we see that many people find the effort worthwhile. There is a strong cross-border flow of day trippers and tourists who have booked overnight stays. Hardly surprising, as recreation requires little in the way of homework and effort. If we disregard Covid19 for the moment, you do not have to familiarize yourself with laws and regulations and many tourists feel that a recreational stay in a foreign country adds that little bit extra. The authors of Borderland even go so far as to refer to this as an 'exotic' experience (Eker & Van Houtum, 2015).

Other than living, working and recreation, there is a fourth reason for crossing the border: education and study. For Germans, the Netherlands comes in second place behind Germany as the most popular country for a course of study. This cross-border mobility from Germany to the Netherlands is encouraged by factors such as the widespread availability of courses with English as the working language in the Netherlands and the more practice-oriented approach in Dutch universities of applied science compared to the type of education offered in the equivalent institutions in Germany (the 'Fachhochschulen'). Conversely, Dutch nationals who enrol for a course of study in Germany do so mainly as part of the ERASMUS programme, which only lasts for one semester Furthermore, Germany is not the most popular ERASMUS destination. Most students choose to go to Spain, followed by the United Kingdom in second place. Germany is third on the list (VSNU, n.d.).

In summary: CBC is a hot topic in political and administrative circles. As yet, the growing attention for this topic is not reflected in the statistics. CBC is currently a largely marginal phenomenon and therefore fragile. The border area needs a structural and broadly supported focus. There is a requirement for an inclusive approach to ensure that all those who live in the border area can benefit from the opportunities on either side of the border. Everybody should be able to participate. To achieve this, the Euroregional network must distance itself from its current image as a hobby and plaything of public administrators. Furthermore, the border area requires a clear and consistent vision. A vision that shows what it stands for and how it wants to develop. A vision that is not fettered by political trends. A vision that must primarily benefit ordinary citizens.

In addition to starkly highlighting the dichotomy referred to previously, Covid19 has helped create momentum. It represents a period of reflection in our lives. A period in which many of us have started to analyse aspects of our lives that seemed so self-evident. A critical look at the status quo. A reassessment of the unknown and topics we rarely discuss. Our out-of-control housing market, the simple pleasure of enjoying nature outside our towns, the diminishing importance of living close to our work. The basis for our decisions has changed. Could this be an opportunity that favours future development in border areas? There is increasingly frequent discussion about the obsolescence of the 'Randstad' concept (a collection of large cities in close proximity, also referred to as 'megalopolis') and the growing need for space, which is often still available in the border area (De Limburger, 2020). The ability to work remotely in many sectors, as demonstrated by Covid19, has given this debate an extra dimension. However, this does not mean that we are already seeing mass migration to the border areas. Even so, Covid19 has definitely changed our perspective.

The introductory chapter to this volume explains CBC as a theme and examines aspects of cross-border business in the Dutch-German borderlands. The aim of this article is to present a bird's eye view that zooms in on CBC from a European perspective, with a particular focus on economic cooperation along the Dutch-German border. Where are we today, after 70 years of CBC? What is still lacking? In other words, what do we need to expand and increase the impact of successful initiatives?

This study relies on the most common qualitative methods for data collection: interviews, observation and document analysis. The data collection has been an ongoing process of exploring the border landscape. It can be seen as an itinerary, a series of actions and activities implemented to engage stakeholders and civil society in order to develop a shared vision for the borderland.

3. Borders: an indefinable concept

Much has been written about borders and CBC in recent decades. Before we look at ways to improve border policy, we need to understand what borders actually are.

Borders are complex phenomena. They are ambiguous and ambivalent. When we look at the literature on borders, we see that the study of borders has moved from a prevalent concern with formal state borders to the study of borders at diverse socio-spatial and geographical scales (Kolossov and Scott 2013: 3). Today, within border studies scholars are more interested in the way that borders are socially constructed and managed as well as by how they impact our daily practices in the transition spaces and borderlands that are in a constant state of flux (Newman 2006: 173). It is people who give meaning to the border and their actions are influenced by national regulations and legislation, among other aspects. The meaning of the border is therefore highly political, and as such associated with a low level of certainty. For example, Covid19 shows that the function of the border can change rapidly, from an invisible, open border to an equally invisible, but closed border. At present, nobody knows whether this will lead to structural changes in cross-border mobility.

Let us look at some history. Before 1950, in fact, border regions were viewed as buffer zones that helped to protect the nation from invasion. Borders and border regions functioned as territorial demarcations, as lines of spatial distinction whose function was to safeguard state sovereignty. In the decades after World War II the interest in border studies declined due to the focus on states and its institutions. Borders were relevant to this line of inquiry only to the extent that they separated one government's economic policies from those of neighbouring states. Many scholars had become caught in what has been termed a 'territorial trap' (Agnew 1994), which meant that they limited their research and understanding of the world to the national scale.

It was only in the early 1960s that border studies began to focus on the functional characteristics of borders and the ease with which they could be crossed and enable trans-boundary contact (Newman 2006: 175). From the 1970s to the 1990s border practices were characterized by processes such as globalization and the emergence of new spatial entities: cross-border regions. The emergence of cross-border regions in Europe includes but is not limited to what has become known as 'Euroregions': territorially delimited entities characterized by the presence of national borders cutting through them. During the 1980s and 1990s, border studies dedicated a great deal of attention to the analysis of transboundary cooperation and functionality of cross-border regions (Anderson and Wever 2003; Perkmann and Sum 2002; Scott 1999).

Especially the early 1990s, according to Diener and Hagen (2009), marked a period of extraordinary geopolitical change. Borders were characterized by their increasing openness partly as consequence of the EU's enlargement, the end of the Cold War and the collapse of the Soviet Union; and the fall of the Iron Curtain (Sohn and Stambolic 2015: 178). As Paasi (2013: 3) stated: "Borders rapidly became highly important during the 1990s, in the wake of the end of the Cold War's dividing line between the capitalist and socialist blocks, the rise of many new states from the ruins of the former socialist states, the awakening of old nations and ethnic groups, and the acceleration of globalization".

As the European Community was taking shape and cross-border regions were multiplying, the geographical research community started a debate about cross-border cooperation (Eker and Van Houtum 2013: 141). This phenomenon has been related to economic and regional geographic studies and linked to concepts such as clusters, districts, networks, trust, transaction costs and learning (Van Houtum 2000a). The launch of the Community Initiative INTERREG gave a boost to cross-border cooperation, which had been previously dominated by sporadic, bottom-up initiatives (Gualini & Perkmann, 2003;1999). The INTERREG funding regime acted as a catalyst for cross-border institution-building, often in the form of Euroregions. However, recent academic studies have tended to criticise its project-driven culture, excessive bureaucracy and vanished spontaneity (Van der Giessen 2014). In the first half of 1990s, cross-border cooperation was received with great enthusiasm, but many policies remained nationally oriented.

The development of 'fenced' borders and more restricted regimes to enter territories (like the asylum policies of the mid-1980s, beginning of the 1990s and today's) are processes of re-bordering (Kramsch et al. 2004). These measures are a geopolitical response that uses the closure of borders as a safety mechanism against threats from beyond. An increased border securitization has followed the 'war on terror', economic protectionism, and anti-immigration sentiments (Johnson et al. 2011).

In recent decades border studies have grown interested in multi-disciplinary approaches and concepts such as cross-border regions, cross-border metropolises, borderlands and borderscapes. If instead of placing the border at the edge of the plan we would put in its centre; if instead of perceiving the border as a barrier we would conceptualize it as a resource, how would the borderland look like then? The persistence of this question in the literature on border studies has re-invigorated the academic debate in this field. Whereas the border region was previously conceptualized as a European laboratory for development (Van Houtum 2000b), the current academic debate conceives borderlands, border landscapes and borderscapes as central spatial concepts (Buoli 2015).

The conceptual meaning of the border has changed in recent decades: rather than a closed entity, it is now seen as a dynamic construct that depends on interpretation, narration, and confirmation (Newman 2006; Van Houtum and Van Naerssen 2002). As Doevenspeck points out (2011: 129): "The border must be conceptualized as a part of daily life to understand the logics and concrete processes of its diverse perpetuations instead of seeing it as an abstract construct."

Cross-border interactions are an important starting point in the discussion on borderlands and border landscapes. The attention in border studies has moved towards the dynamics that take place in close proximity to the border. It is all about people and interaction, about practice and daily life. That brings us back to practice in the German-Dutch borderland.

When we compare the above theoretical viewpoints with what happens in practice, we see an interesting paradox. A paradox between daily practice in the border region on the one hand and, on the other hand, the static manner in which the border is still often seen and defined. As previously stated, cross-border mobility is not widespread in practice. It involves a group of people who, in the border area, effectively exploit the opportunities that the border situation offers. For example, people acting in the role of consumers, business partners or tourists. However, when we talk about borders within the Euroregional bubble, we are often still referring to a distinct line that separates two systems, languages and cultures from each other. The meaning in most cases is the border as a barrier and dividing line.

4. Why cross-border cooperation?

Now that we know how borders and CBC have been defined over time, we need to ask ourselves why and for whom this cooperation is so necessary today. When there is a lack of focus on the neighbouring country, who exactly will miss out on potential opportunities?

Two aspects of CBC are subject to change: not just the 'what' (what borders are) but also the 'why'. After WWII, everybody agreed that another war should be avoided at all costs. To prevent this, cross-border cooperation had to be improved. That cooperation would mainly have to take place in the border regions themselves, the place where two countries, two languages, two cultures, two systems and so on meet. Fortunately, since then, no more wars have been fought on our home soil in Northwestern Europe. However, these days, the 'why' aspect extends far beyond preventing violent conflict. We can distinguish between the interests at a European, national, regional and individual level.

Firstly, there is a European interest here. What many people fail to realize is that no less than 37.5% of the total population in the EU lives in border areas (European Comission, 2021) . This percentage indicates that a large part of the European population is impacted by the special dynamics in borderlands. In the early years of the European Union, cooperation between the Member States mainly focused on trade, the economy and infrastructure. However, the EU of today is also involved in many other issues that have a direct impact on everyday life, for example agriculture, fisheries, consumer rights, the environment, immigration and counterterrorism. The EU strives to achieve policy alignment between the Member States in respect of these themes. In addition, the EU as a collective aspires to a strong stance on issues such as defence, foreign policy, trade, the internal market and the economy. In doing so, the EU seeks to promote economic integration.

In addition, cross-border cooperation is a key element of the EU policy towards its neighbours. European Cross-border cooperation aims to tackle common challenges identified jointly in the border regions and to exploit the untapped growth potential in border areas, while enhancing the cooperation process for the purpose of the overall harmonious development of the Union (European Commission, 2021). The Association of European Border Regions (AEBR) is an important European body that aims to promote CBC. It was founded in 1971 by the first border regions which had started cross-border cooperation in Europe after the Second World War, strengthening the integration of citizens across national boundaries. The Association describes its mission as follows: our vision is not a Europe without borders, but a continent where cross-border territories, formerly places of divide, become meeting places for citizens who consolidate the European project day by day, making it more diverse, tolerant and solidary. The beauty of this vision is that it respects differences between countries. There is no call to eliminate borders, which is a utopian idea at best and also undesirable. Citizens must, above all, be able to cope with the differences on both sides of the border.

Secondly, the relationship between the Netherlands and Germany is important to the economy of both countries and, indirectly, to the European economy. The situation is one of mutual economic dependency. If the German economy were to collapse, the Netherlands would also face economic hardship. We have a saying in the Netherlands: when Germany sneezes, the Netherlands catches a cold. However, it is not just the Dutch economy that is heavily dependent on Germany and North Rhine-Westphalia in particular. North Rhine-Westphalia is also integrally linked with the Netherlands. Germany is the Netherland's most important trading partner, both in terms of imports and exports. In the German context, the Netherlands is the second largest trading partner. However, when we zoom in on the federal state of North Rhine-Westphalia, we see that the Netherlands heads the list in most areas. For example, refined petroleum products and pharmaceuticals are widely traded products.

This intensive interdependence can be seen in many areas in the border regions: e.g. the large number of companies active in the agricultural, manufacturing, logistics and tourism sectors. However, despite the existing intensive trading relationship, there is still a significant trading potential, possibly worth billions of euros each year, that remains unexploited.

Thirdly, CBC is necessary for achieving regional scale. Regions are increasingly the engines that drive the economy. Cities or urban regions are sometimes also referred to as the 'engines of economic growth'. A number of indicators are used to quantify regional development. In the Netherlands, reference is regularly made to the 'Brede Welvaartsindicator' or the 'Motor van regionaal-economische groei' (see chapter V of this collection). The 'Brede Welvaartsindicator' (BWI) is an initiative of Instituties voor Open Samenlevingen (Utrecht University), in collaboration with RaboResearch, and aims to provide an alternative measure of prosperity. The

Netherlands Environmental Assessment Agency refers to cities or urban regions as 'engines of economic growth'. This characterization is based on at least eight factors that are important for regional economic growth.

In general terms, we see a shrinking population in the border regions in the Netherlands. Furthermore, the border regions show increasing population ageing. This will lead to a tighter labour market. There is already a lack of human capital that will only become more acute. In the border regions, we see that the proximity of the border has a major effect on both societal and economic dynamics. The tasks facing the Euroregion cannot be considered in isolation from the border. This impinges on aspects such as demographic developments, the quality of the physical infrastructure, governance structures and human capital. Due to the influence of the border on the surrounding areas, regional development must consider and respond to that border context. After all, the border is part of the region.

It should be noted that the phenomena typical of border regions are often present on both sides of the border. In the theoretical literature, this is sometimes referred to as a 'double peripherality' (Herrschel 2016; House 1980; Newman 2001): in other words, two peripheries that meet at the border. The 'peripheries' often attempt to capitalise on these developments and unexploited opportunities in a way favourable to themselves. It would be interesting to explore whether directly adjacent border regions would not be better off if they cooperated on specific issues. Jointly tackling common tasks may well be more productive.

Fourthly and finally, individual interests are involved. Citizens living in the border region benefit from CBC. This cooperation should target creating equal opportunities for citizens in border regions compared to citizens living in more inland regions. In other words, looking for a new home, job or place to study should be the same, regardless of whether you are based in an inland or border region. However, many young people still leave the border region in the belief that more jobs are available elsewhere in the country. In the case of some border regions, such as North Limburg, this is factually incorrect.

For example, based on the criteria of a one-hour commute, the average time people are willing to travel to get to work, there are just as many jobs available there as there are in many cities in the Randstad. The true problem is the mismatch on the labour market. The profile on the supply side (i.e. the employees) does not match the requirements on the demand side (i.e. the employers). This relates to language and cultural competencies and regulatory issues. Although, the economy has a strong need for young professionals with an international profile, the labour market around homes located in border areas is effectively cut in half by the border. The literature sometimes calls this phenomenon the 'half-moon syndrome' (Van Houtum, Van der Velde & Jacobs, 2010). More specifically, this applies when people are not familiar with the other side of the border. If we imagine, for the sake of convenience, that the border does not exist, the picture is different. While this is unrealistic in most cases, it does illustrate the potential of opening up cross-border opportunities in the borderlands. For example, no less than 66% of the jobs within a commuting distance of one hour from the border town of Venlo are located on the German side of the border. So the deficit is more than 50% (the half-moon) in this case.

In addition to finding a job, the interests at individual level also relate to aspects such as accessing healthcare, pension rights & taxation for cross-border commuters, having qualifications recognized and accessing public facilities. The bottom line is that border residents should be able to thrive in their own region and not feel constrained by the proximity of a national border. In an era of open borders and globalization, this may sound obvious, however the situation in real life is often very different. The degree to which we spontaneously come into contact with the neighbouring country nowadays is much less than in former times. As a result, many young people are unaware of the opportunities in the neighbouring country.

One striking and positive observation is that CBC is often based on a desire to exploit opportunities. In comparison to the past, when many administrators in the border region felt completely powerless - "The Hague should pay more attention to this border region!" – people are now aware of the progress that can be achieved by the border region and its inhabitants through a cross-border approach. Obviously, much attention is still paid to breaking down border barriers, not entirely unjustifiably when you think of topics such as recognition of qualifications, however the awareness of significant opportunities is gaining ground. A positive message, a willingness to be positively surprised, that is what is urgently needed to get citizens to look across the border. After all, our proximity to the border is a fact of life, that border is part of our regional DNA, so we should collectively consider how we can use that border to our own advantage.

Cross-border cooperation in 2021

Reasons enough to promote CBC. Despite the fact that structural attention and an integral approach are still lacking, there seems to be a positive revival in the CBC network. CBC is a hot topic. This is illustrated by the fact that one of the Ministers in the current government coalition has responsibility for CBC in his portfolio. His oft-repeated slogan is: "growth at the border, rather than border-based barriers to growth'' (1Limburg, 2019). The federal state authority in North Rhine-Westphalia is also intensely interested in cooperation with the Benelux countries. At the same time, we see a growing interest in CBC at regional level, both within provincial and local authorities and in education. In addition to the interest at national level, this is largely driven by individuals. Ambassadors who are eager to promote CBC.

A small network of mainly over-50s are the driving force here. At present, only a few people are involved in CBC. You could call it a Euroregional bubble. The people inside this bubble are all pulling in the same direction. The disadvantage is that there is a layer outside the bubble: if we want to encourage young people to look across the border, we in the Euroregional bubble must start by defining exactly what opportunities are open to them. Most citizens will not be spurred into action by the prospects for peace or trade. We must ask ourselves whether our message is still powerful and appealing enough for generation Z. Is our truth also their truth and vice versa?

The growing focus on CBC means that more and more people are involved in cross-border governance. However, as history shows us time and again, this positive focus can also evaporate almost immediately in the aftermath of elections and shock events such as 9/11. The latter event caused a change in sentiment away from CBC towards a greater focus on national sovereignty and more restrictive borders. And Covid19 has also created a new dynamic in the border region. Covid19 has forced the existing Euroregional networks to engage in more intensive discussion with each other regarding policy alignment and the continuation of projects. Those remote contacts were often fast and convenient. Long journey times were avoided. At the same time, citizens and entrepreneurs have clearly seen the borders take on a much more distinctive outline. Partial border closures and dissuasion policies with the nationality of citizens as the leading factor for regulations, rather than the region-specific risks.

CBC continues to be heavily dependent on politics. The border is often used in politics and policy, and sometimes abused, as an instrument for binary framing (Van Houtum, H. and Van Naerssen, T. , 2002). Open versus closed, central versus peripheral, in versus out. This gives the border a hard, inflexible and moreover multifunctional character, which is diametrically opposed to the developments we see in the theory, as outlined in chapter 3. The border as no more than an invisible dividing line between two regulatory systems. Consequences for the day-to-day dynamics in the border area are often forgotten when drawing up policy and implementing regulations. Recent examples include the long traffic jams in Dover due to Brexit, and the truck parking issue along the Dutch-German border. At the same time, the border area needs politics as an agenda-setter and financier. Politicians need to be fed ideas and concepts. Something that this book aims to achieve.

Even though we are relatively secure in this part of Europe, borders had been the subject of increasing discussion during the past year, not just with regard to Covid19. New fences and walls are appearing. Sometimes far away, like the wall between the United States and Mexico, and sometimes closer to home, as we have seen on the border between Hungary and Serbia. At a time when globalization seems to be growing to unprecedented proportions, many people yearn for a clear national, regional or local identity. They want to protect what they feel is good and safe. And that leads to political tensions that may have repercussions for CBC. The increasing polarization in the Netherlands and Germany, among other countries, has not yet led to such far-reaching consequences. However, in order to remove this continuous uncertainty and avoid a situation in which borders continue to be a political football and the subject of constant, often negative, debate, we need a structural change in how CBC is implemented in practice.

Basically, border regions are still inward-looking in most cases. The 'common sense of urgency' is insufficiently strong (Pijnenburg, 2019). A clear guiding principle, a *Leitmotiv*, is lacking. Furthermore, there is no clear problem owner. Many parties stand to benefit from CBC, but few experience short-term negative consequences if they do not participate. Furthermore, people can walk away from the border situation, but the region itself cannot. Taking this into consideration, education, government authorities and the business community in the region need to be encouraged to tackle this theme based on a common approach.

5. RESULTS & DISCUSSION

The border regions are still often seen as peripheral, far away from everything. The place where the country we know comes to an end. It is obvious that the borders are associated with a number of barriers. For example, differences in language, culture, regulations and policy. This encourages many border residents to adopt an inward-looking attitude that ignores the opportunities in the neighbouring country. If, in the future, we continue to see the border as a barrier rather than an opportunity, it will continue to have an inhibiting effect on the development of the border region in economic, social and demographic terms. So a shift in perspective from 'national decentralization' to 'international centralization' is required to revitalize the living environment in border regions. An awareness of the region as a whole among young people, parents, politicians, civil servants, businessmen and teachers is an essential prerequisite for this. After all, without Euroregional awareness, there can be no Euroregional action.

The fact that opportunities are available across the border is nothing new. This extends far beyond cheap fuel and groceries. Various studies have shown that Germany has huge potential from a Dutch perspective, particularly in the area of employment. The next question we must ask ourselves is: how do we, as a region, intend to exploit these opportunities? There is no such thing as an off-the-shelf package of measures that converts cross-border opportunities into results. History teaches us that cooperation across borders is an incremental process that requires long-term commitment. It was nearly sixty years ago that the first cross-border regions, the Euroregions, were set up, the Schengen Agreement came into effect more than thirty years ago and the Euroregions have been using INTERREG funding to promote CBC for more than twenty-five years.

In spite of these positive developments, CBC has gone through times of high interest and times of no interest. The literature talks of incremental processes, even calling this phenomenon 'muddling through' (Lindblom, 1959). Moving step by step towards that dot on the horizon. But where exactly is that horizon? Are there limits to the amount of energy and effort that are being put into this endeavour?

The current approach seems inadequate. In practice, CBC remains something vague that most border residents have difficulty in bringing into lasting focus in their conscious mind. More is required to achieve a structural breakthrough. This chapter presents the most important results of the study in the form of recommendations. The intention is not to provide a comprehensive overview. Furthermore, not all findings apply to each cross-border initiative or project. The results outline the common themes. Guidelines for achieving structural improvement and initiating action.

- **The right mindset**

  CBC is invariably associated with terms like periphery and population decline. We often think in terms of the centre versus the periphery. Bustling economic centres versus quieter country areas. But where is that 'centre' in the Netherlands? Does it even exist? Is it where the nation's politicians come together? Or is it the place where most people live and work in the national context? Or the place with the most congestion? Or the place with the most expensive house prices? In primary and secondary school, we are encouraged to think of the border as the area where the country as we know it comes to an end, so we automatically adopt an inward-looking attitude in later life. That periphery is often directly linked to barriers and obstacles. But is this conceptual framework still justified in times of far-reaching globalization? Has reality not caught up with us?

  What if we were to follow the example set by Eker and Van Houtum in their book Borderland (2013) and think of the border area as a starting point and opportunity, rather than the outer limit of some geographical construct? What would our daily living environment, our daily urban system, look like if we did? What if we started thinking much more in terms of regional interests? It would certainly be appropriate in the light of the greater role and significance of the region on a cross-border scale. And this would obviously highlight the relevance that the other side of the border has for a border region. In this scenario, a border municipality or border province depends on the relationship and connections with the neighbouring country. A school depends on an inflow of children from the region, i.e. both sides of the border. And businesses tap into the labour market in the nearby region and also sell their products there. Many government authorities, educational institutions and companies think and act within a 180-degree field of view, the half-moon. Within that half-moon, you will never create the same momentum, with all the associated urbanization benefits, as you would in an inland region that utilizes its full 360-degree potential. What opportunities, and barriers, arise when you think and act in a 360-degree circle? When you make the transition from a half moon to a full moon.

- **The right terminology**

CBC often still focuses too much on the 'what': cross-border co-operation. A better choice, as Simon Sinek says, is to start with the 'why'. The Golden Circle is a conceptual model that Sinek created after researching successful leaders and brands. It assumes three levels on which organizations and people operate: what you do (the outer ring), how you do it and why you do it (the core). His contention is that true success remains elusive because the third component is generally not given the attention it deserves. The most successful companies start from the 'why': a powerful mission and vision, which automatically define how and what they do subsequently. The 'why' of CBC is not yet as clear as it should be. So we must show companies why doing business across the border can add value. We must show young people why a cross-border attitude can be beneficial.

If we start from the 'why' in our analysis, we will hopefully be able to abandon non-intuitive terms dreamed up by civil servants, such as 'Euroregion' and 'CBC'. These are hardly calls to action that inspire entrepreneurs or students. The added-value narrative has changed: the aim is no longer keeping the peace. This is also an intrinsically defensive narrative: "beware, without the border, things will go wrong". Although this is obviously one of the functions of the border, there are many others as well. We must think far more in terms of exploiting opportunities. The economic opportunities in the context of businesses. What opportunities will companies miss out on if they do not go across the border? For example, we need to highlight sales opportunities when talking to entrepreneurs and job opportunities when talking to students. This direct approach, as opposed to talking about Euroregional cooperation, may lead to a different course of action. And segmentation is also important: solutions need to be customized. This is necessary given the breadth of the target groups.

- **A multidisciplinary approach**

Another aspect that characterizes CBC is the monodisciplinary focus. Discussions often revolve around the language in the neighbouring country, regulations, cultural differences or innovations within a narrowly defined sector. The border is generally seen as the dividing line between two countries in this context. An outdated view, as we have seen in chapter

3. Far more attention should be given to the border's influence on the dynamics in the neighbouring country. The neighbouring country should be presented as a living environment in order to generate awareness. An integral approach is required within this living environment, which we can also describe as the (desired) daily urban system. Most themes cannot be seen in isolation from each other. One group of young people learning the language of the neighbouring country, and another group in a border area familiarizing itself with regulations and legislation. We must realize that a mix of factors collectively determines regional attractiveness.

Young people need to be aware of the characteristics of the region in which they live from an early age. In short, getting to know your own region creates ownership and commitment. Characteristics that increase the likelihood of young people making a well-considered decision when deciding where to pursue their studies, for example. At the moment, the system limits their freedom of choice.

In most cases, the international character of the border region is still insufficiently used to attract young people from the outside. The international setting can act as a potential magnet. And people from outside the border area should also see moving to the border territory as an attractive option. It is precisely the reactions of international students that confirm the attractiveness of studying in the border area.

- **An inclusive approach**

Inclusiveness is a popular concept these days. Everybody should be able to participate. When we translate this to the border situation, every citizen must be able to take advantage of the opportunities in his or her immediate surroundings. But how do you make contact with every citizen? As previously outlined, the cross-border network has difficulty in getting its message across to citizens.

If we as a society succeed in creating a 360-degree community feeling, citizens will automatically come into contact with both sides of the border in the future. But how do you create that 360-degree community feeling? Retail and the tourism sector are already successfully exploiting the opportunities that exist in the neighbouring country. Both on the supply and the demand side. Supermarkets, amusement parks and other recreational facilities already intelligently match their offer to consumers in the neighbouring country (see chapter X). So these are not the areas where we see the biggest challenges. Education is of crucial importance to generating structural attention for the neighbouring country among citizens. Education can be a very powerful tool for raising Euroregional awareness, thereby indirectly contributing to meeting the private sector's need for both low-level and high-level qualifications that are functionally relevant in an international environment. Start, for example, by ensuring that all elementary school children can playfully get to know the area that defines who we are. And look for exchange possibilities with schools across the border. At secondary school level, subjects such as history, geography and social studies should reflect past events and events unfolding in the present just across the border. One can potentially create a continuous Euroregional learning path by extending this line to secondary and higher vocational education.

Simultaneous action is required on the part of government authorities in order to initiate and give impetus to this shift. Politicians and the government have the power to bring about change in the entire education system (PBL, 2017). The Dutch Regio Deals are a good example of this. A Regio Deal is a collaboration between central government and the regional authorities that aims to enhance the region's strength. Central government and the regional authorities work together in Regio Deals to improve the living environment for residents and entrepreneurs in the region. Within the Regio Deal in North Limburg, education partners are working together with businesses to set up a continuous Euroregional vocational education learning path.

- **Dare to innovate**

One striking aspect of the cross-border network is the recurrent debate on people's ability to speak the language in use across the border. A skill that is increasingly less common among young people in the Netherlands. However, this is a valid issue, as being able to understand each other is a basic condition for working together. So it also contributes significantly to the strong trading relationship between the Netherlands and Germany. The main question is whether the focus will lie exclusively on German or Dutch in the future. We need to come to grips with this issue and anticipate future developments. We see that teaching courses in English is slowly becoming more prevalent in Germany, and that this has a knock-on effect in business. Obviously, this process will take time. At present, using English is often 'not done', but we must ask ourselves what the situation will be in 20 years' time. Are we not simply in a transitional phase and moving towards English as a common language? Global developments will overshadow and decide the debate on the choice of language in border regions.

Who is responsible for setting things in motion?

CBC is an important theme for many parties. However, this broad interest also leads to significantly fragmented initiatives. In addition, it is obvious that this theme is also not always given the attention it deserves. It is often the first item to be dropped from the list of priorities in urgent situations. Furthermore, fine words do not always lead to concrete actions. And there is no clear problem owner. No organization feels that it has an intrinsic duty to take the lead in this area, so most parties adopt a wait-and-see attitude. But CBC is a textbook example of an activity that serves a common interest. Something that must to be approached collectively. Because the desired results will not be achieved unless everybody participates. As long as this non-binding character remains, the long-term viability of many cross-border projects will remain a bone of contention. But how do we ensure that everyone participates?

Regional development theories show that there is no single magic formula. The development of regional ecosystems depends on the context, the historical background. One thing is certain though: cooperation is important in every region. Jointly drawing up a cross-border economic agenda can go a long way towards creating the right level of support. And when we say jointly, we mean the business community, government authorities, social organizations and education. In other words, the quadruple helix. An obvious approach on the face of it, but also one that generally fails to materialize in practice.

Decades of attempting to implement CBC teach us that we probably still have a long way to go before we can truly speak of a Euroregional labour market. The important thing is that we need to discuss the right issues and not be afraid of working together to exploit opportunities and boost innovation. We also need to abandon political jargon that tends to act as a deterrent: i.e. terms like Euroregions and CBC. Instead, we should be talking about opportunities, possibilities and removing obstacles. To put it in business terms: the creation of added value.

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Chapter II

Cross-border shopping in the Euregio Rhine-Meuse-North

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Abstract

This research examines how Dutch border retailers are responding to business opportunities from cross-border shoppers as a specific target group. Further on, it describes shopping behaviour of German cross-border shoppers in the Netherlands.

Interviews about their marketing policy are conducted with four Dutch retailers in the euregion rhine-meuse-north. The retailers are chosen according to their shop location in the euregion in order to cover as many parts of the euregion as there are represented in this research.

The cross-border shoppers were questioned with two different surveys: an online version that answered general questions about reasons for and frequency of shopping in the Netherlands and 'keep', 'repel', 'push' and 'pull' factors as described by Spierings & van der Velde (2008). A second survey was conducted among shoppers in a city center that welcomes many border shoppers, in order to find out which specific shops were attractive to them.

Border retailers focus mostly on giving their customers a good product portfolio. They select products which they believe fit their target group. Some of the retailers also analyse data from their customer service in order to find out whether to include certain new products or not. Price is the most important factor they take into account when they accept a new product in their shop.

Customers are product-driven and looking for lower prices than in their own country, but they also see their shopping trip as a day out. This means that they combine their visit to the cross-border shop with a visit to shops in the surroundings. Nostalgia is another driver for shopping across the border, along with shopping for other families and convenience in accessibility of the shops they want to visit.

1. Introduction

When we think of of “borders” we emphasize territorial matters, with national borders as a symbol for the separation between nations and borderland as the space that runs exactly along the two sides of an international border. When thinking about boundaries, we also think of differences, for example between „we“ and „them“, and in a spatial sense between „here“ and „there“ (Szytniewski, 2018).

In the European Union there have been open internal borders for decades. When we look at how often we shop across borders, this openness is used a lot. Cross-border shopping is daily practice in European border countries. This involves both functional and recreational shopping (Makkonen 2015; Guereño-Omil, Hannam and Alzua-Sorzabal 2014; Amante 2013; Spierings and Van der Velde 2013; Dimitrovic and Vida 2007).

Along the borders of the Netherlands you see all kinds of supermarkets, mostly independent entrepreneurs who know how to respond smartly to, among other things, price differences that become visible close to the national border. They do not perceive the proximity of the border as the end of sales area, but rather as an opportunity. Due to the price difference they attract a new target group: cross-border consumers or border shoppers.

2. Research problem, research aim, research approach

After obtaining an overview of how often, where and for which products cross-border shoppers are doing their grocery shopping at the other side of the border, this chapter will explain the research topic, introducing the problem and the aim of the research,. Finally, the reader finds an outlook on the approach to finding data.

2.1 Research problem

The retail trade in the Dutch border regions is largely dependent on consumers from neighboring countries. This is evident from, among other things, the recently published cross-border sales flow survey by BRO (2019). Out of more than 1 billion euros in influx to Limburg, no less than 691 million comes from Germany. In the city center of Venlo this is even higher: 71% of the turnover of daily articles derives from Germans. This influx is also clearly visible on the streets of the border regions: just think of the many foreign number plates and the German-language promotional material at retail facilities. The outflow to Germany, on the other hand, is a lot lower. It is therefore important for the economy to keep the foreign consumer friendly. But how do you, as a supermarket, respond optimally to the German shopping tourist? Little scientific research has been done yet on this topic. To fill a scientific gap, this study examines the target market of frontier supermarkets and the marketing and sales strategies of the store owners.

Research question

How can border food retailers respond optimally to the international context of the Euregion Rhine-Maas-North?

- How can the different target groups purchasing at the cross-border food retailers be defined?
- To what extent do border retailers respond to the wishes of the target group with their marketing strategy?
- To what extent do intercultural skills play a role in the sales strategies of food retailers?

2.2 Research aim

Especially the combination of the description of the cross-border consumer target group, the consumer behavior that this group displays and the match with the existing marketing and sales will be relevant for the border entrepreneurs in the region. That is why this research will focus on describing the consumer behavior of the cross-border consumer groups from the Venlo region as precisely as possible. A next step is to advise how retailers can adapt the marketing within their business model as effectively as possible to existing and future consumer behavior.

2.3 Research approach

In this research, both qualitative data and quantitative data will be conducted, so this means the research approach used is mixed methods. The basis for the questions used in the interviews and the survey lie in a literature review.

In order to find out which strategies border retailers use for selling and marketing their shops and their goods, semi-structured interviews were conducted. The goal was to cover as many geographic parts of the euregion as possible and to have a wide range of shop formats.

In the second part of the research two surveys with cross-border shoppers were carried out. The first survey was two-phased, with the first phase consisting out of quantizable exploratory items in order to gain a better understanding of the cross-border shopper profile. The second phase of the survey was built out of items underlying variables of the conceptual model that examine the general motives fundamental to cross-border shopping behaviour as found by Spierings and van der Velde (2008).

3. Literature review

An important factor relevant to this research is the emergence of the cross-border consumer flow. From the 1950s onwards, many Germans came to the Netherlands to do their shopping, especially looking for cheaper butter and coffee. Luxury goods such as these were particularly popular at the time. This purchasing stream was also referred to as the "Butterfahrt" (the "Butter Trip"). Shortly after the Second World War, this flow of buying tourists was not always viewed positively. Yet this phenomenon has never left the border region ever since (Seelen, 2018).

This research investigates which products are the most popular or relevant for the border shoppers now and whether price is still their strongest motivation to shop abroad.

When shopping across the border, it becomes clear that borderland can be a place where people of different social and cultural backgrounds meet, exchange, interact and even form "distinctive borderland cultures and transnational regionalities" (Soja, 2005: 38-39). It could be argued that their own "shopping culture" is being formed in the border shops.

But what is the reason consumers cross the border to shop or run errands? Nowadays, everything from all over the world can be ordered online in a very short time at all price and quality levels?

De Vreeze (2020) writes about a factor that influences whether shoppers cross the border or not: "Bas Spierings and Martin van der Velde (2008) describe in their research the influence of familiarity (in which consumers only accept a certain degree of unfamiliarity) on the attractiveness of a location across the border. A distinction can be made here between "keep", "repel", "push" and "pull" factors. With keep factors, "home" is seen as more attractive and with "repel" factors, "the other region" is perceived as unattractive. The "push" and "pull" factors on the other hand ensure that consumers do cross the border. Here, "push" factors make "home" seen as less attractive, and "pull" factors consider "the other region" attractive. More knowledge or experience of the border region can then ensure that, for example, a repel factor is changed into a pull factor and vice versa."

This study therefore examined whether familiarity has the same effect on the attractiveness of food retailers. Do border shops become more attractive to border shoppers the more you visit? What are the incentives (push or pull factors) that draw consumers across the border to the store? Therefore, these questions are included in the survey questions.

4. Methodology of hypotheses

In order to find out which strategies border retailers use for selling and marketing their shops and their goods, four semi-structured interviews were conducted. First of all, a list of all Dutch retailers in the euregion Rhein-Maas-north was composed. After telephoning all retailers on the list, several of them offered to cooperating in the research. One retailer indicated that he was interested in the research, but did not have time for it. Three retailers were not interested. Four retailers were selected based on their location. The goal was to cover as many geographic parts of the euregion as possible and to have a wide range of shop formats. Unfortunately, there weren't any retailers from the southern part of the euregion who wanted to contribute to this research. Shop formats were varied though. From a store branch (with many other franchised supermarkets) in the middle of a shopping center to a family owned grocery shop right at the border. Three retailers were owning the shops, one interview was conducted with a store manager. All interviews were held in the period December 2019 until February 2020. This means that all data represent the pre-Covid19 situation, when people were not advised to avoid crossing borders as much as possible yet. The topics that were discussed with the retailers were organised in topics, like their marketing strategy, their view of the customer group in their shop and the perceived customer behavior. Moreover, the sales strategy and the intercultural development and sales training of the personnel and possible growth options were discussed. During the interview, all topics on the list were covered.

In the second part of the research two surveys with cross-border shoppers were carried out.

The first survey was two-phased, with the first phase consisting out of quantizable exploratory items in order to gain a better understanding of the cross-border shopper profile. The second phase of the survey was built out of items underlying variables of the conceptual model that examine the general motives fundamental to cross-border shopping behaviour as found by Spierings and van der Velde (2008). The survey did not include any open questions. The disadvantage of using only quantitative data in the survey is that this does not provide extra information on underlying motives of the respondents (Verhoeven, 2018).

Based on a power analysis calculation, a sample size of n=89 was required to ensure reliability for this study. Before the final survey was distributed, the survey was tested with a pilot that examined the experience of eight native Germans.

The pilot was implemented to ensure that all questions were easy to understand and did not contain any jargon. Minor modifications were made on the wording of some questions based on output from the pilot. The survey was distributed through several channels. First, it was posted on the social media channels of the research group 'Cross-border Business Development'. Secondly, several groups were asked to complete and distribute the survey in their network, these groups included but were not limited to: German lecturers, the German students of the high-potential project, and the business network of the research group. In addition, the snowball sampling method was used. With this method respondents from the direct network of the researcher were asked to fill in the survey and then asked to send this within their network.

4.1 Measurement instrument

The items of the survey were formulated as statements. Respondents were asked to provide answers for each statement on a 5-point Likert scale. The answer-scale ranged from 1='Very unimportant' to 5='Very important'. Survey items were formulated both negatively and positively to minimize response bias (Schriesheim, 1981).

The construct 'product range' was measured with three self-written items about the importance of a wide assortment. After a reliability analysis on the items underly construct 'Product range' the item 'Ein Einzelhändler sollte eine limitierte Productpalette anbieten' was deleted as (α=0.50) increased to (α=0.65). After deleting the latter item, the construct 'product range' consist out of 2 items, where a high score indicates a high preference towards a wide store assortment.

The construct 'price' was measured with four self-written items about the importance of a low in store choice. After a reliability analysis on the items underly the construct 'price' the item 'Ein Einzelhändler sollte Markenprodukte anbieten (z.B. zertifizierte Bio Lebensmittel)'("A retailer should offer brand products, e,g, certified organic products.") was deleted as (α=0.65) increased to (α=0.82). After deleting the item, the construct 'price' consists out of three items, where a high score indicates a high preference towards low prices.

The construct 'Place accessibility' was measured with three self-written items about the importance of an accessible location. The reliability analysis on the items that underly the construct was (α =0.68). A high score on this construct indicates a high preference towards a retailer with an accessible location.

The construct ‘international focussed promotion’ was measured with four self-written items about the importance of German or international tailored promotion and communication. The reliability analysis showed that the construct of International focussed promotion was (α= 0.90). A high score indicates a strong preference towards a retailer with international focussed promotion.

The construct ‘unfamiliarity’ was measured by people’s tendency to choose familiar products and experiences over unfamiliar products and experience. Items underlying the familiarityconstruct were answered on a scale that ranged from 1=’Never’ to 5=’Always’.

Familiarity construct

The reliability analysis showed (α= 0.67). A high score indicates a strong preference towards unfamiliarity.

Biographical data.

Several demographical factors were measured. The following factors were included: age, income, marital status, distance to the border, option to travel by car and the understanding of the Dutch language.

Motivation

The motivation for cross-border grocery shopping was tested through the question “main shopping reason”. The answer-scale was based on the most used cross-border shopping reasons of the purchase flow research of Limburg (BRO, 2020).

Facilities.

The attitude of cross-border shoppers towards food retailers offering eating facilities was tested with a yes or no question. A combination of grocery shopping trip with a restaurant visit was tested with an answer-scale that ranged from 1= ‘Never’ to 5=’Always’

Specialty products.

The item ‘interest in buying higher priced specialty products’ was tested with an answer-scale that ranged from 1=’Never’ to 5=’Always’.

Advertising.

Two items on advertising were asked to identify the importance of online advertisement and outdoor-exterior advertisement in the decision to shop at an unknown food retailer. Both were measured with an answer-scale that ranged from 1='Never' to 5='Always'.

First, the data were analysed on irregularities. Secondly, a reliability analysis was done for each construct to test for reliability. Furthermore, an explorative factory analysis was done to check if the items underlying each construct could be used as one variable. Next, a correlation analysis executed to identify relationships between the used variables. Finally, a hierarchical regression analysis was done to estimate the effect of the independent variables (4P's and unfamiliarity) on the dependent variable (shopping behaviour). The quantified exploratory questions were analysed with frequency tables and a cross-tab analysis.

4.2 Measurement item- case specific data

To collect the case specific quantitative data, a survey was constructed to gain additional knowledge on the store- and product choices of cross-border shoppers in Venlo. The respondents for the survey were approached in the city centre of Venlo. The offline method of collecting respondents ensured consumers were familiar with a specific cross-border retailer in Venlo, and therefore able to answer the questions. Second, this method ensures all surveys are fully completed. Respondents were collected in the period of 3-07 till 5-07. All three sampling days were executed in the weekend, as weekend days attract the most German cross-border shoppers. The purpose of the second survey was to gain an overview of the potential reasons in Venlo drive consumers to shopping in certain shops in the city center of Venlo, but refraining from shopping in other shops.

Additional case-specific data were collected to gain better insight on store- and product choice behaviour, to identify reasons cross-border shoppers choose a certain shop and refrain from going to other shops. The quantitative data was collected through a survey of 15 questions that included both closed- and open questions. The advantage of using open questions in the survey is that this provides more detail and allows for new insights (Verhoeven, 2018). Since the purpose of this survey is to collect case specific insights including open questions are favourable.

To receive insight in wat motivates cross-border shoppers to (food) shop in Venlo consumers were asked about their reason to visit Venlo, how often they visit, and the motives of their shopping trip. The answer scale for the choice of shopping in Venlo was derived from the questionnaire of the purchase flows of Limburg (BRO, 2020) to increase validity of this question. The answer scale on the motives behind the shopping trip was based on the motivation of shopping types defined in the theoretical framework. In addition, the respondents were asked which products and/or services they miss in the food retail sector of Venlo by means of an open question.

In order to find which food retailer attracts the German cross-border shopper, consumers where asked to name the most important food retailer in Venlo. Secondly, an open follow-eup question was used to test their motivation behind choosing that particular store. Additionally, the respondents were asked which products they searched for across the border by means of an open question.

To get insight in the expenditures of cross-border shoppers, respondents were asked how much they spend during a shopping trip. The answer scale ranges from 1=0-30€ till 5=more than 90€. Second, the cross-border where asked if they also spend their budget at their main store. If this question was answered with no, an additional open question was used to learn where they did spend their budget.

The first step in the analysis of the consumer research in Venlo involved coding the open questions. The coding of the open questions was done in Excel. Then, the data were analysed with the software program SPSS Statistics. The quantizable questions were analysed by frequency tables. The categorical data were analysed with a cross-tab analysis.

5. Hypotheses

The expectation is that cross-border shoppers' main reason to do their groceries across the border is that there is a price advantage, combined with funshopping in another surrounding (push/pull factors).

The second hypothesis is that cross-border shoppers are influenced by the marketing mix that is adapted to them.

It is also expected that cross-border retailers adapt their marketing and sales strategies based on their intuitive knowledge about products, prices and culture.

6. Results and Discussion

Within this study both various border retailers and consumers were interviewed. Despite of the specific attention to the border area around Venlo, the following insights and recommendations apply to the entire Dutch-German border area.

The first survey was completed by 92 respondents, of which 50 females, 34 men and 7 participants who did not specify their gender. Most respondents belong to the age group between 18-30 (44.6%), 13% of the respondents are between 31 and 40 years of age, 20.7% of respondents fall in the age category 41-50, 10.9% is between 51-60 years old and 9.8% is over the age of 60. The largest percentage of respondents is single (38%), 35.9% of the respondents are in a relationship, 8.7% is in a relationship with children, 5.4% is single parent and 9.8% is married (with children). Most respondents have an income of less than €1000 (26.1%), followed by the income group €1000-€2500 (28.3%), and the income group €2.500-€5000 (27.2%). Respondents who have an income of more than €5000 are the smallest group (7.6%). The largest group of the respondents live 30km or further away from the border, 31.5% live within 0-10km or between 10-30km (31.5%).

To get a complete overview of the data, the descriptive statistics (mean, standard deviation and mode) were collected via a SPSS analysis. The outcome per construct, will be described below.

Overall, German consumers tend to favour food retailers that offer a large number of product categories, as the mode shows a score of 4 and the mean lies above the neutral point (3). Most respondents are neutral towards the relevance of offering non-food categories, since the mode and the mean are both centred around a 3= "Neutral". Furthermore, most respondents do not favour stores with a limited number of product choices, as the mean lies below the neutral point and the mode indicates that largest group of people is indifferent. The standard deviation is relatively high, therefore it should be considered that there is a variance in product-range preference.

The mode (4) suggests that the largest group of people in the current data-set favour retailers with lower prices, whereas the mean is centred around the neutral point. Since the standard deviation is relatively high (SD=0.97), this could indicate that preference to price is very personal and/or circumstantial. The mean (3) suggest that – on average- consumers have a neutral attitude towards promotional offers and lower priced brands. However, the standard deviation of this item is high (SD=1.12, SD=1.04) and indicates a high variance in answers. Considering the mode of both promotional offers and lower priced brand (4) suggests that both items are found important by the largest group of the data-set. Finally, the mean (3) and mode (2) of the item focussing on high quality brands suggest that the largest group of this sample size finds high quality brand unimportant, while generally speaking there is relatively high variation in opinion (SD=1.04).

The mean (4) and the mode (5) suggest that the availability to park nearby is an important factor that determines the attractiveness of a food retailer from a consumer's perspective. Moreover, the standard deviation is relatively low (SD=0.68) indicating a low variance between the answers. Although the mean(3) and the modus(3) suggest that consumers – on average - do not find it very important whether a food retailer is located in the middle of the city centre, the standard deviation suggests (SD=0.89) there is a high variance in the answers. The largest groups of respondents find it unimportant whether the store is located in a trendy area, the mean lies also below the neutral point indicating that a trendy area, generally can be considered as not (very) important

The mode (3) and mean (3) suggest international focussed promotion and multilanguage outdoor advertising in general seems to be less important. The standard deviation (SD=1.11, SD=1.09) are high, indication high variance in the answers. The mean (3) suggests consumers have – on average- a neutral attitude towards Multilanguage digital advertising. However, the standard deviation is high (SD=1.21) and the mode (4) suggests that the largest group of the sample finds Multilanguage digital advertising important. Both the mode (3) and mean (3) indicate a neutral attitude on country specific advertising.

Next, a correlation analysis was executed to identify the relations between the variables that were used in the conceptual model. Promotion and price have the strongest correlation, indicating that German consumers who find price important generally also find German specific promotion important. Promotion also shows a positive correlation with place, indicating that consumers who find international focussed promotion important, also find accessibility important. In addition, there is a moderate positive relation between price and both place and price, showing that consumers who search for low prices also find accessibility of the store and stores with wide assortments important. In addition, shopping frequency positively correlates with place and unfamiliarity. The latter is expected, as consumers who search for unfamiliar experiences or products are more likely to cross the border. Interesting is the fact that international focussed promotion does not correlate with shopping frequency. Based on the literature it was expected that international focussed promotion could add to the shopping behaviour of German cross-border grocery shoppers.

The second survey was completed by 42 respondents, of which 23 females and 19 men. Most respondents belonged to the age group between 18-30 (18%), 9.5% of the respondents were between 31 and 40 years of age, 10% of respondents fell in the age-category 41-50, 14.3% was between 51-60 years old and 9.5% was over the age of 60. The largest percentage of respondents were in a relationship (40.5%), 31% of the respondents were in a relationship and had children, 7.1% were single parents and 11.9% were married (with children) and 9.5% were single. Most respondents had an income of €1000-€2500 (33.3%), followed by the income group less than €1000 (26.2%), and the income group €2.500-€5000 (21.4%). Respondents which had an income of more than €5000 were the smallest group (11.9%). The largest group of the respondents lived 10-30km (38.1%) away from the border, 28.6%% lived within 0-10km or further than 30km (33.3%).

The results of the consumer research in Venlo show that the cross-border shopping trip of most respondents is to buy products that have lower prices in the Netherlands (45.2%). 31% of the respondents classify their shopping trip as a fun trip, and 23.8% said to shop for specific products but also consider it a pleasurable trip.

Additionally, the results show that most respondents are not frequent shoppers. About 60% of the respondents shop once a month or even less often. The respondents were also asked why they choose Venlo as their shopping destination. The results show that there are two significant reasons. Most of the cross-border shoppers, about 60%, visited Venlo for a specific store. About 17% choose Venlo for the atmosphere. The respondents were also asked which products or services they currently miss in Venlo. 54.8% had no opinion about this and 28.6% stated that they do not miss anything in the food retail sector (merely fashion stores). 14.3% of the respondents did say they missed vegan products or restaurants.

An interesting result is that almost 80% of the respondents said food retailer 2Büder is the main store during their visit. These results suggest a strong preference of the German cross-border shopper for food retailer 2Brüder. The most mentioned reasons for the main store choice can be categorized as the stores: (Wide) Assortment (31%), Tradition/Atmosphere (13%) and Low prices (26.2%). Other reasons mentioned were convenient parking facilities (7.1%) and specialty assortment (4.7%). The products that cross-border shoppers search for are mainly Dutch products (38.1%) or products that have lower prices across the border (38.1%). Example of Dutch products include hagelslag (chocolate sprinkles), stroopwafels (syrup waffles) and frikandellen (fried sausage). Products with lower prices are mainly packages of coffee and soda cans. Some respondents have no specific product goals (11.9%) or come to buy (daily) fresh products (11.9%).

Most respondents spend about 70€-90€ (28.6%) or more than 90€ (26.2%) during their cross-border shopping trip. About 21% spends between 50-70€. Most cross-border shoppers spend their budget at one store (69%). The remaining 31% spends their budget either at various stores and/or on a restaurant visit. The most important criteria in selecting a restaurant include low prices (33.3%) and a good price-quality ratio (33.3%).

The results also showed that 84% of the consumers who visits Venlo for a specific store, consider 2Brüder to be their main food retailer. Most respondents consider 2Brüder the main retailer during their visit, and 75% also spends most of their budget at this food retailer. Similarly most of the consumers who mainly shop AH XL spend most of their budget in that particular store (67%). About 86% of the respondents who mainly search for Dutch products, consider 2Brüder to be their main food retailer. Similarly, about 94% of the respondents who mainly shop for products with lower prices in the Netherlands consider 2Brüder as their main store. Respondents that mainly searched for fresh products mostly visit the market (80%), and respondents who shop with no specific product goal consider 2Brüder (60%) or beejBenders (40%) to be their main store.

Interviews with retailers

The main findings all retailers mentioned, are:

- The average border shopper crosses the border once every 4 - 6 weeks to do some shopping
- German border shoppers are willing to travel relatively far for their border retailer (sometimes up to 250 km).

Two out of four interviewees state that the history of the Butterfahrt still plays a role in the target group that comes to do their shopping across the border. In addition to the fact that consumers cross the border because of lower prices and a wider product range, many consumers in the Venlo city center indicate that the feeling of nostalgia and tradition is an important reason to cross the border to do some shopping. A frequently heard response from German shopping tourists is: "Grandpa and grandma already went shopping with the (grand) children in Venlo". This custom is then passed on from generation to generation.

Moreover, the border shoppers do not only cross the border for their own shopping. They collect lists of family, friends and acquaintances and then do the shopping for all these families. Coffee, drink cans and medicines have traditionally been the main products for German border shoppers. Dutch pastries, sweets and products such as sprinkles are also very popular. The primary reason for crossing the border is price difference and difference in product range. However, border retailers can put a considerable margin on Dutch pastries and sweets, because no price comparison can be made with German products. Not only the independent border supermarkets but also franchisees of the national supermarket chains in the border region are therefore responding to opportunities that are not always recognized as such by the head office. Examples are new products within the coffee category or completely new product categories developed by stores themselves. Albert Heijn XL in Venlo Trefcenter has completely renewed its own coffee category and repositioned it in the store. Not only have new products been included, the layout of the shelves and the location in the store has also changed. The assumption made by the interviewed retailer is that the category scores better than before.

German border retailers also indicate that their customers value friendliness and even joviality very highly. Walking with the customer when looking for a product or a chat with the supermarket owner are things that are not so common in German supermarkets. Employees who speak German have an advantage. Best practice example of this is the 2Brüder, located in the city center of Venlo (and recently also in Enschede). They are known for their friendliness: some employees here even take customers by the arm when they are looking for a product. They have set up a customer-friendliness training course for all their employees.

A less important, but certainly not unimportant factor, are the parking options and the accessibility of shops. The border shopper opts for convenience. Parking close to the shopping area is generally more important than free parking. The vast majority of German border shoppers come by car. Sometimes people travel up to 250 km to do the border shopping. Nearby parking is therefore an advantage for shops that focus on the border shopper. The car must be easily accessible with the fully loaded shopping cart. Moreover, it appears that German border shoppers attach great importance to the accessibility of shops. It is not only important that a shop is located near parking facilities and in the central city center, for example. The location of a retailer influences the attractiveness of the store. Shops in the unknown parts of the city or are therefore less attractive for border shoppers. To illustrate: in Venlo, most German visitors park on the Nolensplein. Then there is a "fixed" walking route to supermarket 2Brüder and the rest of the city center, which leads through the German corner of the city. In the German corner are shops that have Germans as their main target group. Shops that are located directly on the Nolensplein, but on the other side than the walking route, are less frequented by Germans than the shops towards the city center. The same phenomenon occurs at shops that are not attached to the popular shopping street or in the loop.

In addition, border shoppers are more willing to buy products that are unknown to them. Furthermore, the border shoppers often combine their shopping trip with a catering visit or with a visit to other retailers. Many border retailers have a number of other complementary stores next to them. This may not be surprising in the city center, but this phenomenon is very visible at the retailers at the border. One could speak of small shopping clusters. Next to the supermarket is usually the fish shop, the florist and the catering establishment, which all benefit from each other‘s presence. If one falls away the other will feel the consequences. Some entrepreneurs therefore actively aim for synergy in the range of shops by purchasing retail locations and renting them out to suitable entrepreneurs who respond to the same target group.

Conclusion

The current study assumed that preference for unfamiliarity had a direct influence on shopping behaviour. The results showed that unfamiliarity has a significant positive effect on shopping behaviour. This indicates that consumers who search for unfamiliarity tend to cross the border more often. This result is in line with the expectations based on previous studies (Spierings & van der Velde, 2017; Kim & Kwon, 2018). This implies that consumers who cross the border to do groceries tend to search for new experiences and unfamiliar products.

In the current study it was assumed that the biographical data (control variables) had a direct influence on shopping behaviour. The results of the analysis show that income has no direct influence on shopping behaviour. A possible explanation for this would be the fact that many cross-border shoppers see cross-border shopping as a recreational trip, studies show that consumers are willing to spend more on leisure activities (Hong, Fan & Palmer, 2005).The results did show a significant direct effect of marital status on shopping behaviour. A possible explanation is seen in the fact that (married) couples mostly go on vacations together, and as cross-border shopping is seen as a form of tourism by several scholars, it can be assumed that they cross-border shop together and are likely to have company on standby (Timothy, 1999). Furthermore, the results show a significant effect of age on shopping behaviour, suggesting that people with a higher age are more likely to go cross-border shopping. This can be explained by the fact that older consumers, generally have more time available and are more likely to make a day trip for their grocery shopping trip. Finally, the results showed a significant negative effect of distance to the border on shopping behaviour. This was in line with the expectations as several theories show that cross-border shopping frequency declines with a longer distance (Szytniewski, 2018) (Houtum, 1999).

How can cross-border retailers respond optimally to cross-border consumers? There are a number of factors important in order to attract more German customers:

- Since price is one of the main drivers for cross-border shoppers, offer products that have clearly different tax rates on both sides of the border. Due to tax differences, coffee and tea can be offered cheaper in the Netherlands.

- The visited border retailer is therefore not the primary shopping location for groceries, but rather the secondary/tertiary. That is, the border shop is not for the weekly, regular groceries, but rather for stock purchases or special groceries.
- Opt for a complementary range. Offer products that are not or hardly available in Germany. Related products such as pastry or typical Dutch products score well.
- Choose a strategic location in the city center or along the border. It is important to be easy to find. That one street just around the corner may be just a bend too far. If a store is not on the walking route, promote its location and how to get there. If you settle in a somewhat quieter place, for example right on the border, check whether there are complementary shops or restaurants. Make sure you strengthen each other!
- German attach great importance to tradition. In general, the interior in German shops and restaurants is often a bit more old-fashioned. Therefore, provide “nostalgic cosiness” in the shop. A typical old Dutch furnished coffee corner scores points. In addition, politeness and friendliness in the store is of great importance. Train employees to chat with the customer, preferably in German!
- The shop should be located near a parking facility. This aspect should also be used visibly in the communication to the German customer. Free parking is good, parking close by is even better.

These results were mostly found before, and partly during, the corona crisis. During this pandemic and especially when there was a clear rise in the infection number, less shoppers crossed the border to go shopping. An interesting question for further research would be to see whether online retailers benefited from the lower sales from border retailers during the Corona crisis.

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Chapter III

As the Dutch economy is not dependent on Germany, firms find stable conditions in cross border business

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ABSTRACT

In contrast to common believe, evidence shows that the Dutch economy does not depend on the state of the German business cycle. An analysis of annual GDP growth data on different geographical levels (country, province, regions) reveals only very limited correlation between the economic growth in the Netherlands and Germany.

For companies in the border region, this means that they can expect to find more macroeconomic stability as they extend their market across the border and are flexible in relocating their activities according to differing national or regional business cycles.

Keywords: Business cycles, growth, interdependence, economic integration, , Germany, Netherlands, cross-border business

1. INTRODUCTION

Testing the degree of interdependence between the German and Dutch economy on different geographical levels, this research is aimed to capture whether companies that are engaged in regional cross-border business are operating in a similar, a more stable or a less stable macroeconomic environment than purely national competitors.

Entering new geographical markets can allow firms to exploit new opportunities by expanding the scope and scale of their business (Caves, 1971), fostering organizational learning & technology spillovers (Casillas and Moreno-Menéndez, 2014), realizing cost reductions through improved purchase & production (Wagner, 2004) and achieving risk reduction through spreading business activities (Figueira-de-Lemos et al., 2011).

On the other hand, even if two markets are geographically close, as in the case of a Dutch or German border-located company accessing the neighboring Dutch or German market, cross-border market entry often requires overcoming substantial entry barriers (Hutchinson et al., 2009). These barriers can take the form of necessary capital investments (Caves, 1971), human resource requirements (Onkelinx et al., 2016), additional marketing efforts (Burt and Sparks, 2002), product or service design adaptions (Calantone et al., 2004), information & management costs (Richter, 2014), legal barriers (Acs et al., 1997) and more.

Expanding business activities to the other side of the border, a firm will both encounter new opportunities as well as face costs linked with internationalization (Ruigrok and Wagner, 2003). Cross border business will be beneficial to a firm if the expected revenues from exploiting the opportunities will exceed the expected cost of accessing the foreign market.

Embedded in a broader research agenda aiming at a full assessment of the strategic attributes of the Dutch-German border region for cross-border business activities by small- and medium-sized enterprises (SMEs), this research has a focus on the aspect of risk reduction through extension of operations on both sides of the border.

2. RESEARCH PROBLEM, RESEACH AIM & RESEARCH APPROACH

The underlying question to this research is whether being located at the border is a strategic advantage or disadvantage to companies. Therefore, it must be analyzed to which degree the locational border setting of a firm creates opportunities which can be realized through a process of internationalization.

A potential opportunity can arise from a beneficial impact of geographical diversification on the macroeconomic risks that a company is facing. A purely domestic company is fully exposed to the ups and downs of the own country´s economy. Expanding business on a foreign market could smoothen the path of the macroeconomic environment in which a company operates if the two countries show countercyclical or at least sufficiently independent economic trends. The following analysis aims to answer the following research question:

How integrated and interdependent are the regional and national economies of Germany and the Netherlands?

A macro-economic, quantitative approach will be applied in answering this question. Based on secondary economic data interdependencies in business cycles between Germany and the Netherlands will be analyzed on different levels of geographical classification. Studies on cross border business cycle integration typically use data on the levels 1 (countries) & 2 (states/provinces) of the European system for statistical geographical units NUTS (*French*: *Nomenclature des unités territoriales statistiques*)(Gómez-Loscos et al., 2020). Limiting the broader geographical realm to Germany and the Netherlands allows us to analyze economic dependencies on the more detailed NUTS 3 (counties) level. This adds a new, more detailed perspective to the research on cross border economic integration.

3. LITERATURE REVIEW

As companies internationalize, they are most likely to enter a neighboring country with comparable legal, cultural and economic properties. According to the Uppsala model of internationalization, the typical firm will, in an incremental, reactive process, first target a market with low adaption, transaction and learning costs. The company will then learn, commit to more intense forms of international business and eventually enter further markets (Johanson and Vahlne, 1977).

Minimizing the risk that is associated with international business is a predominant feature in this behavioral pattern. Entering a geographically close foreign market allows risk reduction in two ways: knowledge gaps are smaller compared to more distant markets which reduces uncertainty. Moreover, spatial proximity allows for low-commitment entry, as exporting or pure sales dependencies are more easily realizable without the need to contract with local agencies, enter cooperation's or commit to substantial foreign direct investments (Johanson and Vahlne, 1977, Figueira-de-Lemos et al., 2011).

While the Uppsala model focuses on risk and uncertainty resulting from a company´s internationalization activities, international business authors point to risk reducing effects of geographical diversified business activities. Huchzermeier and Cohen (1996) model adaptive behavior of international companies reacting to macroeconomic changes by shifting and re-allocation of business activities and resources among international markets, whereby a risk reducing effect mainly occurs at a limited number of foreign market accesses while being offset by organizational inefficiencies and frictions for highly internationalized companies. According to real options theory, international enterprises have a higher degree of flexibility in responding to environmental changes (Reuer and Leiblein, 2000). This can have a stabilizing effect on a company´s income stream (Caves, 1996) and improve its risk-return ratio (Qian, 1996).

Summarizing, risk is a decisive factor in companies internationalization strategies both in terms of a limiting cost factor and a source of opportunity. Additional risk caused by the internationalization activities is predominantly market risk due to uncertainty about local preferences, demand and competition in the target country. Risk reduction through international diversification limits mostly country risk in the sense of unexpected macroeconomic changes. This leads to an interesting target conflict: the closer home and target country are, the lower the risk related market entry costs. On the other hand, close or even neighboring countries tend to have a stronger economic integration which would reduce the flexibility enhancing effect of an international company structure.

Interdependence and synchronization of regional business cycles is subject to research in all parts of the world. Several studies provide analysis of country's internal business cycle homogeneity as in Gadea et al. (2012) for Spain, Hayashida and Hewings (2009) for Japan and Park and Hewings (2012) for the US. Other studies include international perspectives as Ramajo et al. (2008) for the European Union, Barrios and De Lucio (2003) for Portugal and Spain, Clark and Van Wincoop (2001) for the EU and US or Phillips and Cañas (2008) for Mexico and the US.

Evidence on business cycle synchronization is mixed. Clark and Van Wincoop (2001) report a higher degree of synchronization for the US federal states compared to the EU member countries. While Fatás (1997) sees a declining significance of national borders and increasing cross-border correlation for European regional economies, Ramajo et al. (2008) conclude that business cycle synchronization between European regions has slowed down or even stopped. Gómez-Loscos et al. (2020) recently state that regional economic co-movement in Europe is "quite low". Several studies see clusters of regions with homogeneous business cycles and heterogeneity between the different clusters (Ramajo et al., 2008, Gómez-Loscos et al., 2020).

Industry structure has repeatedly been reported to influence a regions economic integration with its mother country and other regions, with production oriented regions being more integrated with neighboring or superordinate entities than service oriented regions (Park and Hewings, 2012, Gadea et al., 2012, Barrios and De Lucio, 2003).

A popular Dutch proverb states that "as Germany sneezes, the Netherlands has a cold". While this has long time been considered an adequate description of an export dependent Dutch economy, experts increasingly question in how far the depicted dependency really exists. Despite the wide recognition of this presumed economic dependence, there is little to no research on business cycle integration between Germany and the Netherlands, especially on a regional level. This research thus fills a gap in the existing literature and aims to provide insight on the peculiar cross-border business environment between Germany and the Netherlands.

4. METHODOLOGY (HYPOTHESES)

Approach

The analysis follows a deductive, exploratory approach. The primary goal is to assess the degree of interdependence between the German and Dutch economy on a regional level. The underlying aim is to identify barriers and opportunities arising from the border location of a region. The present research is thus a starting point for a more in-depth inquiry into the peculiar economics of cross border business between the Netherlands and Germany.

Hypothesis

In order to measure the degree to which the Dutch economy is linked to the economic development in Germany, the following hypothesis will be tested:

H0: *Dutch annual GDP growth does not significantly correlate with German GDP growth*

Refining the analysis through adding geographical detail, two additional variations of the null hypothesis will be tested:

H0-a: *GDP growth in Dutch provinces (NUTS2) does not significantly correlate with German GDP growth*

H0-b: *GDP growth in Dutch COROP regions (NUTS3) does not significantly correlate with German GDP growth*

North-Rhine-Westphalia (NRW) is the German state with the highest population. With nearly 18 million inhabitants, it accounts for more than 21% of the German population. It is comparable to the Netherlands in terms of number of inhabitants and surface. Two thirds of the Dutch-German border are between the Netherlands and NRW. The analysis will therefore be extended to correlation between the two:

H0-c: *GDP growth in Dutch provinces (NUTS2) does not significantly correlate with GDP growth in NRW*

H0-d: *GDP growth in Dutch COROP regions (NUTS3) does not significantly correlate with GDP growth in NRW*

Data

Annual GDP growth data for Germany, the Netherlands, the German state of North-Rhine-Westphalia, the 12 Dutch provinces (representing the NUTS2 level partition of the Netherlands) and 40 Dutch COROP ("Coördinatiecommissie Regionaal Onderzoeksprogramma") regions (the Dutch NUTS3 level classification) is used in this report. GDP data is included for the years 1996 – 2018. Data is retrieved from Eurostat and the Dutch CBS (Centraal Bureau voor de Statistiek).

Methods

Using bivariate correlation analysis, interdependencies between national and regional Dutch business cycles and GDP growth for Germany and NRW will be analyzed. Statistical analysis is carried out in IBM SPSS 25.

Three notable events have to be considered in the time between 1996 – 2018. The 9-11 attacks in 2001 had a measurable effect on the world economy. The world financial crisis with its peak in 2009 and the Eurocrisis with a peak in 2012 are major events which affected all European economies. All three events represent massive external shocks with comparable impact on all industrialized economies. Due to their high economic impact, these shocks can create significant biases in the measurement of correlation between the economic development on both sides of the Dutch-German border. Co-movements in a moment where an external shock hits the world economy would indicate joint dependence on a global economy rather than mutual interdependence. The original sample will therefore be compared to a reduced sample which does exclude the years 2001 & 2002 (nine eleven aftermath), 2008 & 2009 (finance crisis) and 2012 & 2013 (eurocrisis).

Starting with an analysis on a national level, the geographical detail level will be increased stepwise by extending the analysis to the Dutch provinces and COROP regions.

5. RESULTS & DISCUSSION

Economic shocks & correlation of national business cycles

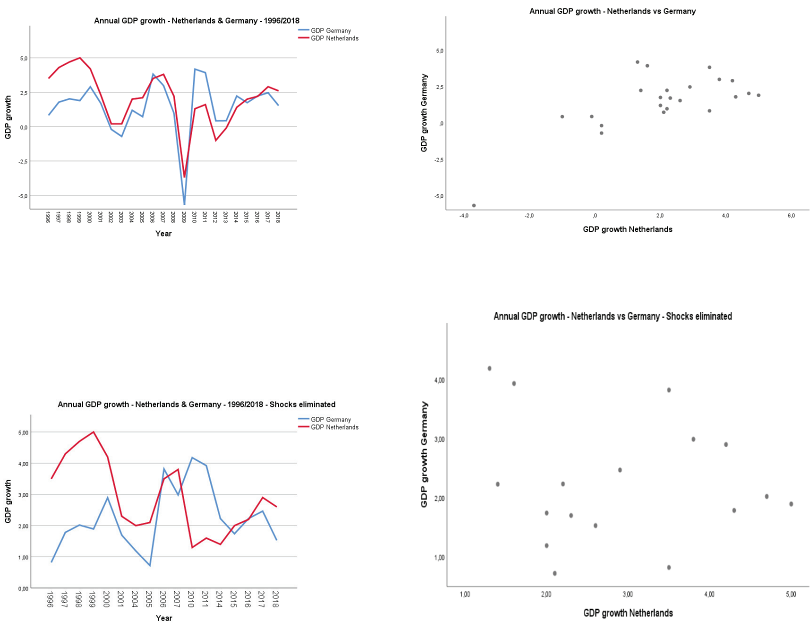

Figure 1 - GDP growth with and without years of external shocks

The three major shocks to the world economy drastically affect the co-movements of the Dutch and German economy in the observed period. Figure 1 shows the annual GDP growth curves for Germany and the Netherlands between 1996 and 2018. The upper graphs, representing the full sample, suggest a rather joint movement of the Dutch and German GDP growth rate. Omitting the years in which the aforementioned shocks affected the world economy (lower graphs) leads to a much more heterogeneous impression.

Estimating correlations between the Dutch and German GDP growth in the two samples reveals drastic differences (see Figure 2). The average economic growth rate is 2,90% in the Netherlands and 2,24% in Germany in the reduced sample compared to 2,05% in the Netherlands and 1,45% in Germany in the full sample. Including all periods from 1996 to 2018, a Pearson correlation coefficient between Dutch and German GDP growth of 0,707 is calculated, which is highly significant ($\alpha = 0{,}01$). Omitting the years with external shocks, the Pearson correlation is calculated at -0,116 with difference from zero being insignificant.

Full sample

Correlations

		GDP Netherlands	GDP Germany
GDP Netherlands	Pearson Correlation	1	,707**
	Sig. (2-tailed)		0,000
	N	23	23
GDP Germany	Pearson Correlation	,707**	1
	Sig. (2-tailed)	0,000	
	N	23	23

**. Correlation is significant at the 0.01 level (2-tailed).

Descriptive Statistics

	Mean	Std. Deviation	N
GDP Netherlands	2,9059	1,18663	17
GDP Germany	2,2418	1,02958	17

Reduced sample

Correlations

		GDP Netherlands	GDP Germany
GDP Netherlands	Pearson Correlation	1	-0,116
	Sig. (2-tailed)		0,658
	N	17	17
GDP Germany	Pearson Correlation	-0,116	1
	Sig. (2-tailed)	0,658	
	N	17	17

Descriptive Statistics

	Mean	Std. Deviation	N
GDP Netherlands	2,052	2,0095	23
GDP Germany	1,448	2,0050	23

Figure 2 - Correlation between Dutch and German GDP growth - full vs reduced sample

The figure shows the correlation between the Dutch and German annual GDP growth. In the left column, correlation and descriptive statistics are calculated for the complete sample (1996 – 2018). In the right column, correlations are calculated for the reduced sample where years of severe external shocks (2002&2003, 2008&2009, 2012&2013) are omitted. While we see a strong and significant positive correlation in the full sample, the reduced sample shows no indication for a significant correlation. Source: own illustration, tables from IBM SPSS 25

It is notable that the macroeconomic shocks that occurred in the period between 1996 and 2018 significantly alter measures of interdependence between the German and Dutch economy. These results indicate a comparably strong dependence on major global economic developments for Germany and the Netherlands on the one hand, and on the other hand a negligible systematic bilateral interdependence between the two countries´ economies. As both Germany and the Netherlands are open economies with a high share of exports, it is not surprising to see that exceptional external shocks affect both economies to a similar extent, especially as all three events had worldwide impact. In `normal´ years though, there appears to be no significant co-movement of the two economies.

All three external shocks are extraordinary in both impact and geographic scope. As the aim of the analysis is to measure systematic dependencies, the results for the reduced sample appear more representative for the actual economic relation of the two countries. In this view, there is no evidence supporting the rejection the hypothesis (*H0*) that there is no significant correlation between GDP growth in Germany and the Netherlands. The two countries appear to be more economically independent than is commonly assumed. In what follows, the analysis will be limited to the reduced sample.

Economic growth in the Dutch provinces

Even if the two national economies are statistically independent, it is still possible that smaller geographical entities show systematic co-movements. Therefore, the geographical detail of the analysis will be increased to include the twelve Dutch Provinces. Figure 3 shows correlations of the annual GDP growth of the twelve provinces with the national GDP growth of Germany and the Netherlands.

Correlations[c]

		Groningen (PV)	Friesland (PV)	Drenthe (PV)	Overijssel (PV)	Flevoland (PV)	Gelderland (PV)	Utrecht (PV)	Noord-Holland (PV)	Zuid-Holland (PV)	Zeeland (PV)	Noord-Brabant (PV)	Limburg (PV)
GDP Netherlands	Pearson Correlation	0,288	,664**	,713**	,787**	,820**	,773**	,892**	,732**	,882**	0,066	,749**	,746**
	Sig. (2-tailed)	0,263	0,004	0,001	0,000	0,000	0,000	0,000	0,001	0,000	0,802	0,001	0,001
GDP Germany	Pearson Correlation	-0,026	0,014	-0,132	-0,087	0,001	0,127	-0,292	-0,046	-0,267	,561*	-0,071	0,097
	Sig. (2-tailed)	0,922	0,957	0,615	0,740	0,996	0,628	0,256	0,861	0,300	0,019	0,786	0,712

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
c. Listwise N=17

Figure 3 - Correlation of GDP growth of Dutch provinces with national GDP growth of Germany and the Netherlands

The figure shows correlations between the annual GDP growth in the 12 Dutch provinces with annual national GDP growth in Germany and the Netherlands.

GDP growth in ten out of twelve Dutch provinces shows significant correlation with the national Dutch economic development. For two provinces, namely Groningen and Zeeland, no significant correlation can be measured. As can be seen in Figure 4, GDP growth in both provinces also shows no significant correlation with any other Dutch province.

Correlations[c]

		Groningen (PV)	Friesland (PV)	Drenthe (PV)	Overijssel (PV)	Flevoland (PV)	Gelderland (PV)	Utrecht (PV)	Noord-Holland (PV)	Zuid-Holland (PV)	Zeeland (PV)	Noord-Brabant (PV)	Limburg (PV)
Groningen (PV)	Pearson Correlation	1	0,457	0,452	0,101	0,287	-0,008	0,235	-0,025	0,180	0,008	0,162	0,165
	Sig. (2-tailed)		0,065	0,068	0,699	0,264	0,977	0,365	0,924	0,490	0,975	0,533	0,527
Zeeland (PV)	Pearson Correlation	0,008	0,192	0,053	0,102	0,091	-0,136	-0,044	-0,039	0,156	1	-0,068	0,224
	Sig. (2-tailed)	0,975	0,461	0,839	0,698	0,729	0,602	0,868	0,882	0,551		0,796	0,388

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
c. Listwise N=17

Figure 4 - Correlation of GDP growth for Groningen and Zeeland with other Dutch provinces

The figure shows correlations between the annual GDP growth in the Provinces of Groningen and Zeeland with GDP growth in the other Dutch provinces.

Economically, the Netherlands thus include two peculiar economic regions with an economic development that is only loosely linked to the overall nationwide economic growth. Groningen, with the world´s tenth biggest natural gas field, several power plants and two seaports is characterized by a significantly higher share of mineral production (9,6% compared to a national average of 0,74% in 2018, with the neighboring provinces of Friesland and Drenthe accounting for much of the remainder) and the energy sector (7,5% compared to a national average of 1,18%) in the regional industry mix compared to the rest of the country.

Zeeland is the province that shows the weakest correlation with the overall Dutch GDP development. It is at the same time the only province for which a significant positive correlation with the German national economic growth can be measured, with a Pearson correlation coefficient of 0,561 (significant at the $\alpha = 0{,}05$ level). This is remarkable as there is no joint border with Germany. For all other Dutch provinces there is no indication for a systematic co-movement of the regional economic development with the German business cycle.

Among all Dutch provinces, Zeeland has the highest share of production in the regional industry mix (35,34% compared to a national average of 22,80%). This is in line with previous studies that report stronger economic integration of regions with a high share of production in the regional economy (Park and Hewings, 2012, Gadea et al., 2012, Barrios and De Lucio, 2003). Zeeland also has the second highest share of the energy sector in the regional economy (3,92%). With a share of 3,19% in the regional industry mix, gastronomy and tourism is more relevant than in any other province. For German tourists in peculiar, Zeeland is a very popular destination. Zeeland is also home to the third biggest Dutch Seaport in Terneuzen that is an important gate for Germany´s import and export. A strong productive sector, the role as vacation destination for Germans and the function of a logistics hotspot with high relevance for Germanys international trade can explain why the province´s economic growth shows a correlation with the German business cycle.

None of the Dutch provinces that share a border with Germany shows significant correlation of its business cycle with the GDP growth in Germany. For the province of Limburg which shares 212km of common border with Germany, the correlation coefficient of annual GDP growth with Germany is 0,097.

With the exception of the province of Zeeland, based on this data it is not possible to reject the Hypothesis (*H0-a*) that there is no significant correlation between GDP growth in Germany and the Dutch provinces. GDP growth in 11 of 12 Dutch provinces does not show systematic pro-cyclic relation with the German business cycle.

Regional economic growth

While the vast majority of the Dutch provinces appears to be robust against fluctuations in the German business cycle, smaller geographical entities might still experience stronger influence and dependence. The analysis will therefore be repeated on the level of the 40 Dutch COROP-regions.

Figure 5 shows correlation coefficients of the COROP regions with national Dutch GDP growth. 15 of 40 regions show no significant correlation with the overall national economy. Five of these are regions in the provinces of Groningen and Zeeland. Eight regions are inner regions clustered around the south of the Ijssel and the surroundings of the metropolitan area of Amsterdam. With Midden-Noord-Brabant and Zuidoost-Noord-Brabant, two COROP regions in the province of Noord-Brabant that share a border with Belgium complete the set. The remaining 25 regions show significant to highly significant positive correlations with national GDP growth.

Correlation with GDP Netherlands	Pearson Correlation	Sig. (2-tailed)
Oost-Groningen (CR)	0,287	0,264
Delfzijl en omgeving (CR)	-0,092	0,726
Overig Groningen (CR)	0,222	0,392
Zuidwest-Friesland (CR)	0,011	0,968
Zuidwest-Drenthe (CR)	-0,137	0,601
Zuidwest-Overijssel (CR)	0,460	0,063
Achterhoek (CR)	0,364	0,151
IJmond (CR)	0,075	0,775
Agglomeratie Haarlem (CR)	0,236	0,361
Zaanstreek (CR)	0,460	0,064
Groot-Rijnmond (CR)	0,430	0,085
Zeeuwsch-Vlaanderen (CR)	-0,211	0,415
Overig Zeeland (CR)	0,218	0,399
Midden-Noord-Brabant (CR)	0,279	0,278
Zuidoost-Noord-Brabant (CR)	0,249	0,335

The figure shows the correlation between the GDP growth in the Dutch COROP regions and the Dutch national GDP growth. In the left table you see those regions with no significant correlation. The right table shows regions that do correlate with the national Dutch GDP.

Correlation with GDP Netherlands	Pearson Correlation	Sig. (2-tailed)
Noord-Friesland (CR)	,492*	0,045
Zuidoost-Friesland (CR)	,650**	0,005
Noord-Drenthe (CR)	,534*	0,027
Zuidoost-Drenthe (CR)	,715**	0,001
Noord-Overijssel (CR)	,636**	0,006
Twente (CR)	,576*	0,015
Veluwe (CR)	,505*	0,039
Arnhem/Nijmegen (CR)	,719**	0,001
Zuidwest-Gelderland (CR)	,891**	0,000
Utrecht (CR)	,892**	0,000
Kop van Noord-Holland (CR)	,813**	0,000
Alkmaar en omgeving (CR)	,691**	0,002
Groot-Amsterdam (CR)	,554*	0,021
Het Gooi en Vechtstreek (CR)	,693**	0,002
Agglomeratie Leiden en Bollenstreek (CR)	,695**	0,002
Agglomeratie 's-Gravenhage (CR)	,773**	0,000
Delft en Westland (CR)	,708**	0,001
Oost-Zuid-Holland (CR)	,718**	0,001
Zuidoost-Zuid-Holland (CR)	,871**	0,000
West-Noord-Brabant (CR)	,649**	0,005
Noordoost-Noord-Brabant (CR)	,595*	0,012
Noord-Limburg (CR)	,617**	0,008
Midden-Limburg (CR)	,784**	0,000
Zuid-Limburg (CR)	,486*	0,048
Flevoland (CR)	,820**	0,000

Figure 5 - Correlation of GDP growth of Dutch COROP regions with national GDP growth of the Netherlands

As to the correlation with the national GDP growth of Germany, evidence for significant correlations is found for only 2 of 40 COROP regions (see Figure 6). A highly significant positive correlation with German GDP growth can be stated for the region Zeeuwsch-Vlaanderen, the southern of the two COROP regions in the province of Zeeland.

Correlation with GDP Germany	Pearson Correlation	Sig. (2-tailed)
Zeeuwsch-Vlaanderen (CR)	,671**	0,003
Noordoost-Noord-Brabant (CR)	-,542*	0,025

Figure 6 - Correlation of GDP growth of Dutch COROP regions with national GDP growth of Germany

For Noordoost-Noord-Brabant, a significant negative correlation is seen in the data. This would mean that the economy in the region evolves anticyclical to the German economy. We are not aware of a reasonable explanation for such a relation and this might well be a singular random statistical result which can be anticipated to occur as the analysis includes more than 50 different geographical entities in total.

The data does not allow to reject the Hypothesis (*H0-b*) that there is no significant correlation between GDP growth in Germany and the Dutch COROP regions. While 60% of the regions show an economic growth that correlates with the overall national GDP growth in the Netherlands, co-movements with the German economy is only observed in 5% (2 regions).

North-Rhine Westphalia and the Netherlands

With 17.93 million inhabitants and a surface of about 34.000km² the German federal state of North-Rhine Westphalia (NRW) is comparable to the Netherlands in size and population. It is also the direct neighbor to the Dutch provinces Limburg, Gelderland and Overijssel. A hypothesis is that the economic activity in NRW is more relevant to some Dutch regions than the overall national German economy. Thus, the previous analyses can be replicated with respect to the GDP growth of NRW but do not produce remarkable differences. There is no significant correlation between the Dutch national GDP growth and NRW. Like for whole Germany, a significant correlation on the provincial level can only be shown for Zeeland. On the COROP region scale, correlation with NRW is seen for Zeeuwsch-Vlaanderen as it was with regard to the German GDP. The second COROP region in Zeeland

(Overig Zeeland) also shows significant correlation of the regional GDP growth with the economic growth in NRW. The negative correlation of GDP growth in Noordoost-Noord-Brabant with the German national GDP growth is not confirmed in the relation to NRW.

In the light of these findings, the hypothesizes H0-c (*GDP growth in Dutch provinces (NUTS2) does not significantly correlate with GDP growth in NRW*) and H0-d (*GDP growth in Dutch COROP regions (NUTS3) does not significantly correlate with GDP growth in NRW*) cannot be rejected.

It is also notable that there is no evidence for a correlation of the economy in North-Rhine-Westfalia with the Dutch national GDP. Using correlations, the findings are robust to a change of perspective, looking from North-Rhine Westphalia onto the economic integration with the Netherlands.

CONCLUSION

Germany and the Netherlands have a long tradition of mutual trade. Flows of goods and services across the border are strong in terms of value and amounts. The existence of such well-established and persisting trade relations, with Germany ranking on number one in the list of Dutch export partners and the Netherlands being Germany´s fourth most important export partner beyond the USA, France and China, often leads to the assumption of an economic dependency between the two countries, especially a dependence of the Dutch economy on the neighbor in the east. As Germany accounts for nearly a quarter of all Dutch exports, there is indeed a strong intuition for such a perception.

In this research, co-movements of the economic growth in the Netherlands with the German GDP growth have been analyzed on different geographical levels. Neither on the national level nor for provinces or regions in the Netherlands evidence for a strong dependency on Germany can be found. Correlations of GDP growth rates are, with very few exceptions, weak and not statistically significant. Regarding the degree of internal economic integration, a high degree of homogeneity between the different Dutch provinces has been observed, with the exception of Zeeland in the South-West and Groningen in the North-East. In the cross-country view on Germany and the Netherlands, economic integration is far weaker than expected.

In 7 of 17 years that were included in the analysis, an annual GDP growth rate below the long-term average in one of the two economies was accompanied by an above-average growth in the neighbor country. For small and medium sized businesses this has a valuable implication. Expanding business across the Dutch-German border has the potential to make a business more immune towards fluctuations in the domestic economy. There is a reasonable chance that within times of a downward trend in the home country´s economy, economic activity right across the border is flourishing. A cross border market can settle a company in a macroeconomic environment that is more stable than the domestic realm.

While these results show a potential for a stabilizing effect of cross border business on a company´s economic environment, it is not sure whether and how companies can actually use this potential. Only if general macroeconomic fluctuations systematically affect a company´s demand, independent business cycles in two neighboring markets offer opportunities. Furthermore, a company must not only be aware of differing economic trends across the border, but also be able to respond to these by temporarily re-allocating resources and stocks to the market that currently offers a more favorable environment.

Our findings suggest that, among the different types of opportunities that entrepreneurial firms seek in an internationalization strategy, reduction of external, macro-economic risks can be found even between two neighboring economies with strong trade relations as Germany and the Netherlands. Looking at those regions and municipalities that are located directly at the Dutch German border, the conclusion is that especially for small and medium sized firms with a limited geographical activity radius, finding this kind of opportunity in their direct neighborhood can be a source of stability and growth.

At the Dutch German border, firms find generally favorable conditions for cross border business in terms of open borders, institutional support and initiatives for cooperation across the border. Still, many firms are reluctant to enter the neighboring market. Especially small firms tend to lack the necessary resources and capabilities to access markets across the border. Applied research in cross border business contributes to the identification and exploitation of opportunities for small and medium sized firms. In an attempt to outline a further research agenda, it is necessary to identify the required capabilities that firms need in order to exploit these opportunities. Furthermore, the results presented here should be validated regarding their practical relevance in a more detailed business context.

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Chapter IV

Investigating the emergence of customer orientation by analyzing a co-creation servitization project between a Dutch supplier and a German customer.

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ABSTRACT

The purpose of this paper is to gain deeper insight into the practical judgements we are making together in ongoing organizational life when realizing a complex innovative technical project for a customer and so enrich the understanding of how customer orientation emerges in an organization. The outcome contributes to the knowledge of implementing customer orientation in an organization as according to literature (Saarijärvi, Neilimo, Närvänen, 2014 and Van Raaij and Stoelhorst, 2008) the actual implementation process of customer orientation is not that well understood.

Saarijärvi, Neilimo and Närvänen (2014) noticed a shift from measuring the antecedents of customer orientation and impact on company performance, towards a better understanding how customer orientation is becoming in organizations.

A different way of putting the customer at the center of attention can be found in taking our day-to-day commercial experience seriously, according to the complex responsive process approach, a theory developed by Stacey, Griffin and Shaw (2000). The complex responsive processes approach differs from a systems thinking approach, because it focuses on human behavior and interaction. This means that the only agents in a process are people and they are not thought of as constituting a system (Groot, 2007).

Based on a narrative inquiry, the objective is to convey an understanding of how customer orientation is emerging in daily organizational life. Patterns of interaction between people are investigated, who work in different departments of an organization and who have to fulfill customer requirements. This implies that attention is focused towards an understanding in action, which is quite distinct from the kind of cognitive and intellectual understanding that dominates organisational thought. The reflection process resulting from this analysis is located in a broader discourse of management theory.

1. INTRODUCTION

This study presents a sense making exploration of prerequisites and obstacles for a customer oriented practice, where a perspective is used that acknowledges customer orientation as a social, rich, multifaceted and complex phenomenon. Such a perspective amounts to a process-oriented account of organizational life that emphasizes the local and interactional level as well as the social understanding of individuals. Such an approach in which temporality, change or transformation is understood may produce insights in what really is happening in organizations. This study makes use of the following real case.

A German company worked for several years on a new sophisticated technical design and made several prototypes to prove the functionality of the design. For a next project phase, this German company was looking for a partner company who could make their design ready for production and produce the design at competitive cost. The two companies met at an exhibition in Germany and in addition an employer of the German company knew the Dutch company, from a past working experience. The Dutch company is active in the field of development and production of high tech electronics and optical components, that are used in a wide variety of sensors. Among the customer base of the Dutch company are known German and Swiss companies. The German company is active in the field of robotics.

Acquiring and realizing this type of project was new for the Dutch organisation. Realizing a so-called design for manufacturing project as described in this paper, was part of a new company strategy and is an example of service differentiation in a manufacturing company.

For the German company it was the first time a design for manufacturing was outsourced. By cooperating, both companies started a joint journey of discovery. Except for some general guidelines and ideas neither company had a blueprint available for implementation of such kind of cooperation.

Gebauer, Gustafsson and Witell (2011) examined the relationship among the complexity of customer needs, customer centricity, innovativeness, service differentiation and business performance. They concluded that service differentiation is a pre-requisite for the relation between complexity of customer needs and customer centricity. The management of the Dutch supplier company made a strategic decision to offer engineering services next to the existing manufacturing capabilities, after exploring its resources and capabilities. The objective of this decision is to move higher up in the value chain, thus being able to create long term business relations and a sustainable competitive advantage.

The Dutch supplier company had to learn all about the used technological concepts from its potential customer, since this company had the knowledge and experience with the conceptual design. This process shows parallels with the concept of Prahalad and Ramaswamy (2000), who argued to use customers as a source of competence. In their view the competence of customers is a function of knowledge and skills they own as well as their willingness to engage in an active dialogue. What matters in the technical environment where the two companies are operating, is that two joint problem solvers create a unique value. Using the thinking of Prahalad and Ramaswamy (2000) the author's aim is to study customer orientation as one of the various strategic orientations of manufacturing companies. Gebauer, Gustafsson and Witell (2011) suggested that a customer orientation, combined with innovativeness favors ideas that more accurately satisfy the increasing complexity of customer demands.

Besides learning about the technology there was also the challenge to develop a business relation with this customer. Within the customer relationship management research, the customer intimacy perspective is studied and is aimed to create superior customer value by managing business relationships (Tuominen, Rajala, Möller, 2004). They state that the goal of relationship learning is to create a better collaborative relationship between business partners.

The case in this paper describes the acquisition and realization of a technical (innovation) project, where it will be investigated how persons from different departments worked closely together to present a winning project proposal and how a working relation emerged between the Dutch company and the German customer during the realization phases of the project.

2. RESEARCH PROBLEM, AIM & APPROACH

The objective of this study is to explore other (different) ways of understanding what is needed to consider the customer more important in the work we do. Maintaining agreements with a customer is not solely the domain for a sales- and marketing department, but people from different departments of an organization are also involved. Furthermore, the core of marketing orientation and important pillars for growth of both turnover and profit, are the acquisition and maintaining of existing customers. This reasoning, combined with the information from the previous section, leads to the following central research questions:

1. *Why is it so difficult to develop and uphold a customer-oriented practice in a technical oriented organization.*
2. *What is needed to consider the position of the customer more important in the work we do?*

To answer these research questions, an approach will be taken that views an object of study as a 'whole woven together' and seek to link and contextualize rather than split and isolate (Tsoukas and Dooley, 2011). From such a perspective, customer orientation is constituted by the actions of interdependent actors through the process of power and conversational relating, which result in shared meanings and direction for action.

The aim of many studies about customer orientation is to provide an objective description to a problem whereby the researchers are detached observers. In order to improve our insights Gummeson, Kuusela and Närvänen (2014) recommend the use of participant observation. A difficulty however for people in organizations is their paradoxical role, while they are part of an organization and therefore cannot be detached observers (Zhu, 2007).

Narrative studies offer a researcher an opportunity to be part of the field of research (Kohler Riessman, 2008). Llewellyn (1999) explains that people reason, learn and persuade in two distinct modes, through stories (narration) and by numbers (calculation). In everyday life, narration is privileged over calculation. Llewellyn (1999, page 224) argues that we understand our lives through narratives, narrating experiences first to ourselves - to convince others - and then to others to persuade them. In the academic community, calculating dominates narrating for reasoning, learning and persuading. Llewellyn (1999, page 223) explains that narrative analysis evaluate and configure events rather than merely listing them in temporal succession. Thus narratives give form and meaning to organizational themes and events. According Donaldson (2013), narrative studies contribute to organisational learning, as well as help to understand organisational change as it really happens.

3. LITERATURE – A REVIEW OF CUSTOMER ORIENTATION

The whole body of literature linking employee customer oriented attitudes with desirable customer outcomes can be seen as support to the argument that customer orientation matters to organizations (Liao and Subramony, 2008). Schlosser and McNaughton (2007), Cadogan, Souchon and Procter (2008), Chesbrough and Garman (2009) all state that a fundamental requirement for companies with the objective to increase profitability, is an integrated and customer centric orientation. Empirical evidence indicates that firms displaying market-oriented activity typically outperform their less market oriented rivals on a wide variety of performance indicators (Cadogan, Souchon and Procter, 2008). Saarvijärvi, Neilimo and Närvänen (2014) mention two main benefits that derive from customer orientation: a greater likelihood of creating sustainable competitive advantage and the development of a distinctive and often difficult to imitate set of expertise.

3.1 THE EMPLOYEE PERSPECTIVE

The notion of putting the customer first is often traced back to Drucker's (1954) statement that the purpose of a firm is to acquire and keep customers (Berthon, Hulbert and Pitt, 2002). The marketing concept holds that "the key to achieving organizational goals consists in determining the needs and wants of target markets and delivering the requirements more effectively and efficiently than competitors" (Kotler, 1988).

Acting according to the marketing concept, a business is to achieve profitability, if the entire organization will be oriented towards satisfying customers' needs, wants and aspirations (Blankson, Motwani and Levenburg, 2006). This requires employees who embrace the importance of understanding and addressing customer needs and to align their everyday efforts with the ultimate goal of satisfying and retaining end-customers (Liao and Subramony, 2008).

Established literature concentrates on behavioral aspects of employees, who have customer contacts. The behavioral perspective's origins are described in the work of Saxe and Weitz (1982), who defined customer orientation as the manifestation of the marketing concept at the individual worker level. They defined customer orientation as the willingness of individuals, to customize their service delivery according to the customer's situation (e.g. needs, problems).

Beverland and Lindgreen (2007) argue however, that unless a certain attitude towards the marketing concept exists, behavioral initiatives towards a customer centric orientation will never emerge nor will these be effective. Matsuno, Mentzer and Rentz (2005) found that even if a promoting environment exists, corresponding behavior of employees does not necessarily take place. In the working environment of the supplier company, for engineers, purchasers and/or projectmanagers, serving customers is not a primary objective. However in marketing literature it is recognized that all employees of an organization have a role of internal customers. According to Gummesson (1990), many employees of a company influence customer relations, customer satisfaction and customer perceived quality, as well as revenue, even without realizing it. Conduit and Mavando (2001) state that every employee is both a supplier and a customer to other employees in the organization. They argue that internal customers generate goods and services for the end customers and are thus crucial to providing customer satisfaction. If a company wants to succeed in tailoring its offerings to match the needs of customers (Tuominen, Rajala and Möller, 2004), it has to integrate market and customer knowledge with their own operational flexibility in a superior way (Treacy and Wiersema, 1995).

3.2 ORGANIZATIONAL PERPECTIVE OF CUSTOMER ORIENTATION

While a customer oriented thinking would appear to be at the core of market orientation, the organization's views have dominated the development of market orientation constructs (Chen and Quester, 2009). For example Narver, Slater and Tietje (1998) suggest that to implement customer orientation, companies can follow a programmatic approach, where the norm of continuously creating superior customer value is implanted in the organization from inside.

Shah et al. (2006) claim that a customer centric orientation can be improved by shaping up the structure, culture, processes and metrics of an organization. Bonacchi and Perego (2011) postulate in their case study a customer centric strategy with a corresponding organizational architecture.

Kennedy, Coolsby and Arnould (2003) followed in real time a transformation process towards a customer centric orientation, which was guided by marketing orientation literature. The purpose of their study was to gain an understanding how in an organization a customer focused orientation is created and implemented. This resulted in empirical insights, which are not easily found via case studies, surveys or interviews. They found that a customer orientation prospers and becomes self-reinforcing when collected customer focused data are widely disseminated within the organization and become a shared organization-wide platform from which decisions are made. Kennedy, Coolsby and Arnould (2003) also found that work processes throughout the entire organization should be designed in such a way that these add value to a customer.

The preceding discussion indicates that on the one hand employees should have an attitude towards customer orientation and at the same time organizational processes should be in place, all with the objective to create value for a customer. Still this is not a guarantee that there will be a customer-orientated focus in an organization.[1]

3.3 CUSTOMER ORIENTATION REVISITED

Saarvijärvi, Neilimo and Närvänen (2014) concluded that literature on customer orientation has paid attention to important matters regarding the enablers of customer orientation, what it requires and how to align the organization accordingly. They state that existing literature on customer orientation is largely based on quantitative studies linking customer orientation to company performance. These studies have built the empirical basis of the domain, which have been and still are key when justifying the concept's relevance for scholars and practitioners.

The preceding discussion indicates that it is however difficult to draw straightforward conclusions from literature about the steps to take to improve a companies' customer orientation. Johannessen (2009) points to a deficit of much of the management literature, which has proven to be of little practical relevance.

1 All the mentioned authors use the term customer centricity to refer to an organization's customer focus.

Saarijärvi, Neilimo and Närvänen (2014) notice however a shift from measuring the antecedents of customer orientation and impact on company performance, towards a better understanding how customer orientation is emerging in organizations.

Gummeson, Kuusela and Närvänen (2014) conclude that methodology in social sciences including marketing is preoccupied with fragments and a few variables as well as a desire to establish unambiguous and unidirectional causal relationships. They suggest to focus on all stakeholders and as a consequence on complexity and higher level theory generation. The move from a fragmented view of marketing to recognition of marketing complexity and diversity happens with the change from a single party focus (supplier) and a two-party focus (supplier/customer) to multi-party networks that take all actors into account.

This shift in paradigm recognizes a change in supplier and customer roles to be a focal issue. Goods and services are replaced by value propositions in which customers assume an active role as co-creators. Customers' active role as co-creators of value and resource integrators is gradually being recognized in theory (Gummeson, Kuusela and Närvänen, 2014, page 231).

Co-creation as a concept embraces the individual actions of suppliers, customers and other stakeholders and also the interactive relationships between them. In this view a supplier does things with a customer and not to a customer. The finding of Gummeson, Kuusela and Närvänen (2014) is an important step towards a more practitioner-oriented research of customer orientation.

4. METHODOLOGY

What is required to study the emergence of customer orientation in an organization is suggested by Mowles (2011, page 85) as methods that are consonant with the continuous processes of mutual adaptation, mutual anticipation and meaning making that occurs when people have to work together to achieve things. Cicmil, Williams, Thomas and Hodgson (2006), performed a study of what they named actuality of project management. This is relevant for this study, because in the case in this paper is not only about acquiring the project, but also about realizing the project. The authors refer to Calori (2002) who proposes a pragmatic epistemology as a methodological framework, involving reflective practitioners and pragmatic researchers, who engage together in co-authoring theories and creating knowledge that is immediate, pragmatic and contextualized. Cicmil et al. (2006) explain that a study following the principles of a pragmatic epistemology is designed as a participative cooperative inquiry where the primary emphasis is not on universal knowledge but on a range of atypical things and activities experienced as significant by actors in a local context. Such kind of thinking is represented in processual approaches such as becoming ontology as suggested by Chia (1995) and complex responsive processes of relating (Stacey, Griffin and Shaw, 2000). According to Cicmil et al. (2006) these researchers consider the relationship between agency and structure and methodological approaches to theorizing practice, by connecting action to culture, structure, power and patterns of intersubjective relating and dominant discourses, as being the key concerns in social theory. In their work the attention is refocused on praxis, on context-dependent judgment, on situational ethics and on reflexivity.

Complex responsive processes of relating, developed by Stacey, Griffin and Shaw (2000) is an approach to understand ongoing temporal human interaction. In essence it is an approach where attention is paid to everyday experience, avoiding the temptation to abstract this detail into organizational recipes and systems. The fundament of the complex responsive processes perspective is described by Stacey (2011, page 294) as: ‚We are fundamentally talking about who people think they are and what they think they are doing together; who they want to be, what they want to do together and what they desire to achieve.‘ Stacey (2012, page 133) further explains that since working is fundamentally a social process, such an inquiry must inevitably provide information about how one has been formed in the groups, communities and societies one has lived in, and continues to live in. He further argues that this also involves an awareness of the history of those groupings and the traditions of thought they reflect.

Stacey, Griffin and Shaw (2000) developed the theory of complex responsive processes as an alternative of what they refer to as a dominant way of understanding organizations. In this dominant view organizations are understood as entities that exist outside of human interaction. Such a 'thing' like object or system can be designed and controlled via rules and procedures. In systems thinking thus conceived, the manager's focus is on the organization as an object to be manipulated and controlled. According to Stacey, Griffin and Shaw (2000, page 59) this is however not what makes an organization function, because in this view the rich world of human subtleties and micro-level interrelating that are inherent part of the actual reality of organizational life are omitted.

Stacey (2011) further argues that this way of looking at an organization cannot adequately explain how novelty arises in organizations and what the role of managers and leaders is in the emergence of novelty. The complex responsive processes approach provides an alternative perspective for theory about knowledge management. Stacey, Griffin and Shaw (2000) explain that the creation of new knowledge and thereby the process of organizational change, is to be viewed as a self-organized process of communicative interaction between individuals in the organization. This implies that change and organizational development are not conceptualized as a result of management plans or organizational blueprints outside of the interacting members of the organization (Mowles, 2011).

To give direction to the themes addressed in section 3 and 4, the identified topics are compared in a dialectic form with the perspective used for this study. The results of this comparison are displayed in table 4.1. and provide a meaningful dimension to the motivation of using the complex responsive processes approach for this study.

The two left columns of table 4.1 describe the mentioned relevant antecedents from the established literature and a summary of the findings as explained in section 3. The column with the title 'Complex Responsive Processes' describes how this perspective studies the respective established finding. The most right column describes from the complex responsive processes perspective, the relevance for this study in relation to the findings of the respective established literature.

A general conclusion following from table 4.1 is that some of the established literature has a tendency to look at an organization as "it" implying a separate existence of the individuals comprising an organisation (Stacey, 2011). Examples where this is clearly visible are Shah et al. (2006) and Kennedy, Coolsby, Arnoul

(2003). Mastenbroek (2004, p82) states however that organizations are in fact bundles of human relations. In his view strategy and organizational structure have to be viewed in their effect on those human relations.

Table 4.1: Comparison of established customer orientation literature and the complex responsive processes approach:

Relevant 'established' literature	**Summary of findings**	**Complex Responsive Processes Perspective**	**Relevance for this study**
Blankson, Motwani, Levenburg (2006): Stated that if a business is to achieve profitability, the entire organization must be oriented toward satisfying customers' needs.	Found that motivated and committed staff is regarded as an important factor to achieve business success (profitability).	The complex responsive processes approach points to interdependence of employees of an organization (Stacey, 2011, p.301).	This study will not take the perspective of one person. Instead patterns of interaction between interdependent people who produce further patterns of interaction are studied (Stacey, 2011, p.324, table 12.3).
Liao and Subramany (2008): Employees are required who embrace the importance of understanding and addressing customer needs and to align their everyday effort with the ultimate goal to satisfy and retain customers.	Found a direct relationship between customer proximity (contact) and employee customer orientation and demonstration of customer orientation by managers (senior leaders).	The complex responsive processes approach looks at the local social activity of communication, power relating and evaluative choice (Stacey, 2011).	From the complex responsive processes perspective keeping a customer satisfied has to do with the interplay of intentions, power relations and identities which are related to the department where people belong to.

Relevant 'established' literature	Summary of findings	Complex Responsive Processes Perspective	Relevance for this study
Shah et al. (2006): Conceptual paper where an organization is looked at as a 'thing', which can be moved around.	Concluded that customer orientation can be improved by shaping up the structure, culture, processes and metrics.	This perspective focuses on human behavior and interaction, which implies that the only agents in a process are people and they are not thought of as constituting a system (Groot, 2007). An organization is regarded as a an ongoing patterning of the relationships (social object).	Patterns of relating are investigated, regardless of hierarchical levels or how the organizational structure is defined. The attention shifts from the long-term, big picture, strategic macro level to the details of the interactions taking place between people involved.
Kennedy, Coolsby, Arnoul (2003): Performed case study research during implementing customer orientation in an organization.	Concluded that work processes should be designed throughout the entire organization in a way these add value to the customer. Also found that commitment from management is an important antecedent for customer orientation.	In the complex responsive processes perspective, studies are arranged as narrative and propositional themes that organize experience (Stacey 2011, p.319). Processes are regarded as responsive acts of mutual recognition (Stacey, 2011, p.321).	Should the project concerned in this paper only be understood as the implementation of merely a plan with corresponding work processes and resources?
Saxe and Weitz (1982): Studied the degree of customer orientation of sales people.	Found that building long term relationships is an important factor. Customer orientation is about "interacting with" and encouraging customers to talk about their problems.	The complex responsive processes perspective studies local communicative interactions and looks at what emerges from these interactions (Stacey, 2011).	From the study of Saxe and Weitz (1982) the interaction with the customer is studied in a broader perspective. The objective is to provide insight to what happens when building a (business) relation.

Relevant 'established' literature	**Summary of findings**	**Complex Responsive Processes Perspective**	**Relevance for this study**
Tuominen, Rajala, Möller (2004): Focused in their study on relationship learning to describe interactions between two organizations.	Found that within the customer relationship management, customer intimacy is an important aspect through which superior customer value can be created. Managing business relations is regarded as an important factor to achieve customer value.	The complex responsive processes perspective does not determine beforehand to look at a variable, i.e. value creation. The approach amounts to a rejection of positivism as a method of researching human action (see Stacey, 2012, p.131).	Whether our customer experienced value will emerge from analyzing (reflecting on) the patterns of interaction as described in this narrative.
Gummesson, Kuusela, Närvänen (2014): Propoposed that the recasting of supplier and customer role reconfigures the role of marketing.	Role recasting is defined as adoption of new sets of responsibilities, behaviors, obligations and norms, thus creating value for both supplier and customer.	Gummesson et al. (2014) argue that co-creation embraces the interactive relation between a supplier (e.g. our organization) and a customer.	Goods and services are replaced by value propositions in which participants (e.g. supplier and customer) assume an active role as co-creators.

Referring to table 4.1., the complex responsive processes approach provides a way of thinking about organizations by stressing human interdependence and so focus attention on the detail of local interaction. Stacey (2010) explains that performing research from the complex responsive processes perspective means understanding an organization as a participative exploration of experience. An essential element of the complex responsive processes perspective is the insider position of the researcher. The researcher cannot step outside the interaction with others. This way of doing research means that a separate and stable reality of independent of human action and interpretation available for observation and analysis is not assumed. As explained in section 2, narrative studies offer the researcher an opportunity to be part of the field of research. Stacey (2011) refers to the importance of narrative knowledge in organizations. He explains that interaction between humans in an organization evolves as narrative-like themes that normally have no single narrator's perspective. The private role-play, the silent conversation of each individual and their public interactions can be thought of as themes and variations reproducing history. It is these themes and variations that organize an individual's experience in the living present (Stacey, 2012, page 27).

4.1 ABOUT RELIABILITY AND VALIDITY

To think about organizations and its individuals as complex is to direct attention to the interrelating, self-organizing, dynamic, emergent and inevitably non-predictable nature of such phenomena (Johannessen and Kuhn, 2012, Volume 1, page xxvi). They state that taking complexity into account, challenges many ontological and epistemological assumptions about the world and how humans make sense of it.

Homan (2016) concluded that the complex responsive processes perspective is not fully taken for granted in mainstream literature on theorizing about organizations. Methodological issues, such as epistemology, ontology, and representation are of concern in this type of studies. Thijs Homan explained that the importance of local interactive sense making in everyday experience is shared with auto ethnography, phenomenology, symbolic interaction and discourse analysis. What these different ontologies have in common is that a duality between the individual and the social is still recognizable, while the complex responsive processes perspective does not separate the individual and the social, which implies a non-dualistic stance. Saunders, Lewis and Thornhill (2012) characterize the complex responsive processes perspective as a subjective ontology, which has far reaching consequences for the way reliability as well as the external and internal validity of the research is established.

Polkinghorne (2007) proposes that validating knowledge in this type of research is an argumentative practice. In his view the purpose of the validation process in narrative research is to convince readers of the likelihood that the support for the claim is strong enough that the claim can serve as a basis for understanding of and action in the human realm. Narrative research issues claims about how people understand situations, others, and themselves (Polkinghorne, 2007).

Zhu (2007) suggests using a pragmatic view, where he connects validity of knowledge to the action, more specific to the uncertainties of the outcome even in the case of repetitive actions. According to Zhu (2007, page 452) a genuine pragmatic sensibility is featured by a refusal to entertain ideas and actions as disjunctively related, a rejection to 'the spectator theory of knowledge', a commitment to endow experience with learning rather than seeking 'truth', a willingness to take action without knowing how things might unfold in the future, a readiness to embrace uncertainty and surprises, an eagerness to capitalise on the unanticipated and unexpected, a conviction that validity of knowledge depends on the consequences of acting upon it, an enjoyment in conversation with situated agents about possibilities for change, a proposition viewing temporal conversations in a community.

Johannessen (2013) suggests to distinguish between different ways of knowledge creation, separated by different views on validity and reliability. Sparkes (2001) elaborated on the concept of validity and presented four perspectives: replication, parallel, diversification and "letting go". Each of these perspectives has its own criteria for validity, a different position of the researcher and difference in method. Sparkes (2001) uses the term diversification for those types of research that reject the traditional concept of validity because the vision of truth is based on notions of coherence and pragmatism. The diversification perspective considers no universally accepted notion of objective truth; instead it is socially constructed within a particular community and discourse and within a specific historical frame. Researchers have to adopt an open perspective towards multiple approaches on validity, which according to Sparkes (2001) have to fit with the type of research undertaken. Evaluating research becomes thus a personal and interpersonal matter rather than a methodological issue (Sparkes, 2001).

Van der Kamp (2000) warns that with this type of research, one has to be careful for a distortion of the truth of the researched. He suggests that a researcher should be able to develop empathy and at the same time also has the ability to maintain an analytical and reflective distance.

4.2 MOVING AWAY FROM TAKEN FOR GRANTED ASSUMPTIONS

Taking reflexivity as a point of departure for research is not without consequences. Within social sciences, reflexive research represents a breach with modernistic scientific presumptions of objective observation, planning and control. The basic unit of research in this study is identified as human action, thus bringing personal experience to the attention of the researcher. A question that needs to be answered is if reflection can be used in research, because of the need for scientific facts. But what are scientific facts? Fleck ([1935], 1979) explained that scientific facts are supposed to be distinguished from transient theories as something definite, permanent and independent from any subjective interpretation by the researcher. The critique of the methods used to establish this, constitutes the subject matter of epistemology (Fleck, [1935], 1979). At the same time he considers the changes in scientific (academic) thinking as a continuously ongoing process driven by social forces. Thus Fleck argues that the appearance of scientific facts as discovered things is a social construction.

Although the introduction of reflection in organizational life might be an utopian thought, Weggeman (2007) argues that for knowledge intensive firms, strategy is more and more reflecting on what has been done, with the purpose to discover patterns that might emerge into strategies. Moen and Ansems (2004) also suggest managers to make time for reflection, to make them aware of the consequences of their actions. In aerospace and healthcare organizations team reflection is already common practice.

In addition Weick (1995) postulated the question 'how can we know what we do until we see what we produced'? This question is relevant for this study, while performing a research using the complex responsive processes approach is not a pre-designed research with clear conceptual categories, methods and phases specified in advance. The aim of many studies about customer orientation is to provide an objective description to a problem whereby the researchers are detached observers. Paul Cilliers argues that we cannot deal with reality in all its complexity. The problem with models of complexity is that they will be flawed, (Cilliers, 2001, page 137). Furthermore he explains that because of the non-linear nature of many interactions in complex systems, it is impossible to keep track of causal relationships. Models are supposed to reduce the complexity of the phenomenon to be described. This means we have to leave something out, which is thought unimportant, in order to generate some understanding. Both within complexity sciences as within the complex responsive processes approach, uncertainty is regarded as a fundamental, irremovable reality, implying high levels of unpredictability (Stacey, 2010). Fenwick (2012) argues that complexity science offers useful insight for articulating complexities of professional practices and knowledge. However, consequence of using the perspective of complexity sciences is the recognition that predictability is seriously limited (Zhu, 2007).

5. RESULTS & DISCUSSION

A characteristic of the complex responsive processes approach is a focus on what precedes certain behavior. The theory aims at images people have about reality and invites persons to look at their experiences from a completely different-than-usual set of assumptions. This way a person learns to assess his or her experiences in a new and different way, which may lead to new insights for the individual in his or her own particular and unique situation.

Consequently, doing research from the complex responsive processes perspective implies that the researcher is not 'interviewing' nor 'surveying' the participant but engages in a critical dialogue with practitioners. The unit of analysis in the complex responsive processes approach is the experience of interacting with others in social settings. Here the concept of complexity is used as a fundamental attribute of the quality of the interaction of interdependent persons (Stacey, 2003). This implies that the insights of the research arise in the researcher's reflection on the micro detail of the researcher's own experience of interacting with others (Warwick, 2011). Thomas (2010) described how this way of doing research leans towards phronesis or practical wisdom. One can learn the principles of action, but applying them in situations one could not have foreseen requires practical wisdom.

5.1 THE PROCESS OF ACQUIRING THE ORDER

During the process of acquiring the order, people from the supplier company listened carefully to the customers' demands, which can be characterized as dialogical and collaborative work in progress. This way of working implied shared learning and communication between two equal problem solvers as explained by Prahalad and Ramaswamy (2000).

Incorporating customer focus into the firm's business strategy, as suggested by Narver and Slater (1990), includes understanding customer needs and using this data to develop innovative products as well as increasing customers' involvement early in the product design process. The Dutch company was, without explicitly mentioning, in the middle of a change process, from a product-oriented sales orientation to a customer oriented.

During the process of acquiring the order, none of the persons involved spoke about customer orientation. Nevertheless the requirements of the customer were central in defining the proposal and solution and all persons involved contributed to their best efforts allowing to acquire this project. According to Terho, Eggert, Haas and Ulaga (2015) customer-oriented salespeople play a critical role in building close, long-term customer relationships, where the dominant question is the (co) creation of value. Saxe and Weitz (1982) defined customer orientation as implementing the marketing concept at the level of an individual salesperson, to help customers make purchasing decisions that will satisfy their needs and generate long-term satisfaction. As a salesperson's customer orientation increases, he or she places higher importance on working in customers' best interests and identifying offerings that suit their needs. The sales- and co-creation process, related to this particular case, is not purely about selling and implementing a concrete solution (product), but about embarking on a common journey of discovery. During this journey employees and managers of both the client- and the supplier-organization continuously developed and negotiated new ideas about the required product.

In addition, following a strategy of service differentiation means a change from a tactical activity of implementing marketing strategies towards more analytical and senior-management focused aspects of selling (Terho et al., 2015). This can be associated with the fact that business-to-business firms are shifting from a goods dominant logic to a service dominant logic in which firms emphasize high valued offerings (e.g. complex services, integrated solutions) and a value co-creation. Grönroos (2012, page 1526) conceptualizes value co-creation as 'joint collaborative activities by parties involved in direct interactions, aiming to contribute to the value that emerges for one or both parties'. This conceptualization is in line with earlier work from Prahalad and Ramaswamy (2000). Neghina (2016) states that while value is the ultimate outcome and goal of the interaction, it is realized via the output of interactions, namely the service that is being exchanged among interacting actors.

5.2 CREATING VALUE FOR THE CUSTOMER

Grönroos & Voima (2013) stated that value is perhaps the most ill defined and elusive concept in service marketing and management. They suggest that value creation might be described more accurately as value emergence. When value is perceived as *value-in-use* for the customer, the focus is no longer predominantly on a customized bundle of products exchanged for a price. Instead value creation becomes, according to Grönroos and Voima (2013), an ongoing process that emphasizes the customer's experiences, logic and his ability to extract value out of products and other resources used. In other words: the customer is a value creator.

Members of the project teams of both companies were in contact with each other and through their interactions the people from the project team influenced the value creation process. Although the results of these interactions indicated innovative conceptual designs and confirmed that that the supplier company gradually succeeded in providing value for our customer, one topic emerged, which caused the project to stagnate. Members of the supplier project team shifted attention to superior technical solutions, and by doing so the members started to ignore an initial demand of the customer: price. These were weak signals and although noticed these were ignored earlier in time. Perhaps because the result of earlier project phases were satisfying? A point was reached where the customer was unsatisfied and threatened to stop the project, because the development cost and the estimated product price did not meet the expectations of the customer. At the moment when the customer signaled his unsatisfaction, all interdependent actions were interrupted and the customer took over control of the situation and helped himself by forcing us to come up with a solution.

This project was by far the largest project ever acquired by the Dutch supplier company. In addition, the type of service offered was new for this organization. Because many things were new and yet unknown, there was substantial risk of failure. This project started with considering various technical alternatives for concrete solutions. Flyvbjerg, Bruzelius and Rothengatter (2003) suggest however to use a performance specification in a feasibility phase of projects, where all requirements, to the extent possible, are to be decided prior to considering various technical alternatives. Since for both companies involved this kind of cooperation was a new, it was hard to make a checklist for things they never experienced. It is almost certain that something will happen one never thought of. Besides, the question if it is important to be prepared for the unexpected to happen, is a social question and not a technical one.

The question arises what happened to customer orientation at this stage of the project? Buur and Larsen (2010) state that behind the thinking of Flyvbjerg, Bruzelius and Rothengatter (2003) lies the idealistic assumption that innovation is born in consensus (or in a controlled environment), where intentions that diverge from a common objective need to be suppressed. In the view of Buur and Larsen (2010) innovation is the emergence of novelty, that comes about in local interactions between people with different intentions. These local interactions among humans are processes of relating in which we continuously respond to each other. The supplier organization and their customer met each other with different intentions, which created a complexity that none could see.

The consensus of how the final product for our customer would have to be designed, emerged from the conversations and interdependent actions between the respective project teams of supplier and customer. The meaning the people from the supplier company gave to the product specifications became the strategy for developing the end product. But this particularization of the product differed however from that of the customer. After a troublesome meeting with the customer, the project team members of the supplier company became aware that the focus was too much on the design of a technical superior solution, forgetting the initial price demands, which was an important specification item for the customer.

The project manager was the only person who had a complete overview of all technical details of the design. Until the moment the customer intervened, all persons involved at the supplier company were convinced that they were on the right track with the project. However no one from the supplier organization, verified this with the customer. This was due to a lack of requiring justifications and a lack of substantive reasoning. Based on the information from the project manager no one in the supplier organization questioned the technical solutions, which were proposed, except the Vice-President Technology. His questions were however greatly left unanswered by the project manager and his team members. This is an example of the rhetorical nature of conversation as explained by Shotter (2005). People use, even without being aware of it, conversational (rhetorical) devices to dismiss the opinions of others and thus close down the development of a conversation in an exploratory direction. Groot (2016) explains this all resonates strongly with the position of the powerful individual. In an organization people depend on each other and this interdependency will always lead to new and sometimes unexpected outcomes, especially when people with power try to isolate their performance and decisions.

It took the supplier company several months to restore the relation with the customer. Buur and Larsen (2010) argue that conflicts are seen as driving forces of change that can open new possibilities. They regard innovation as the emergence of novelty that comes about in local interactions between people with different intentions. Tsoukas (2009) also regards dialogue as an important mechanism through which change and new knowledge emerges. He states however that the process through which dialogue gives rise to new knowledge is greatly left unspecified. In this particular case, the Chief Technical Officer (CTO) of the customer attempted to take over control after the incident. He asked several times during meetings, how he could stay in control over the design. As the development of the product continued over time, the CTO kept asking critical questions, but also showed satisfaction, appreciation and accepted proposed solutions and improvements. In this particular situation new knowledge and thus value emerged through the interactions of the persons involved, rather than intentionally created by a plan.

This paragraph described that communicative interaction, within and between organizations, does not constitute some harmonious whole. What went on during this project is about harmony and cooperation, as much as about conflict and competition. It became clear that such type of complex technical co-creation project should be understood in terms of participative action, involving people, technology and resources and cannot only be understood in terms of a plan with the proper resources.

6. CONCLUSION

In focusing on research, it is easy to forget that most of the information about customers and competitors comes from the experience acquired in the course of the everyday work of salespeople, marketing people, project managers and the like. It may not be in the scientific sense but the information is rich and reveals information that cannot easily be elicited from statistics, surveys and interviews (Gummeson et al., 2014).

The research described in this paper, focussed on an understanding in action, which is quite distinct from the kind of cognitive and intellectual understanding that dominates organizational studies. Participation in the many local interactions led to what Shotter (2005) named an understanding from within and this gives insight into the dynamics of how employees are working together to fulfill the requirements of a customer. This enabled the author to discover the prerequisites and obstacles for a customer oriented practice, i.e. how customer orientation emerges in ordinary daily organizational life, where different persons from different departments are working together to fulfill the requirements of a customer and where the customer has an active role as co-creator. The study made clear that customer orientation is not just a matter of the people working in a commercial department of an organization, but has to do with the interplay of intentions, identities of the people, which are related to the group (department) they belong to, power relations and the role of management. All of these factors point to the quality of the communicative interaction between the persons involved when serving a customer. For the author this particular case proved to be an excellent opportunity to study the interaction and negotiation dynamic as complex responsive processes of relating, as this theory seeks to explain what people in organizations are actually doing.

A key finding is that customer orientation is a dynamic value, which continuously changes and continuously needs to be re-negotiated. This implies that if customer orientation is part of a company's values, every employee, including managers of a company should keep asking themselves over and over again how their work contributes to excellence in customer relations and revenue. Daily praxis in technical oriented organizations proves to be different. After having successfully received an order and after careful preparation and planning, the execution of customer related projects is subject to continuous change and adaptation, caused by the interrelating of all individuals, including managers, who are involved. Instead of a focus on the customer, during the course of a project, there is a potential danger of a shift towards internal organizational matters and technical issues and consequently the focus on the customer fades away. Verhoeff (2011) studied a concept named social innovation from a traditional academic perspective and he concluded that social innovation is a necessary condition for successful technical innovation. In the context of the study of Verhoeff (2011) social innovation means investing in leadership development, new skills of employees and better cooperation, both internally and with partners and customers, with the objective to recognize, share and use new technology and new knowledge faster and better, which then might lead to new applications both within the company as well as in new products and services that generate money. In this study project team members were not or little sensitive for the financial economic consequences of their work. This finding follows an argument of Weggeman (2007) who states that technical professionals realize too little that the only one place where the money for a company is earned, is where supplier and customer meet.

In the co-creation project of the two companies described in this paper, the best orientation on the customer emerged when the supplier company understood what problem the customer wanted to solve with their conceptual idea. The supplier company not only delivered the product, but was able to make the product design in such a way that it solved the customers' problem. We see here the importance of value proposition to customers, whereby individual customers are considered to be self-determining: they are authors of their own actions. This view has been refined by Grönroos and Voima (2013), who distinguish between customer value creation -which relies on the activities of customers as economic actors -and value co-creation -which requires the interaction of two or more economic actors (customer and supplier). Furthermore throughout this paper the importance of a basic principle of the marketing concept is noticed, as postulated by Drucker (1954), who stated that 'the purpose of a business is to create (and keep) customers'. Most of the time customer and supplier described in this paper, were together on a route to success. In case of a failure one party can drag the other party with him. This might explain why customers in this line of work are accepting non-customer oriented behavior more than in other sectors. A question for further research is, if there is an inverse proportionality between customer orientation and the technological level of the product or service being sold?

This paper demonstrated that studying customer orientation from a complex responsive processes approach is according to Agar (2013) a 'lively science', while the researcher is in constant interaction with others. This study made clear that Customer Orientation should be regarded as a social process that is shaped and formed by the complex interactions of human relating. Staying close to the original experience as described in this paper allows reflective research to be a vehicle to gather new insights about human social action (Homan, 2016).

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Chapter V

A cluster analysis of the Dutch-German borderland

An exploration of cross-border economic opportunities

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Abstract

In recent decades, the level of scale in urban regions has become increasingly important for economic development. The characteristics of the specific economy in an area must be identified first in order to develop policy for regional economic growth. All kinds of measuring instruments have been developed to measure the strength of a region in practice. To date, these instruments have hardly ever been applied in relation to cross-border regions. Despite the fact that cross-border economic interdependence is still very limited in most regions, a good cross-border analysis can reveal new perspectives. This study is a cluster analysis of the Dutch-German Rhine-Meuse-North Euroregion and, as such, is part of the 'intergovernmental field lab' project. It presents a cross-border view of the regional economy, which leads to new insights and opportunities. The study highlights the extremely varied composition of the economy in this cross-border region. There is no clearly defined profile. In addition, the analysis shows that there are untapped economic opportunities for cross-border cooperation in some economic segments such as StartUps, High Tech Systems and Materials as well as sustainable business. Consequently, the study forms the basis for further policy development in this cross-border region.

1. Introduction

In recent years, the importance of urban regions for economic development has been clearly highlighted, both in the academic world and in policy. Cities or urban regions are also referred to as the 'engines of economic growth' by the Netherlands Environmental Assessment Agency (Planbureau voor de Leefomgeving 2017, p. 12). An engine made up of innumerable small cogs that engage with each other and jointly contribute to growth. The fact that the regional level of scale can play an important role in economic development is also reflected in practice. In the Netherlands, for example, new technological *'valleys'* and campuses continue to appear in significant numbers. The focus in most cases is on regional cooperation, which prioritizes regional interests and tasks above local interests. The realization that you cannot achieve this in isolation as a municipality has now been clearly understood by most municipal authorities. Our daily urban system operates at the level of scale of the region.

The importance of regional cooperation is expected to continue to increase in the near future. According to some sources, decline in Europe is a theme that will leave an ever more distinctive mark on our communities and society (Boekema, Hosper & Lombarts 2008). This clearly also applies to the Dutch border regions where population decline has already manifested itself, or is expected in the coming decades. In anticipation of this decline, regions are increasingly trying to develop and market themselves as an attractive base for the four key groups: Residents, Visitors, Companies and Students (Boekema, Hosper & Lombarts 2008). However, in a situation where nearly every region in the Netherlands promotes itself in this way, the key question is how you can still profile yourself distinctively as a region. The main purpose is to appeal to a limited, mobile group of people within the Netherlands and encourage them to relocate. Furthermore, at local level, the degree of influence you can exert on complex processes like decline is extremely limited[2].

2 In addition, residents and companies are much less mobile than generally thought. Dutch people like to stay close to home. Only 7% of Dutch people who move house actually relocate to a different region: they are generally students, recent graduates and single people. This means that Dutch people in general are less mobile than other global citizens. Many residents like to stay where they are because of factors that bind them to a specific location, such as proximity to their family, friends and work. Companies are also attached to their place of business: on average, enterprises in our country only travel 7.5 kilometres when they relocate. Against this background, the high failure rate associated with initiatives designed to attract newcomers to regions suffering from population decline is hardly surprising.

In this light, we must ask ourselves how a region can achieve regional economic development based on endogenous characteristics. In view of the path-dependent process of regional development and the difficulty of attracting newcomers from other areas, the most sensible approach is to look at the existing strengths and assets in the region first. There are several methods for identifying endogenous regional characteristics such as clusters and the labour market. The cross-border aspect in the approach to the region makes this study unique. Regions are generally delimited within national borders. Furthermore, opportunities in the neighbouring country are often spoken of in border regions but rarely defined in any detail. This study focuses specifically on the opportunities created by adopting a cross-border approach for the region. The Dutch-German Rhine-Meuse-North Euroregion is central to this study.

Our cluster analysis in this cross-border region is based on a radar chart of *regional economic growth*. The study assesses the cross-border region's performance by comparing quantitative metrics to various benchmarks. That comparison identifies opportunities for cross-border cooperation within the different economic segments. Finally, these practical insights are assessed based on different cluster theories to produce a set of recommendations.

This study of the regional economic status of the Rhine-Meuse-North Euroregion is part of the Intergovernmental Programme,[3] an initiative set up by central government, municipalities, provincial authorities and water boards in the Netherlands. The Rhine-Meuse-North Euroregion is one of a number of field lab projects that focus on researching and improving intergovernmental cooperation. The unique aspect of this field lab initiative is its cross-border nature. Both Dutch and German partners participate in the field lab project. The 'engine of regional economic growth' model has been chosen as the assessment framework for the Intergovernmental Programme. The Fontys Cross-Border Business Development Research Group is responsible for carrying out the regional economic analysis in this field lab project.

3 More information about the intergovernmental programme (in Dutch) is available here: Over het IBP | Overheid van nu

2. Theoretical background

The presence of agglomeration benefits is one important condition for economic success as a region. Agglomerations are local concentrations of economic activities. Agglomeration benefits are the benefits that companies and households enjoy when they are located close to other companies and households. These benefits can make companies more productive and innovative, or result in faster growth. The fact that economic activities are not evenly spread across a region is both clear and clearly observable. The Randstad area in the Netherlands or Brainport Eindhoven are good examples. Both academics and policy-makers are keenly interested in agglomerations. Theories that explain the mechanisms behind the spatial clustering of companies have existed since the end of the 19th century (Marshall 1890/1916, Weber 1909/1929, Hoover 1948, Myrdal 1957, Lloyd and Dicken 1977, Porter 1990/1998, Krugman 1991 and Enright 1998).

A relevant question concerning agglomerations concerns the motives and driving forces which generate, maintain and further intensify those agglomerations. Clustering is generally mentioned as one of the factors that contribute to the agglomeration capacity of a region. This factor is central to this study. The academic world has not yet reached consensus on whether clustering (regional specialization) contributes more to the good economic performance of companies, and, by extension, to regional prosperity, than (urban) agglomerations that encompass a diversity of economic activities. The relevant academic literature debates whether a specialized economic structure is better for economic performance than a non-specialized economic structure.

The literature distinguishes between three types of agglomeration effect, based on the characteristics of the economic structure of cities. Agglomeration benefits are identified as: external benefits that arise for all companies in the city, regardless of the sector in which they are active (urbanization benefits, the density and mass of people and companies), external benefits for companies active within the same sector (localization benefits or Marshallian externalities, specialization), and external effects resulting from the variety of sectors that are nearby (Jacobian externalities, variety).

Urbanization benefits are the result of urban size and density, while localization benefits arise from regional concentrations of companies in the same sector (specialized clusters) and Jacobian externalities arise from a variety of sectors in a region (Rosenthal & Strange 2004). In general, urbanization benefits are more important in cities that have many knowledge-intensive companies and services, while localization benefits play a greater role in geographical clusters of specialist industrial activities (Duranton & Puga 2000).

A recent addition to this debate is the idea that 'variety' in itself may be a less interesting phenomenon for research than 'related variety': the presence of sectors related to each other through a shared knowledge or technology base. The idea is that spillovers primarily occur between sectors that have some degree of overlap at a basic level, as opposed to unrelated sectors. Excessively large differences make it impossible to learn from each other because the knowledge offered is either not understood or cannot be evaluated realistically. An excessively low skills overlap also results in little labour mobility between sectors. Although the latter type of variety may be of interest due to the spread of cyclical economic risks across different sectors, lower returns are to be expected from the point of view of cross-fertilization.

The literature on the type of agglomeration effects is also linked to the type of innovation. For example, Frenken, Van Oort & Verburg (2007) indicate that related variety is more likely to lead to radical innovations (new products) and increased employment opportunities. The combination of knowledge and technologies between related sectors leads to new combinations as discussed by Schumpeter (1997), whereas localization benefits tend to lead to incremental innovations in the form of productivity improvements. Saviotti & Pyka (2004) emphasize this difference in the types of innovation. Furthermore, unrelated variety is more likely to lead to a portfolio effect and, by extension, to a reduced probability of high regional unemployment.

Earlier research shows which agglomeration benefits apply in North and Central Limburg. For example, (updated) research into the economic variety in the Netherlands shows that unrelated variety is high in in both North and Central Limburg (Weterings, van Oort, Raspe, Verburg 2007). The resulting employment opportunities are the most evenly distributed across the different sectors in these regions. Furthermore, the unemployment figures also reflect the fact that unrelated variety is high. Unemployment in Limburg is generally slightly lower than the national average. In 2004, Weert in Central Limburg was the municipality with the highest unrelated variety in the Netherlands. However, the level of related variety is weak in both regions. This limited related variety exists mainly in the major cities and surrounding regions, such as the Brainport region. So related variety is also clearly linked to the degree of urbanization. Only The Hague lags somewhat behind in terms of related variety; this is due to the relatively high number of people employed in public administration. As far as the author knows, no information is available about related variety on the German side of the border.

When we look specifically at literature on agglomerations, clusters and innovation in border regions, we see that 'cross-border regional innovation systems', abbreviated as CBRIS, is a common concept (Trippl 2006, Weidenfeld 2013, Van den Broek & Smulders,2015). The theoretical underpinnings of CBRIS have their origins in literature on industrial districts (Brusco, 1982), clusters (Porter, 1990), learning regions (Maskell & Törnqvist, 1999) and regional innovation systems (Cooke, 1992; Lundvall, 1992). CBRIS focuses strongly on innovation, which is partly determined by factors such as knowledge generation, knowledge application, the regional policy subsystem and socio-cultural factors (Makkonen & Rhode 2016).

In this study, we focus more on the basic platform required to generate innovation rather than on innovation itself. For example, a solid knowledge infrastructure and the presence of a balanced professional workforce. So far, little research has been carried out with regard to opportunities for cross-border agglomerations. One of the few studies exploring this topic was carried out by 'Atlas for voor gemeenten' (2020). This research organization has developed an assessment framework for cross-border region-specific policy. They have classified border regions based on their urban character. Regions with a high degree of urbanization on both sides of the border can maximize the benefits of agglomeration. According to the assessment framework created by 'Atlas voor gemeenten', North Limburg is an example of a region of this type. Central Limburg is classified as a 'hinterland city'. A region without a large city of its own, adjacent to a region on the other side of the border that does have a large city. A region whose ability to become more attractive as a residential environment mainly depends on good accessibility to jobs across the border.

On the German side of the border, the Institut der deutschen Wirtschaft (IW) has attempted to classify German districts and cities. According to this source, the administrative district of Viersen (Kreis Viersen) can be designated as a densely populated area and the cities of Krefeld and Mönchengladbach as an agglomeration[4]. An attempt to classify cross-border regions is the report 'Territorial Cooperation in Europe. A Historical Perspective' by Wassenberg, Reitel, Peyrony and Rubió (2015, p. 79). In this report the Rhine-Meuse-North Euroregion is classified as a 'non-metropolitan type territory' in comparison to metropolitan type territories such as the 'Meuse-Rhine Euroregion'. Sohn and Stambolic, on the other hand,

4 See IW-Trends_2020-02-04_Hünnemeyer-Kempermann.pdf

recognize the urban potential of the Rhine-Meuse-North Euroregion as a 'core metropolitan border region', defined as "[…] metropolitan centres located close to a border and which also present a significant cross-border dimension" (2015, p. 12).

Ultimately, the status of a region depends on which assessment framework is used. Each research organization uses its own measurement indicators. One aspect that is common to all these measuring instruments is the growing interest in indicators such as subjective well-being, health, social involvement and the environment. Indicators that strongly influence the attractiveness of the region in today's context.

However, no previous research has analysed a cross-border region based on a single set of indicators. This study uses the 'engine of regional economic growth' model developed by PBL to analyse the agglomeration capability of the Rhine-Meuse-North Euroregion. This model is based on at least eight factors that are important for regional economic growth. They are: clusters, entrepreneurship, human capital, knowledge infrastructure, physical infrastructure, financing, governance and the living environment and residential climate. This model is just one of many regional economic analysis frameworks. For example, there are several instruments for measuring regional economic status. These include the 'Brede Welvaartsindicator' developed by Utrecht University and RaboResearch and the area attractiveness index used by 'Atlas van gemeenten'.

These eight factors work together as cogs in the engine of economic growth (see figure 1). The economic engine works best when all the cogs are in motion and act reciprocally to accelerate each other. This involves a complete innovation system. The relationship between the factors is important. This is because regional development is not dependent on just one factor. There is no uniform path to economic success. Furthermore growth processes are often path-dependent; i.e. new economic growth has its origins in earlier structures. Chance, or unplanned events, can also play a role at the beginning of a growth process. A large company's choice of location is one example of this. Furthermore, regional growth is also partly driven by (changes in) external demand patterns, both nationally and internationally (Thissen et al. 2017). Institutional and macroeconomic reforms and the removal of trade barriers at governmental levels outside those of the region itself also often play a role (Planbureau voor de Leefomgeving 2017, p. 13).

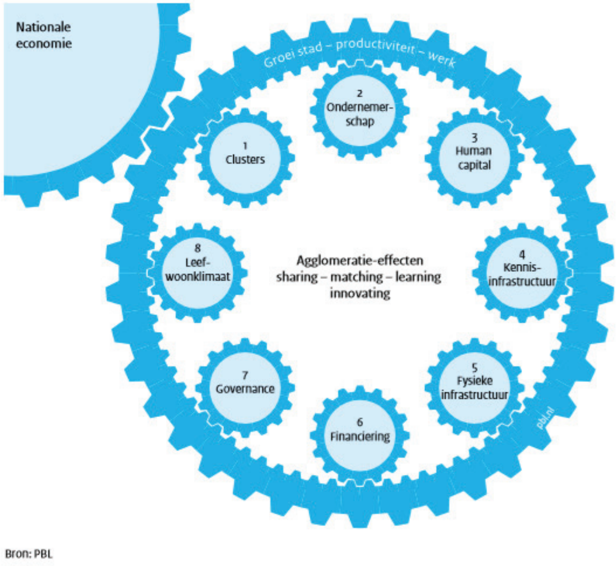


Figure 1: The regional economic growth engine

3. The cross-border region

In most cases, a region is generally defined as an area inside a specific country. Furthermore, regional economic policy is often linked to existing economic and/or administrative systems. In spite of this national focus, we have seen the emergence of a number of cross-border regions in recent decades. These are regions that extend across an internal European border. There are a number of cross-border regions along the Dutch-German border, including the Rhine-Meuse-North Euroregion. The cross-border region's ambition is to contribute to cross-border development of these eight factors, among others.

At present, we still see that each national area in the Euroregion attempts to achieve regional economic growth in its own manner, with an occasional initiative now and then that extends beyond the national border. In spite of the attempts to work on cross-border governance, a cross-border knowledge infrastructure and so on, there are still two governance structures, two knowledge infrastructure systems, etc. in most cases. So, an analysis of the Rhine-Meuse-North Euroregion as a whole would not present a fair picture. Even though the social and economic dynamics in the border region cannot be disassociated from the border situation, the cross-border connections are still too weak in many respects. At present, there are no signs of a cross-border economic engine. Therefore, an analysis on Euro-regional scale is nothing more than the sum of two subsystems (e.g. the number of patents, unemployment rates). However, two barely interwoven systems say nothing about the potential of the whole. This explains our focus on identifying the possible added value of a cross-border perspective. The main question that this study seeks to answer in this respect is:

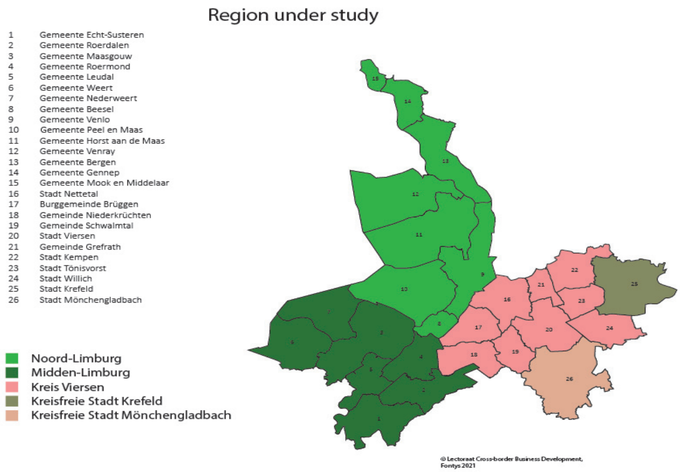
"To what extent could a cross-border perspective contribute to the regional economic growth of the Rhine-Meuse-North Euroregion?''

A note on geographical demarcation. From a geographical point of view, the study focuses on an area that is slightly different from the Rhine-Meuse-North Euroregion. This choice was prompted by data collection on the one hand and the balance between the Dutch and German sides on the other hand.

Reliable comparison of the Dutch and German data requires the use of data that has been collected in (roughly) the same way and that is publicly available. This is only possible at NUTS 3 level in relation to the themes of this study. NUTS is the abbreviation for Nomenclature des Unités Territoriales Statistiques: the regional classification used by this Eurostat, the European Office for Statistics.

In the Netherlands, the 40 COROP areas are classified as NUTS 3. In Germany, NUTS 3 refers to an administrative district (Kreis) and a very large municipality (Kreisfreie Stadt).

On the Dutch side of the border, North Limburg and Central Limburg have been analysed, which are both NUTS 3 regions. Some municipalities within these regions are not formally members of the Rhine-Meuse-North Euroregion. However, due to data collection constraints, these municipalities could not be excluded from the study. Furthermore, excluding some of these municipalities would make this study less relevant for the North Limburg and Central Limburg Regions. On the German side, the study analyses Kreis Viersen, Mönchengladbach and Krefeld, which are classified as NUTS 3 regions (see map 1).



Map 1: the geographical demarcation of the area under study

This geographical demarcation means that some municipalities in Kreis Heinsberg and Kreis Kleve, which are in fact part of the Rhine-Meuse-North Euroregion, have been omitted. Rhein Kreis Neuss and Landeshauptstadt Düsseldorf (the Federal State capital) have also been excluded from the analysis. For two reasons. Firstly, in practice it can be seen that there is a clear difference in the level of cross-border attention and activity between the three German NUTS areas selected for analysis and Rhein Kreis Neuss and Düsseldorf. The greater distance between these districts and the borders results in a reduced focus on the neighbouring country. Secondly, including these NUTS3 areas would lead to a distorted view of reality. This is because of the significant (economic) size of these areas, particularly *Landeshauptstadt Düsseldorf*, which has an exceptional and unique profile in this context.

Omitting these areas does not mean, however that they are not, or cannot be, of value for cross-border cooperation and, moreover, for the profile of the Rhine-Meuse-North Euroregion. On the contrary. Including Düsseldorf in the regional profile would extend the opportunities for the region in many ways. For example, the area's ability to attract international companies or raise funding.

4. Methodology

Within this study, our analysis focuses particularly on the 'clusters' factor as part of the radar chart. The PBL has drawn up a comprehensive set of indicators for the purpose of analysing this factor. A limited number of these indicators have been used in this study. These indicators were selected for two reasons: a) data sets that can be reliably compared with each other are available on both sides of the border, and b) when viewed together, the indicators provide a clear picture of the cluster opportunities in the Euroregion.

The strength of each separate region can be identified through separate analysis of both national areas within the Rhine-Meuse-North Euroregion. The analysis shows where the Euroregion and the separate areas are already strong, and specifically highlights areas where challenges still remain. Much of the data required for the study is based on secondary data sources. Information has been collected from a multitude of sources for the purpose of the regional analyses. Because a large part of the data is not collected and updated at European level, many analyses are based on different types of data source in the Netherlands and Germany. Nevertheless, the sources used provide a clear picture of the regional economic strength of both regions.

The cluster analyses have been drawn up on both sides of the border based on the standard industrial classification (SBI) codes used in the European Union. The SBI (Standaard Bedrijfsindeling) is a hierarchical classification of economic activities used by Statistics Netherlands (CBS) to classify business units according to their main activity. The SBI system includes a number of classification sets. For the purposes of this study, we have used the following classification sets.

- SBI A: agriculture, forestry and fisheries
- SBI B-F: industry including construction companies
- SBI G-I: logistics, trade, hospitality
- SBI J-U: other services such as healthcare, education, financial services and public administration

For the sake of convenience, we will refer to these sectors in the remainder of this chapter as 'agriculture', 'industry', 'logistics' and 'other services'.

The SBI is a fairly conventional industrial classification system. In recent decades, more and more industries have emerged at the interface between two or more pre-existing areas of economic activity. For example, the digital industry, the medical industry, biopharmacy and the creative industries (European Cluster Observatory, 2014). As a result, relatively little data that can be used for reliable comparison is available in respect of these industries.

In addition, the study analyses the following themes in each SBI category:

- the percentage of companies;
- the percentage of jobs;
- the percentage of added value.

This study uses three benchmarks in order to make a value judgement: We have compared the performance of the five separate NUTS 3 regions with national percentages, Euroregion percentages and binational percentages. Percentages are used without exception in the analysis. This approach was chosen, because the regions can vary considerably in size in terms of their inhabitants, the number of companies and the surface area. As a result, comparing statistics in absolute numbers would paint an unbalanced picture.

North Limburg and Central Limburg have been compared to the average in the Netherlands. Kreis Viersen, Krefeld and Mönchengladbach have been compared to the average in North Rhine-Westphalia (NRW). The Euroregional percentage refers to the average of the five separate regions. The binational percentage relates to the average for the Netherlands and North Rhine-Westphalia. In addition, we have compared the Euroregional percentage to the binational average in order to make valid statements about the cluster opportunities in the Rhine-Meuse-North Euroregion.

5. Results

The results are based on the following research questions:

1. How do the Netherlands and North Rhine-Westphalia compare in terms of the percentage of companies, jobs and added value in the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?
2. How does each separate NUTS 3 region compare to the national average in terms of the percentage of companies, jobs and added value in the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?
3. How do the five NUTS 3 regions compare with each other in terms of the percentage of companies, jobs and added value within the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?
4. How do the 5 NUTS 3 regions jointly compare relative to the average of the Netherlands and North Rhine-Westphalia in terms of the percentage of companies, jobs and added value within the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?
5. How does each NUTS 3 region compare to the average for the Netherlands and North Rhine-Westphalia taken together and the average of the de 5 NUTS 3 regions taken together in terms of the percentage of companies, jobs and added value within the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?

1. *How do the Netherlands and North Rhine-Westphalia compare in terms of the percentage of companies, jobs and added value in the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?*

There are clear differences between the Netherlands and North Rhine-Westphalia in terms of the sectoral composition and the associated labour market. Table 1 shows the percentage of companies, jobs and added value in the Netherlands and North Rhine-Westphalia in agriculture, industry, logistics and other services.

	Companies (%)		Jobs (%)		Added value (%)	
	The Nether-lands	North Rhine-Westphalia	The Nether-lands	North Rhine-Westphalia	The Nether-lands	North Rhine-Westphalia
Agricul-ture	5	2	2.4	0.5	2.1	0.5
Industry	14	19	13.6	34.8	19.7	27.9
Logistics	24	29	24.4	29.7	20.7	22.3
Other services	57	50	59.6	35	57.5	49.3
Total	100	100	100	100	100	100

Table 1: Netherlands and North Rhine-Westphalia

The first immediately obvious point is that agriculture is only a small part of the economy in both countries. Furthermore, 5% of all companies are needed to create 'just' 2.1% of the total added value in the Netherlands. In addition, the agriculture sector in the Netherlands is much stronger in percentage terms than in North Rhine-Westphalia. Only 2% of the companies in this *Bundesland* are active in agriculture. And their activities only yield an added value of 0.5%.

In the industry segment, we see that a company and a job in the Netherlands generate significant added value on average. The added value is almost equal to the added value in the logistics segment, which has 10% more companies and jobs. In the industry segment in North Rhine-Westphalia, which is much larger in percentage terms than in the Netherlands, we see that relatively few companies (19%) are required to generate a significant number of jobs (34.8%) and significant added value (27.9%). It can be assumed that the industrial companies in North Rhine-Westphalia are relatively large on average. This also fits in with the traditional, but increasingly outdated, image of the Ruhr area. Furthermore, logistics in North Rhine-Westphalia represents a larger part of the economy than in the Netherlands. Here too, it can be seen that the percentage of companies and jobs is higher than the percentage of added value.

In the other services segment in the Netherlands, the relationship between companies, jobs and added value is reasonably evenly balanced. The other services segment in North Rhine-Westphalia is much less extensive and less evenly balanced than in the Netherlands. The percentage of jobs (35%) is significantly lower than the percentages for companies (50%) and added value (49.3).

In brief, in the Netherlands, it can be seen more agricultural companies and companies active in the other services segment in percentage terms. In North Rhine-Westphalia we see more industrial and logistics companies in percentage terms. This ties in well with the image of the Netherlands as an agricultural country and Germany as an industrial country. However, the fact that the Netherlands has historically been a strong trading nation is not immediately apparent from these figures. It may only be possible to answer this question when the Netherlands is compared with other European countries or regions. A further striking point is that the industry segment in North Rhine-Westphalia accounts for one in three jobs. By comparison, the Netherlands has many more jobs in the other services segment, as much as 60% of all jobs.

2. *How does each separate NUTS 3 region compare to the national average in terms of the percentage of companies, jobs and added value in the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?*

In the following, the five separate NUTS 3 areas in the tables below will be discussed. The next step is to compare these figures with each other, and also the averages for the Netherlands and North Rhine-Westphalia.

If the figures for North Limburg are considered, it can be stated that agriculture and industry each account for one eighth of the total number of companies. The logistics segment accounts for one quarter of the companies. And all the remaining companies are active in the other services segment. When the factor jobs is considered, a different picture can be drawn. Agriculture accounts for just one twentieth of the jobs, industry is good for one sixth, logistics accounts for just over one quarter and, once again, half of all the jobs are in the other services segment.

The added value factor is structured very differently. The high share in industry, no less than 25%, stands out in particular. Despite the difference in companies and jobs relative to logistics, this equals the added value generated in the logistics segment.

	Companies (%)			Jobs (%)			Added value (%)		
	North Limburg	Nether-lands	Diffe-rence	North Limburg	Neder-land	Diffe-rence	North Limburg	Neder-land	Diffe-rence
Agricu-lture	10	4	+6	5.6	2	+3.6	7.5	2	+5.5
Indus-try	13	14	-1	16.4	14	+2.4	25	20	+5
Logi-stics	26	20	+6	28.7	24	+4.7	25.5	21	+4.5
Other services	51	62	-11	49.3	60	-10.7	42	57	-15
Total	100	100	0	100	100	0	100	100	0

Table 2: North Limburg

In Central Limburg, it can be stated that many companies (8%) and relatively few jobs (2%) are required in the agriculture segment to generate 3.6% added value. In the industry segment, a similar picture can be seen: relatively few companies (14%) and jobs (19.7%) are needed to generate 27.3% added value. In the logistics segment, many companies and jobs are required to generate 22.3% added value. In the other services segment, the percentages for companies, jobs and added value are reasonably evenly balanced.

	Companies (%)			Jobs (%)			Added value (%)		
	Central Limburg	The Nether-lands	Diffe-rence	Central Limburg	The Nether-lands	Diffe-rence	Central Limburg	The Nether-lands	Diffe-rence
Agricu-lture	8	4	+4	2	2	0	3.6	2	+1.6
Indus-try	14	14	0	19.9	14	+5.9	27.3	20	+7.3

	Companies (%)			Jobs (%)			Added value (%)		
	Central Limburg	The Nether-lands	Diffe-rence	Central Limburg	The Nether-lands	Diffe-rence	Central Limburg	The Nether-lands	Diffe-rence
Logi-stics	27	20	+7	30.4	24	+6.4	22.3	21	+1.3
Other services	51	62	-11	47.7	60	-12.3	46.8	57	-10.2
Total	100	100	0	100	100	0	100	100	0

Table 3: Central Limburg

In the agriculture sector in Kreis Viersen, the percentages for companies, jobs and added value are reasonably evenly balanced. In the industrial segment on the other hand, relatively few companies, but many jobs are required to create 27% added value. These ratios correspond to those for North Rhine-Westphalia. In the logistics segment, as in North Limburg and Central Limburg, relatively many companies and jobs are required to create 24.3% added value. Finally, the percentage of companies and added value in the other services segment are reasonably evenly balanced. Relatively few jobs are required for this.

	Companies (%)			Jobs (%)			Added value (%)		
	Kreis Viersen	North Rhine-West-phalia	Diffe-rence	Kreis Viersen	North Rhine-West-phalia	Diffe-rence	Kreis Viersen	North Rhine-West-phalia and	Diffe-rence
Agri-cul-ture	1.5	2	-0.5	2.2	0.6	+1.6	1.6	0.5	+1.1
Indus-try	22.1	19	+3.1	29.1	34.8	-5.7	27	28	-1
Logi-stics	29.8	29	+0.8	27.4	29.7	-2.3	24.3	22	+2.3
Other ser-vices	46.6	50	-3.4	41.3	34.9	+6.4	47.1	49.5	-2.4

	Companies (%)			**Jobs (%)**			**Added value (%)**		
	Kreis Viersen	North Rhine-West-phalia	Diffe-rence	Kreis Viersen	North Rhine-West-phalia	Diffe-rence	Kreis Viersen	North Rhine-West-phalia and	Diffe-rence
Total	100	100	0	100	100	0	100	100	0

Table 4: Kreis Viersen

In Krefeld, the role played by agriculture is hardly of any significance. However, relatively many companies and jobs are required for the 0.2% added value this segment generates. In comparison to North Rhine-Westphalia overall, the industrial sector here generates a relatively high level of added value, no less than 37.1%. Relatively few companies and jobs are required for this. Conversely, in the logistics segment, relatively many companies and jobs are required to generate 19.8% added value. The same applies to the other services segment.

	Companies (%)			**Jobs (%)**			**Added value (%)**		
	Kre-feld	North Rhine-West-phalia	Diffe-rence	Kre-feld	North Rhine-West-phalia	Diffe-rence	Kre-feld	North Rhine-West-phalia	Diffe-rence
Agri-cul-ture	0.6	2	-1.4	0.6	0.6	0	0.2	0.5	-0.3
Indus-try	17.8	19	-1.2	31.1	34.8	-3.7	37.1	28	+9.1
Logis-tics	28.6	29	-0.4	23.4	29.7	-6.3	19.8	22	-2.2
Other servi-ces	53	50	+3	44.9	34.9	+10	42.9	49.5	-6.6
Total	100	100	0	100	100	0	100	100	0

Table 5: City of Krefeld

The role played by the agricultural segment in Mönchengladbach is also of little significance. Relatively many companies are required to generate 0.2% added value. The industrial segment is reasonably evenly balanced in terms of the percentages for companies, jobs and added value. Conversely, in the logistics segment, relatively many companies and jobs are required to generate 23.2% added value. The other services segment, with a relatively large share of jobs, is again reasonably evenly balanced.

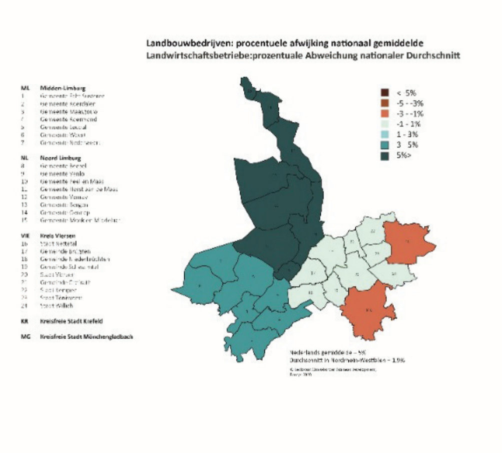
	Companies (%)			Jobs (%)			Added value (%)		
	Mönchengladbach	North Rhine-Westphalia		Mönchengladbach	North Rhine-Westphalia		Mönchengladbach	North Rhine-Westphalia	
Agriculture	0.7	2	-1.3	0.2	0.6	-0.4	0.2	0.5	-0.3
Industry	19.6	19	+0.6	23.6	34.8	-11.2	24	28	-4
Logistics	31.6	29	+2.6	26	29.7	-3.7	23.2	22	+1.2
Other services	48.1	50	-1.9	50.2	34.9	+15.3	52.6	49.5	+3.1
Total	100	100	0	100	100	0	100	100	0

Table 6: City of Mönchengladbach

3. *How do the five NUTS 3 regions compare with each other in terms of the percentage of companies, jobs and added value within the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?*

Now that a clear picture of the five NUTS 3 regions as separate entities has been developed, they can compare to each other in a meaningful manner. Comparison has been visualized in two ways, using graphs and maps. The graphs include the NUTS 3 regions and also the national averages for the Netherlands and North Rhine-Westphalia. The companies, jobs and added value are grouped by SBI code.

When zoomed in on the graphs and maps in relation to agriculture (see appendix I, graph X to X and map X to X), it is obvious that the Dutch side of the border scores significantly better than the German side of the border. When the Dutch side of the border is analysed, it can be stated that North Limburg scores significantly better than Central Limburg. On the German side, Kreis Viersen stands out in comparison to the other two NUTS 3 areas. In the light of the largely urban character of Krefeld and Mönchengladbach, this is hardly surprising.



Map 1: Agricultural sector, number of companies

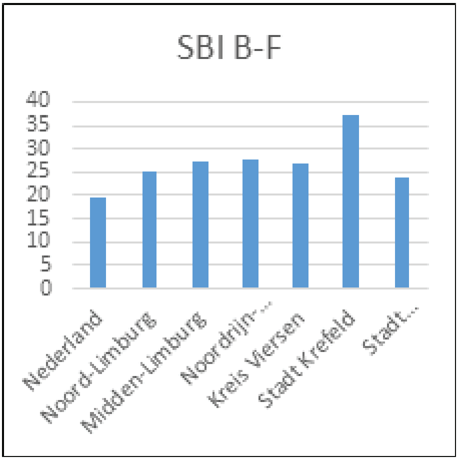
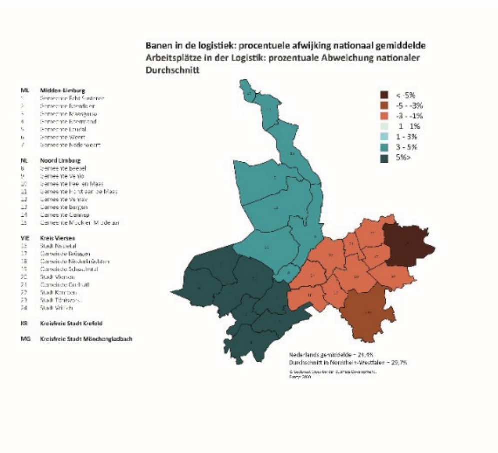


Figure 2: Industrial sector, added value

When the industrial sector is analysed from a Euroregional perspective, it is obvious that the German side of the border is strongly represented, particularly the city of Krefeld (Stadt Krefeld), followed by Kreis Viersen. The maps show a different picture because they illustrate the difference relative to the national average within a NUTS 3 area. It can be seen that industry in North Limburg and Central Limburg is extremely well represented relative to the national average (dark blue). On the German side, a variable picture can be seen. For instance, Kreis Viersen has many companies in the industry segment compared to the average in North Rhine-Westphalia and, in Krefeld, a relatively high level of added value is created in the industry segment. In terms of jobs in the industry segment, the German NUTS 3 areas score below average. This may be attributable to the extremely high percentage of industrial jobs elsewhere in North Rhine-Westphalia.

In the logistics segment, the percentages are close to each other. The Dutch and German sides do not differ much. The German side has a higher percentage of companies and the Dutch side has less jobs in percentage terms. In terms of the number of companies, the areas on both sides of the border score higher than the national benchmark. A clear difference in terms of the number of jobs can be seen. North Limburg and Central Limburg score significantly higher than the Dutch average. The same cannot be said of the German regions in comparison to the average in North Rhine-Westphalia. When the added value within the logistics segment is considered, the Dutch regions also create more added value than the Dutch average. On the German side of the border, we see perceptible differences in Viersen, Krefeld and Mönchengladbach.

Finally, in the other services segment, most of the regional percentages fluctuate between 40% and 50%. From the Dutch perspective, North Limburg and Central Limburg do not score well in this respect. After all, the Netherlands is a country with a very strong services segment. The German regions score slightly higher than the average in North Rhine-Westphalia, particularly in the case of Mönchengladbach.



Map 3: Logistic sector, number of jobs

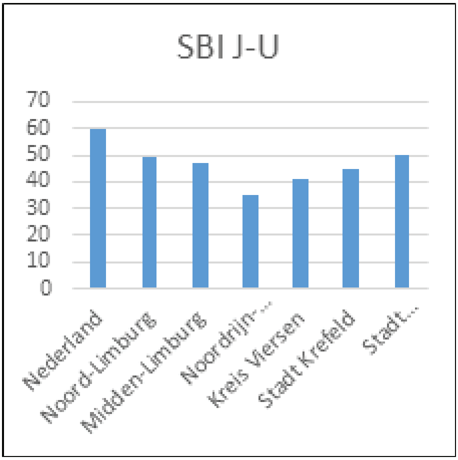


Figure 3: Other services, number of jobs

4. *How do the 5 NUTS 3 regions jointly compare relative to the average of the Netherlands and North Rhine-Westphalia in terms of the percentage of companies, jobs and added value within the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?*

In the following the averages of the five NUTS 3 areas as a kind of Euroregional value have been considered. The Euroregional values have been compared with the average in the Netherlands and North Rhine-Westphalia, the results give us a Euroregional average versus a binational average. So where does the Euroregion score well and less well? Table 7 compares the percentage of companies, jobs and added value within the Euroregion (sum of the five NUTS 3 areas) to the percentage of companies, jobs and added value in the Netherlands and North Rhine-Westphalia. The table also states the percentage increase or decrease relative to that percentage. The increases or decreases are purposely highlighted as an increase of, for example, 1.8% on a percentage of 5% is far more significant than an increase of 1.8% on a percentage of 20%.

	Companies			**Jobs**			**Added value**		
SBI code	**Euroregional percentage**	**Euroregional average compared to binational average**	**Increase in percentage**	**Euroregional percentage**	**Euroregional average compared to binational average**	**Increase in percentage**	**Euroregional average**	**Euroregional average compared to binational average**	**Increase in percentage**
SBI A	5.5	+1.8	+49	2.5	+0.7	+39	2.8	+1.5	+115
SBI B-F	17.6	+2.6	+17	22.9	+2.2	+11	28	+4.3	+18
SBI G-I	29.2	+6.9	+31	27.4	+1.2	+5	23.1	+1.7	+8
SBI J-U	48.1	-10.5	-18	47	-4.3	-8	46.1	-7.3	-14

Table 7: A Euroregional perspective

A relevant aspect to be underlined is that the Euroregional values for agriculture, industry and logistics are higher than the binational values. This applies across the board to the percentages for companies, jobs and added value. In the other services segment, the Euroregion scores clearly below average.

The percentages that stand out are primarily the added value in the industry segment (+4.3%) and the companies in the logistics segment (+6.9%). The latter is also clearly apparent in the landscape: numerous distribution centres characterize the region.

At first sight, the percentage differences between the five NUTS 3 regions and the binational average are the smallest in the agriculture segment. For example, an increase of 1.8% on a percentage of 3.7% is extremely significant as it represents an increase of 49%. The added value in agriculture in the Euroregion is an astounding 115% (!) higher than the binational average. The differences in the industry and logistics segments are much smaller in comparison to agriculture. Even so, differences of 18% (added value in industry) and 31% (companies in logistics) can still be considered significant. These are the areas where the Euroregion truly stands out.

5. *How does each NUTS 3 region compare to the average for the Netherlands and North Rhine-Westphalia taken together and the average of the de 5 NUTS 3 regions taken together in terms of the percentage of companies, jobs and added value within the SBI A, SBI B-F, SBI G-I and SBI J-U standard industrial classification sets?*

Previously, each NUTS 3 region was compared to the national average in the country concerned. The table below shows even more clearly how a region relates to the national, binational and Euroregional average. The colour codes indicate positive or negative values. Clear patterns emerge when all five NUTS 3 regions have been compared to each other. The horizontal axis shows how the regions relate to each other within a specific economic segment. The vertical axis shows the strengths and weaknesses of an individual region.

In addition, the table below lets us determine how an economic segment can profile itself most effectively in the region; either individually or as part of the Rhine-Meuse-North Euroregion. In cases where the value is positive, i.e. green, in the 'deviation from the Euroregional average' column, the region in question can profile itself most effectively an individual basis. The region's own values exceed the Euroregional average in this case. If a value is negative, i.e. red, the region in question can profile itself most effectively at a Euroregional level. In this particular case, the region's own values are lower than the Euroregional average.

		The Netherlands								Germany											
SBI Code	Indicator	**North Limburg (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Central Limburg (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Kreis Viersen (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Krefeld (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Mönchengladbach (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average
SBI A	Com-panies	10.0	4.5	6.0	6.3	**8.0**	2.5	4.0	4.3	1.5	-4.0	-0.5	-2.2	0.6	-4.9	-1.4	-3.1	0.7	-4.8	-1.3	-3
SBI A	Jobs	5.6	3.1	3.2	3.8	**2.0**	-0.5	-0.4	0.2	2.2	-0.3	1.7	0.4	0.6	-1.9	0.1	-1.2	0.2	-2.3	-0.3	-1.6
SBI A	Added value	7.5	4.7	5.4	6.2	**3.6**	0.8	1.5	2.3	1.6	-1.2	1.1	0.3	0.2	-2.6	-0.3	-1.1	0.2	-2.6	-0.3	-1.1
SBI B-F	Com-panies	13.0	-4.6	-1.0	-2.0	**14.0**	-3.6	0.0	-1.0	22.1	4.5	3.1	7.1	17.8	0.2	-1.2	2.8	19.6	2.0	0.6	4.6
SBI B-F	Jobs	16.4	-6.5	2.8	-4.3	**19.9**	-3.0	6.3	-0.8	29.1	6.2	-5.7	8.4	31.1	8.2	-3.7	10.4	23.6	0.7	-11.2	2.9
SBI B-F	Added value	25.0	-3.0	5.3	1.3	**27.3**	-0.7	7.6	3.6	27.0	-1.0	-0.9	3.3	37.1	9.1	9.2	13.4	24.0	-4.0	-3.9	0.3
SBI G-I	Com-panies	26.0	-3.2	6.0	3.8	**27.0**	-2.2	7.0	4.7	29.8	0.6	0.8	7.5	28.6	-0.6	-0.4	6.3	31.6	2.4	2.6	9.3

		The Netherlands								Germany											
SBI Code	Indicator	**North Limburg (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Central Limburg (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Kreis Viersen (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Krefeld (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average	**Mönchengladbach (%)**	Deviation from the Euroregional average	Deviation from the national average	Deviation from the binational average
SBI G-I	Jobs	28.7	1.3	4.3	-2.5	**30.4**	3.0	6.0	4.2	27.4	0.0	-2.3	1.2	23.4	-4.0	-6.3	-2.8	26.0	-1.4	-3.7	-0.2
SBI G-I	Added value	25.5	2.4	4.8	4.1	**22.3**	-0.8	1.6	0.9	24.3	1.2	2.0	2.9	19.8	-3.3	-2.5	-1.6	23.2	0.1	0.9	1.8
SBI J-U	Com-panies	51.0	2.9	-11.0	-7.6	**51.0**	2.9	-11.0	-7.6	46.6	-1.5	-3.4	-12.0	53	4.9	3.0	-5.6	48.1	0	-1.9	-10.5
SBI J-U	Jobs	49.3	2.3	-10.4	2.0	**47.7**	0.7	-12.0	-3.6	41.3	-5.7	6.4	-10.0	44.9	-2.1	10.0	-6.4	50.2	3.2	15.3	-1.1
SBI J-U	Added value	42.0	-4.1	-13.5	-11.4	**46.8**	0.7	-10.7	-6.6	47.1	1.0	-2.2	-6.3	42.9	-3.2	-6.4	-10.5	52.6	6.5	3.3	-0.8

Table 8: Total overview

The table clearly shows that North Limburg and Central Limburg score particularly well in the segment of agriculture compared to the German regions. Kreis Viersen scores reasonably well in relation to agriculture. However agriculture is strongly under-represented in Krefeld and Mönchengladbach, as once would expect in view the strong urban character of these NUTS 3 areas.

The industry sector shows a very different picture of the region. For example, Kreis Viersen and Krefeld score strongly in relation to this economic activity, followed by the other three areas at some distance behind. This does not mean that industry does not perform well on the Dutch side of the border: the converse is true. The averages here are higher than the national averages. The low scores are attributable to the very strong degree of representation in the industry segment on the German side of the border.

The logistics segment is strongest in North Limburg and Central Limburg. However, logistics is also strongly represented in Kreis Viersen and Mönchengladbach. Finally, the other services segment is strongly under-represented in the region. Mönchengladbach is the only exception.

The vertical axis generates insights into both the regions as individual entities and the relationship between the regions. From a Euroregional perspective, North Limburg excels in agriculture and logistics. Furthermore, in comparison to the other NUTS 3 regions, we see that North Limburg scores extremely highly. The region exceeds the Euroregional, national or binational average in many respects. Thus, with the exception of the industry segment, a Euroregional cooperation profile is less necessary for North Limburg.

In Central Limburg, there is a fairly even split in terms of the strength of the different sectors. The region scores well in agriculture, industry and logistics. This applies in particular to agriculture and logistics, as in North Limburg. In agriculture, the region scores at the same level as, or higher than, the different benchmarks in all respects.

Kreis Viersen scores well in the industry and logistics segments. In both industry and logistics, the percentage of jobs lags slightly behind the average in North Rhine-Westphalia. In the case of the industry segment, this is logical in view of the enormous number of industrial jobs elsewhere in this federal state. On the other hand, when compared to North Rhine-Westphalia, the region has relatively many jobs in the other services segment.

Krefeld has a clear profile based on the analysis. The city excels in the industrial sector. This applies particularly to the number of jobs and level of added value.

The picture is not so clear in Mönchengladbach. A mix of industry, logistics and other services had been observed here. The city scores above average in terms of the number of companies in industry and logistics. From a logistics point of view, the region also scores highly in terms of added value. Furthermore, the region scores quite well in terms of the number of jobs in the other services segment. The same applies to the level of added value created in these sectors.

6. Conclusions and recommendations

The detailed cluster analysis presented in this chapter has resulted in a rich tapestry of statistics, maps and tables. The key question is how we should interpret all this information. Can a clear cluster profile within the individual NUTS 3 regions be identified? And has looking at the data from a Euroregional perspective led to new insights? And what does this mean in terms of the profiling opportunities for the individual regions and the Euroregion as a whole?

The first finding is that this extensive analysis does not present a totally unambiguous picture. We see that comparisons to the different benchmarks lead to different conclusions. Only a few patterns are consistently apparent, regardless of the benchmark. These are the results that can be established with a greater level of certainty. At the same time, it had to be emphasized again that, when two systems are only interwoven to a limited extent, drawing conclusions about the whole is dubious to say the least. So, this analysis mainly shows the potential added value of a cross-border perspective.

The study has primarily established that each NUTS 3 region has sectors where it is stronger and weaker. The NUTS 3 regions within the Euroregion generally score well relative to the national averages. For example, both North Limburg and Central Limburg score well in agriculture, industry and logistics. The situation on the German side of the border cannot be described so clearly. The picture there is diffuse. For instance, a region can score well in terms of the percentage of companies in a specific segment, but also score poorly in relation to the added value generated in that segment. Thus, it can be seen that Kreis Viersen scores well in terms of the number of companies in the industry segment, Krefeld scores well in terms of added value in the industry segment and Mönchengladbach scores well in terms of the number of jobs in the other services segment. Another point to note is that the clarity or diffuseness of a profile says nothing about the agglomeration strength of the area. The theoretical framework tells the gentle reader that diversity (often referred to as variety) is also important, alongside clustering.

What is also striking is that just one NUTS 3 region scores at a higher level than the Euroregional, national and binational benchmarks in a specific economic segment. The NUTS 3 region in question is North Limburg, and the economic segment is agriculture. The region shows exclusively positive values relative to the different benchmarks. Based on this, it can be concluded that North Limburg is a true agriculture region, both from a Euroregional and binational perspective. This observation fits well with the regional profile as the ‘healthiest region’. Central

Limburg also scores well in the agriculture segment, although the figures are not as strong as those for North Limburg. The percentages for companies, jobs and added value are all at roughly the same level as, or exceed, the Euroregional, national or binational benchmarks.

Furthermore, the study shows that the Euroregion as a whole is strong in agriculture, industry and logistics. In other words, strong in relation to 3 out of the 4 SBI standard industrial category sets included in the study. Agriculture in particular stands out from a Euroregional perspective. However, we must not forget that this conclusion is based on the sum of moderately intertwined parts. The Euroregional average, based on the five NUTS 3 areas, exceeds the average between the Netherlands and North Rhine-Westphalia in these areas of economic activity. When the Euroregional average is compared to either the average in the Netherlands or in North Rhine-Westphalia, a different picture can be observed. In this case, the Euroregion is strong in the industry segment from a Dutch perspective, but not so strong from the perspective of North Rhine-Westphalia. This is attributable to the industrial character of the Ruhr area. In short, the benchmark used determines the performance level within a specific economic segment in a specific region.

Even though a low degree of clustering might suggest that variety is high, it cannot be simply assumed that this is factual. The relationship between the different sectors must be investigated in more detail first. Therefore, no adequate conclusions can be drawn in this respect. We can, however, conclude that the Euroregion does not have a specifically clear and distinct profile. And even if this were the case, that would not automatically mean that active cross-border cooperation takes place within the economic segment in question. The analysis primarily shows that the different NUTS 3 areas in the Euroregion excel within different economic segments.

One aspect that requires further research is how the Euroregion and the regions within it score on the interface between sectors, e.g. in the field of *agri-tech*. That research might generate further insights about related variety. In addition, future research could look in more detail at specific specializations within the economic segments in the study. For example specializations such as greenhouse horticulture and mechanical engineering. The cross-border connections that exist within the economic segments in the study is a further aspect that requires clarification. Finally, in addition to the cluster analysis, the remaining seven cogs of the engine of regional economic growth should be investigated. The relationship between the factors is important. This is because regional development is not dependent on just one factor. Ultimately, only the resulting overall picture will provide meaningful information about the agglomeration strength of the five sub areas within the Rhine-Meuse-North Euroregion.

Policy and profiling

What significance do these quantitative results have for profiling and policy at this stage? The analysis does not provide a clear answer to this question. Based purely on the figures, it seems that North Limburg can most effectively profile itself in the area of agriculture. The Euroregional averages are lower. However, when one adds the land areas on both sides of the border together, it is clear that this is the most versatile horticultural area in Europe (MUMC n.d.). In terms of industry, the best policy for North Limburg would be to explore the opportunities for Euroregional cooperation and profiling. The latter is an interesting conclusion in view of the fact that all the regions have primarily tried to put themselves on the map separately until now[5]. This emphasizes the need to look across the border. This not only relates to sectoral branding at a national level, but also internationally. For example, a region that presents itself at NUTS 3 level within a regional framework would sell itself short in negotiations with foreign investors, such as companies from Asia. The authors´ advice would be to emphasize the strength of the region within a 360 degree circle around your geographical location.

The analysis also raises the question of what policy should be pursued at regional and Euroregional level. Should the regions focus on enhancing their strengths, or eliminating their weaknesses? The thing to keep in mind here is that there is no uniform path to economic success. Furthermore, growth processes are often path-dependent; i.e. new economic growth has its origins in earlier structures. Influencing processes of this type through policy is therefore a long-term endeavour.

The PBL suggests prioritizing '*backing challengers*' as the main policy objective. Such a policy does not focus on picking winners, which involves a clear choice in favour of specific sectors. Nor does it involve 'backing losers', which involves support for low-reward sectors. The best policy approach is to back challengers: encourage innovation within the current structure and support companies that challenge the established players. Rolling this out in the form of a policy mix is likely to boost the growth of promising new activities that are related to the economic activities, technologies, themes or challenges in the region.

On a final note. This study identifies where the different regions within the Rhine-Meuse-North Euroregion are strong. The cross-border approach has led to new and fresh perspectives. It forces entrepreneurs and policymakers to look beyond

5 One example of this is the 'Land van de makers' project, which aims to put the manufacturing industry in North Limburg on the map.

their own horizons. It provides insights into the characteristics of an area that is both extremely close in geographical terms and an area about which we often know very little. This knowledge base is of high importance for cross-border cooperation and economic development within European regions.

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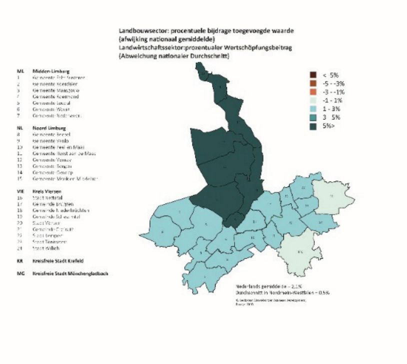
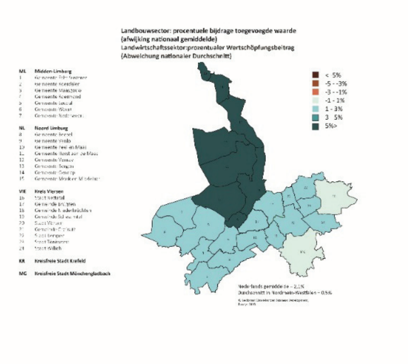
Appendix I

Figure X: The percentage of companies, jobs and added value in the agricultural sector





Map X: The percentage of jobs in the agricultural sector

Map X: The percentage added value created by the agricultural sector

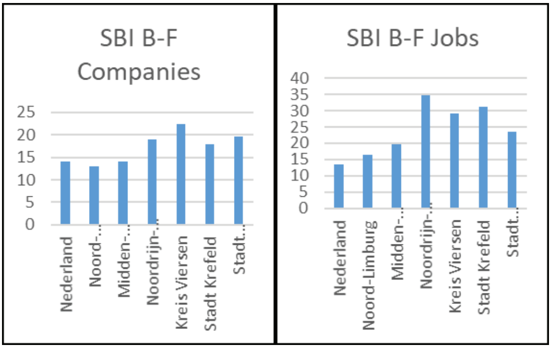
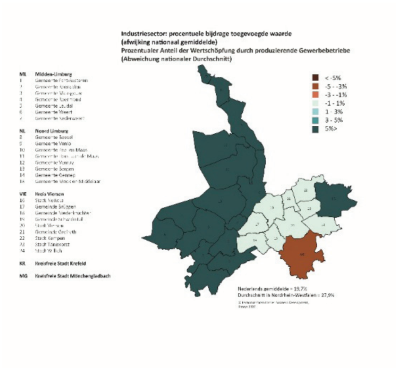
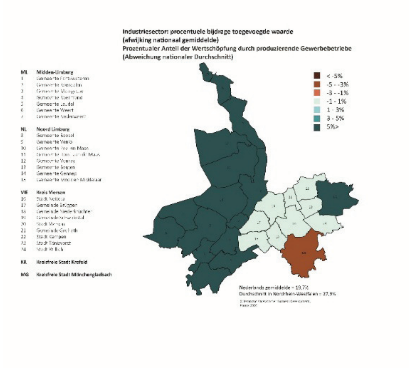


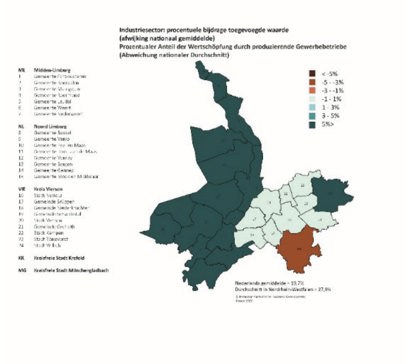
Figure X: The percentage of companies and jobs in the industrial sector





Map X: The percentage of companies in the industrial sector

Map X: The percentage of jobs in the agricu-ltural sector



Map X: The percentage added value created by the industrial sector

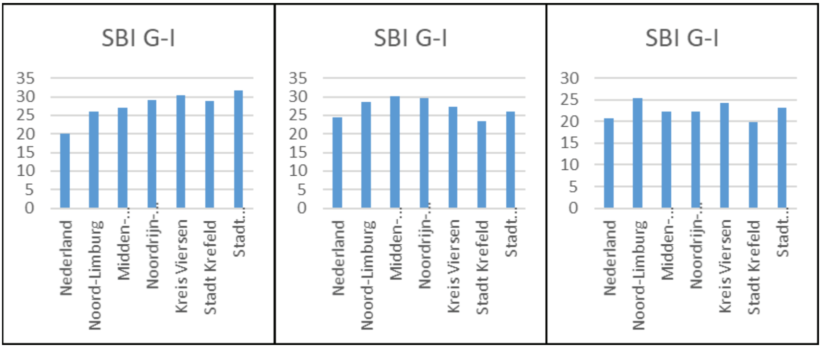
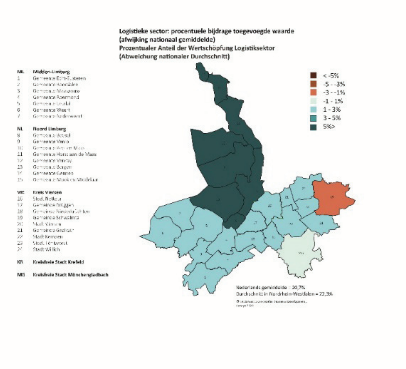
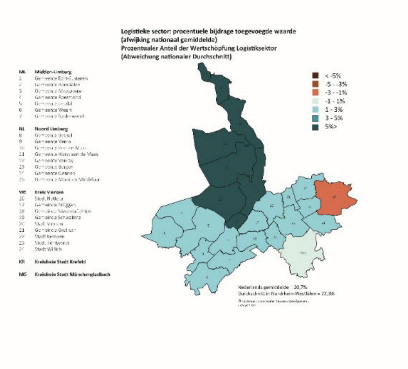


Figure X: The percentage of companies, jobs and added value in the logistic sector



Map X: The percentage of companies in the logistic sector



Map X: The percentage of added value created by the logistic sector

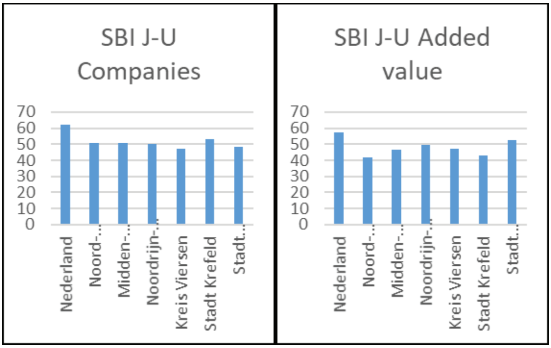
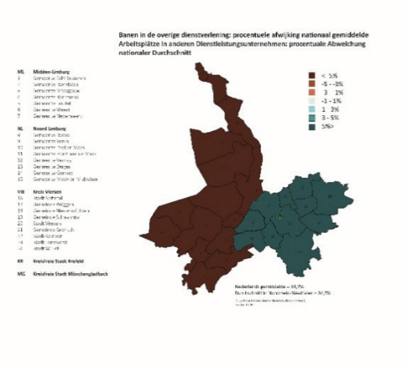
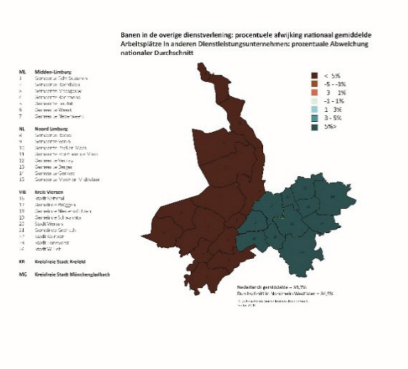


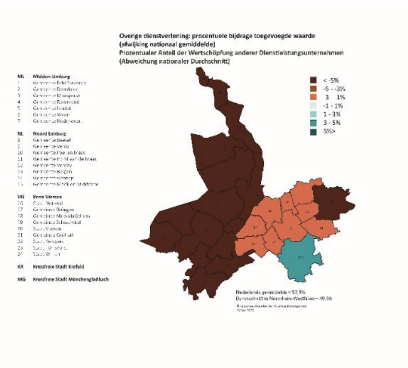
Figure X: The percentage of companies active in and added value created by other services





Map X: The percentage of companies active in other services

Map X: The percentage of jobs in other services related sectors



Map X: The percentage of added value created by other services related sectors

Chapter VI

Student preferences in job search – An analysis for the Euregio Rhine-Meuse-North

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1. Introduction

Demographic change, generational shifts and fierce competition on the labour market present companies with major challenges and make it difficult for them to attract and maintain suitable personnel (Bundesagentur für Arbeit 2019, 5). The demographic change is already far advanced in Europe and has a significant influence on the European labour market. More precisely, declining population figures and birth rates are leading factors of this progressive change (European Commission 2020, 9 ff.). In addition to that, the retirement of the Baby Boomer generation is supposed to leave a big hole behind, because more employees are entering retirement than young people coming through to replace them (Statistisches Bundesamt 2021). This impending shortage of qualified academic specialists and managers poses a challenge above all for small and medium-sized enterprises (SME) because these companies often have fewer financial resources and are inferior in the "war for talents" due to their often perceived lack of attractiveness in comparison to large companies (KOFA 2019). In addition, many SME are often not as well-known as large companies although several of them operate internationally and some are also world market leaders in their field. Employer branding is therefore gaining in importance, especially for SMEs. In order to position themselves as an attractive employer, companies need to know which factors play a decisive role in the choice of future employer. The needs and views of the young target groups should be in the focus. This means young employees who have just entered the labour market or students and pupils who will do so in the coming years. These young people belong to the so-called generations Y and Z. They have completely different values, norms and expectations than previous generations. Companies need to adapt to these changes in their recruiting process. Only if companies appear attractive in the eyes of these target groups, they will be competitive in the 'war for talents' in the future. Therefore, this paper analyses the preferences in job search of students in the euregio rhine-meuse-north.

After this brief introduction, the following chapter will explain the research problem, research aim and research approach of this study. Chapter 3 presents some theoretical considerations before chapter 4 continues with a description of the methodological approach of the study. The fifth chapter provides the results of the research and discusses them. Finally, a conclusion completes the paper.

2. Research Problem, Research Aim and Research Approach

The euregio rhine-meuse-north is a Dutch-German border region located between the Rhine and Meuse rivers. This metropolitan fringe region is characterised by many SME. The mega trends of demographic change, lack of skilled workers and generational shift pose a major challenge for this region. Furthermore, the special feature of a border region is that nationalities and cultures meet here. Cultural differences lead to different ways of thinking and working within the border region. This can also affect different preferences in job search. In addition, the border still has a certain barrier effect and makes it more difficult for companies in a border region to recruit qualified employees on the other side of the border. This is also the case in the euregio rhine-meuse-north. The euregio has a strong tertiary infrastructure with four universities in Venlo, Moenchengladbach and Krefeld. However, studies on the mobility of graduates educated in the border region show that parts of the euregio are affected by an academic brain drain (Hamm et al. 2013a; Hamm et al. 2013b). This means that many graduates of the local universities tend to leave the euregio after graduation.

The aim of this paper is to identify preferences in job search of students in the euregio rhine-meuse-north. In this context the following concrete research questions arise:

- What are the main attractiveness factors for students when choosing an employer?
- Are there differences in preferences according to origin (differences between German and Dutch students)?
- Which locations do students in the euregio prefer for their first employment after graduation?
- Which company size do students prefer for their future employer?

These questions will be addressed in a first step with a literature review on the Generations Y and Z as well as the euregio rhine-meuse-north and previous studies regarding this region. In the second step, a primary survey was conducted. Students at the two large euregional universities - Fontys Venlo University of Applied Sciences (Fontys Venlo) and Niederrhein University of Applied Sciences (HSNR) - were asked in an online survey about their preferences in job search. The results of this student survey make it possible to answer the research questions.

3. Research Literature Review

Due to the demographic change the retention and availability of qualified employees is becoming a decisive factor for the economic success of companies and their location regions.

Demographic changes in particular will worsen the recruitment conditions for companies in the coming years and decades. The progress of demographic change means that companies' workforces will grow older and human resources will generally become scarcer (European Commission 2020). In the wake of this decline in the working population, there is increasing talk of an impending shortage of skilled workers. Bottlenecks are already being felt today in technical professions, for example (Bundesagentur für Arbeit 2019, 6).

This problem especially affects SME. As these are often considered by highly qualified to be less attractive employers and also generally have limited resources for recruiting (KOFA 2019). It is therefore becoming increasingly important for SME to engage in employer branding. Employer branding is the process of building and maintaining an employer brand. The aim is to position the company as attractively as possible for employees (Achtenhagen et al. 2012, 2). To be able to do so, it is necessary to know which factors play an important role in the choice of employer.

The labour market is currently experiencing a generational change. While older employees, who belong to the baby boomer generation, are gradually retiring, students, who belong to the Generation Y but for the most part to Generation Z, are gradually entering the labour market and will reshape it according to their ideas in the coming years. According to the relevant human resources literature, these prospective junior employees are distinguished from previous generations by completely different values, norms and expectations. It is therefore important for companies to deal with the profile of Generation Y and Generation Z as employees at an early stage, but also with their demands on employers, in order to change and adapt to their needs and requirements and thus be able to secure the skilled workers of tomorrow.

Generation Y includes people born from 1981 - 1994 and in literature is referred to by a number of different terms, such as Millenials, Digital Immigrants, Net Generation or Generation @. These terms show how strongly new technologies, and in particular the internet, are shaping this generation. Members of Generation Y are very technology-savvy and spend a lot of time on laptops, smartphones or tablets and in social networks or chatting with friends. However, Generation Y only came into contact with the new media in their youth phase and first had to learn how to use them. Their socialisation phase was characterised on the one hand by a variety of private and professional opportunities, but also by crises, such as the attack on the World Trade Center in 2001 or the financial crisis in 2007. The increasing number of divorces and the establishment of different life models, such as patchwork families or same-sex relationships, have led to a further variety of options, but also to uncertainties and a loss of trust. At the same time, the Generation Y always strives for a search for meaning in their activities. This is also reflected in their choice of professional activities. This generation strives for self-realisation and meaningful tasks and is willing to change employers to achieve this. In this context authenticity of the company is particularly important to them (Parment 2009, 62 f; Klaffke 2014, 66 f.). Satisfaction is the top priority for this generation. In professional life, therefore, factors such as a good working atmosphere, flat hierarchy as well as training and development opportunities are particularly important. Less emphasis is placed on extrinsic rewards such as salary increases or additional privileges such as company car, but rather on a balance between work and private life, in other words, a good work-life balance. In addition to that, Generation Y also values flexibility at work for example more vacation days, home office or a casual dress code (Ryback 2016).

Generation Z inlcudes people born between 1995-2012 and is also referred to as Digital Natives because, unlike their predecessor generations, they did not have to learn and understand how to use the new media, but were the first generation to grow up with them completely and see them as an essential part of their lives (Prensky 2001, 1). This generation therefore also lacks the awareness to distinguish between classic and digital media, since all media have become digital by now (Lecturio 2015). The learning behaviour of this generation has also adapted to the speed and media content forms of the internet. Images and videos are preferred to text-heavy content (Prensky 2001, 1 ff.). This should also be considered in the marketing and recruitment measures of companies. It will become necessary to communicate more with visual content in the form of images and videos and to reduce the amount of text-heavy content. Generation Z is used to acquiring information promptly and on demand and processes information faster than predecessor generations (Reif 2014). In addition, they inform themselves even more extensively than Generation Y about brands, offers and companies and use rating platforms for this purpose. Moreover Generation Z is very concerned about the handling of personal data and strives for a clear separation between work and private life. Being available after working hours or even at the weekend is out of the question for Generation Z. They also strive for more responsibility and security (Rieder 2015).

Obviously, students seem to attach great importance to factors, such as a good working atmosphere, flexible working conditions and a good work-life balance. A 2014 study on HSNR students' preferences when choosing an employer concluded that a good working atmosphere is the most important factor for students (Fischer 2016, 36). An adequate salary and good training and development opportunities followed this factor on place two and three. Flexible working times and locations as well as reconciliation of work and family life were only rated as moderately important (Fischer 2016, 36). In addition, the survey showed that the size of the company does not play a major role in the choice of a future employer. It was interesting to note, that the preferred place of work was outside the Middle Lower Rhine region. The students preferred to take up a job in the rest of North Rhine-Westphalia or in the rest of Germany. The Netherlands, on the other hand, were not conceivable as a place to work for almost 60 percent of the students (Fischer 2016, 43).

Within the context of this paper, the student preferences in job search will be investigated considering students from the Dutch and the German side of the cross-border region rhine-meuse-north. Euregions are transnational associations in Europe, which promote cross-border cooperation. The euregio rhine-meuse-north is one of five euregions on the German-Dutch border (euregio rhein-maas-nord 2020a) The associated districts and cities are shown in the following figure 1.[6]

6 The study described here was conducted within the framework of the project "euregio campus – Limburg/Niederrhein" in which both large euregional universities - Fontys Venlo and HSNR - participate. In this project, the city of Duesseldorf is excluded from the measures, because it does not have the same problems as the rest of the region and is considered rather as competition. This means that when we talk about the euregio rhine-meuse-north the city of Duesseldorf is excluded.

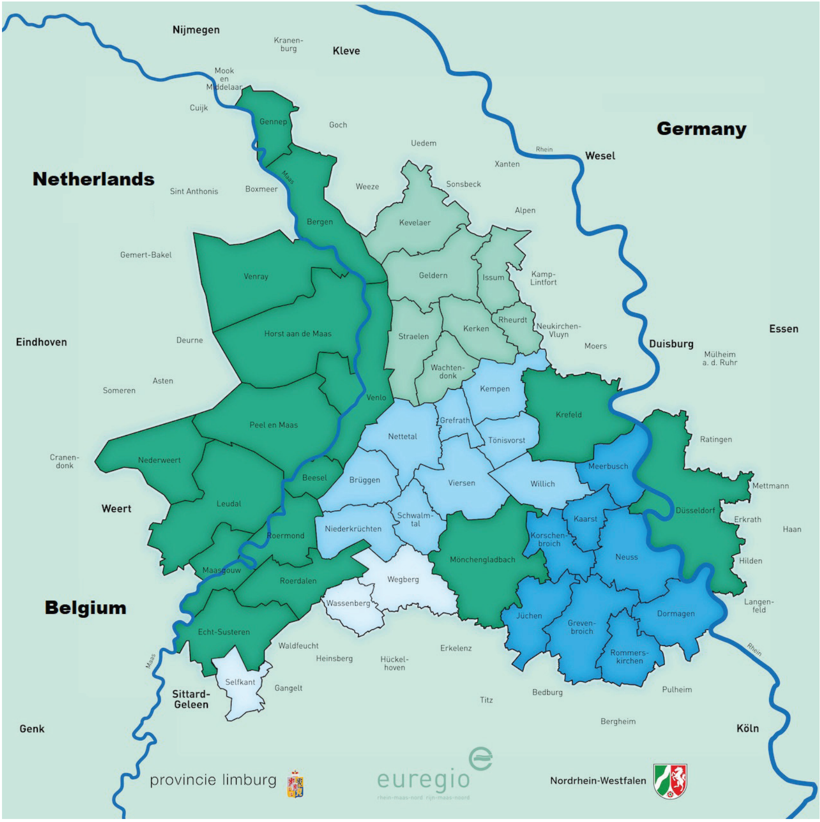


Figure 1: euregio rhine-meuse-north

Source: euregio rhein-maas-nord 2020b

The economy of the euregio rhine-meuse-north is characterised by a high share of SME and therefore particularly suffers from demographic developments. The Dutch-German euregio rhine-meuse-north has a strong tertiary education structure. Fontys Venlo with more than 4,000 students on the Dutch side of the border and HSNR with more than 14,000 students in Krefeld and Moenchengladbach on the German side of the border are the most important universities of the euregio. Consequently, the potential to supply the region with skilled professionals is generally available. However, former studies on the migration behaviour of Fontys Venlo and HSNR graduates show that partial regions of the euregio are affected by a brain drain (Hamm et al. 2013a; Hamm et al. 2013c). This means that an above-average proportion of students leaves the region after graduating which further exacerbates the shortage of skilled professionals in the euregio. The results of the analysis indicate that family reasons and friends as well as the availability of a job adequate to the professional qualification and ambition are the most important determinants of the migration decision of the graduates (Hamm et al. 2013c, 11; 2013b, 49). While the first reason can hardly be influenced, the second reason raises the question of whether the euregio can actually not offer university graduates a suitable range of jobs that are adequate for them. Previous studies indicate that this is probably not the cause, but that information deficits play a major role. On the one hand, students know too little about the mostly small and medium-sized entrepreneurial landscape in the Lower Rhine region (Hamm et al. 2013b, 56) and, on the other hand, the level of knowledge of many companies in the Lower Rhine region about the skills and qualifications of university graduates is often insufficient (Hamm and Wenke 2001, 36).

4. Methodology

Based upon the literature review on demographic change, the Generation Y and Z as well as the euregio rhin-meuse-north, the following hypothesis can be formulated.

H 1.1: 'A good working atmosphere and a good work-life balance play the biggest role for students when choosing an employer'
H 1.2: 'The preferences of German and Dutch students differ'
H 2: 'The majority of students can imagine working in a medium sized company'
H 3: 'Students do not want to work in the euregio'
H 4: 'Most students are insufficiently aware of the business landscape'

An online survey of students was planned aiming to test these hypothesis. This data gathering method is going to be considered because it is relatively quick and accurate. The survey was conducted using an anonymous digitized questionnaire. Using the university e-mail distribution list, students from all faculties of Fontys Venlo and HSNR have been contacted by e-mail and have been invited to participate in the survey. The student survey was conducted using a standardized questionnaire in order to enable a subsequent comparison of the data.

The survey was conducted within the framework of the INTERREG project "euregio campus Limburg / Niederrhein" in which both euregional universities (Fontys Venlo and HSNR) par-ticipate. In total, the questionnaire comprises of 27 questions or question batteries. Besides general questions, the questionnaire includes four further thematic blocks: living situation, university location, university, and choice of employer. For the paper on hand, only the last section regarding the students' choice of employer is relevant. Due to the high relevance of gathering information about employer preferences in order to attract and ensure skilled professionals for the euregio rhine-meuse-north, the choice of employer is the most extensive thematic block of the survey. This thematic block contains 12 questions or question batteries. Firstly, the questions deals with the place of work that students prefer after graduating. Either way, students are explicitly asked to reflect regions on both sides of the German-Dutch border, in order to investigate their willingness to migrate. The students' preferences regarding the size of a company are then investigated. In this context, the classification of the company sizes is based on the company classification of the European Commission. Moreover, it is examined whether the students already have gained relevant professional experience and have had contact with companies from the region. In addition to that, the level of knowledge regarding regional companies on both sides of the border is investigated and students were asked how they prefer to inform them-selves about job offers. When asked assessing the level of knowledge about the regional companies, it was again important to differentiate between both sides of the border. This assessment of the students was supplemented by a further question, in which the aided brand awareness of German and Dutch companies from the euregio was tested. Finally, the students were asked about their preferences regarding a complex list of attractiveness factors when choosing an employer. The examined criteria here are based on previous studies of employer attractiveness. Due to the complexity of this question battery, the 23 criteria have been clustered for better structuring. Based on this approach, three work-related thematic blocks have been derived: criteria regarding the company/ product/ service and the working environment, criteria regarding compensation, and criteria regarding the company location.

At HSNR, all approximately 14,000 students were asked to participate in the survey. 1,157 of them responded to the survey and completed the questionnaire, which corresponds to a response rate of 8.3 percent. At Fontys all 4,000 students were contacted and 449 of them participated which corresponds to a response rate of 11.2 per cent. 56.3 percent of the surveyed students is female, 43.2 percent male and 0.5 percent divers. The larger percentage of students are still in the bachelor's program (59.0 percent). In order to be able to include the origin of the students in the analyses, the question about the place of acquisition of the university entrance qualification was used. All students who have acquired this in Germany are referred to as 'German students' in the further course. 'Dutch students' have acquired their university entrance qualification in the Netherlands. This statement therefore does not refer to the nationality of the students.

As the survey is intended to provide information about the population, the sample must be selected in such a way that the result of the survey can be used to draw as accurate a conclusion as possible about the proportions of the total. The sample thus represents a thumbnail of the population. The better the sample represents the population, the more precise conclusions about the population can be drawn. It is important to select a representative sample that is nevertheless realistically feasible. For this reason, the sample size is calculated as follows.

$$n = \frac{[z^2 * p\,(1-p)\,]\;/\;e^2}{1 + \;[z^2 * p\,(1-p)\,]\;/\;e^2 * N}$$

n = Sample Size
z = Z-Score
p = Population Proportion
e = Margin of Error
N = Population Size

For the calculation of the sample, this results in:

$$n = \frac{[1.96^2 * 0.5\,(1-0.5)\,]\;/\;0.05^2}{1 + \;[1.96^2 * 0.5\,(1-0.5)\,]\;/\;0.05^2 * 18{,}000}$$

The selected safety factor z = 1.96 ensures that with a high degree of certainty (95%) the sample result does not deviate more than 1.96 σP from the true value sought. From this, with an accepted standard error of *e* = 5% and a Population Size of 18,000 students, it follows that the sample size is n = 377.

5. Results and Discussion

In a first step, the authors aim to analyse the preferences of students of the euregio rhine-meuse-north in their choice of an employer. The results provide information about which characteristics make companies appear attractive as employers in the eyes of students of the euregio rhine-meuse-north. Therefore, the students were asked to evaluate 23 factors on a 4-point Likert-Scale. The mean values of these evaluations are shown in figure 2. The grey line demonstrates the ratings of all surveyed students. The figure makes obvious that the most important factors when choosing an employer are a good working atmosphere, an adequate salary, training and development opportunities as well as good career opportunities and attractive offers for university graduates. The top three criteria are thus the same as in the HSNR study of 2014. (Fischer 2016, 36). A study by Augsburg University of Applied Sciences also concludes that the working atmosphere together with interesting tasks are most important to students (Regnet 2017, 4). This is in line with what theory says about Generation Y and Z. Self-realisation is an important factor to these generations. Therefore, it is not surprising that three factors of the top five criteria are related to self-realisation (training and development opportunities, good career opportunities and attractive offers for university graduates). The theory about the generations says that extrinsic rewards are less important, but still the students voted an adequate salary on the second place. The compatibility of work and family life is also an important factor and is ranked seventh. Most unimportant however are the size of the company and the brand recognition of the employer. Students seem to attach less priority to being employed by a large, well-known company. Other factors are much more important for them. For the SME in the euregio, this means that they are not perceived as unattractive employer due to their size or their level of recognition. In principle, SMEs appear to have comparable opportunities to large, well-known companies when it comes to students' choice of employer.

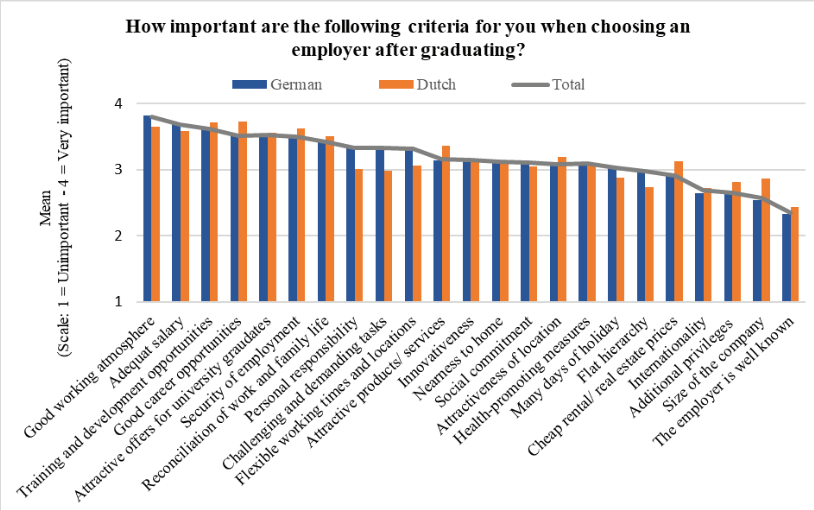


Figure 2 – Criteria for employer choice

Source: Author´s illustration

Since the euregio rhine-meuse-north is a border region, it is also exciting to consider whether there are different evaluations between the two nationalities. Findings about this could be important for companies that want to look for employees on the other side of the border. If there are differences, the employer branding strategy would have to be oriented towards this. The bars in figure 2 illustrate the differences between Dutch and German students. Some factors are obviously considered differently by 'origin'. Due to the large majority of students from Germany, their bars nearly agree with the total line. However, for Dutch students there are more important factors than the working atmosphere. The orange pillars show that good career possibilities and training and development opportunities are more relevant to them. The most unimportant factor for Dutch students is also the awareness level of the employer. Furthermore, internationality and flat hierarchies belong to the less important factors for students from the Netherlands.

The bar chart already shows some differences in the evaluation of German and Dutch students. In order to find out whether the evaluations are significantly different, a Mann-Whitney-U test was conducted. This test for independent samples examines whether the central tendencies of two independent samples differ. It is used when the requirements for a t-test are not met (Universität Zürich 2018).

The Mann-Whitney-U test shows that depending on 'origin' there are significant differences in the evaluations of eleven factors (see table 1). German students rate six factors significantly more important. Personal responsibility and challenging and demanding tasks are two of these factors. German students seem interested in taking on tasks independently at an early stage. SMEs offer the opportunity to take on a variety of tasks and responsibilities at an early stage (Achtenhagen et al. 2012, 4). This could be a point that makes SMEs seem interesting from the students' point of view. Furthermore, German students rate a good working atmosphere, many days of holidays, flexible working times and locations as well as flat hierarchies significantly more important than Dutch students do. This seems surprising at first glance, since flat hierarchies are more common in Dutch companies than in German ones (Deutsch-Niederländische Handelskammer 2020). Perhaps that is exactly the point. Dutch students are likely to take this for granted and therefore place less emphasis on this factor when choosing an employer. The same could apply to flexible working times and locations (Busse 2006, 9). Dutch students on the other hand evaluate attractive products and services as well as good career opportunities and cheap rental or real estate prices significantly more important than German students. Dutch students also perceive additional privileges and the company size as significantly more important. Nevertheless, both factors are among the less important when choosing an employer.

Table 1: Results of Mann-Whitney-U test

		N	Mean rank	Sum of ranks	U	Z	p
Attractive products/ services	German	1388	734.21	1019086.00	55120.000	-2.993	0.003**
	Dutch	95	855.79	81300.00			
Size of the company	German	1391	732.62	1019080.50	50944.500	-4.019	0.000**
	Dutch	95	902.74	85760.50			
The employer is well known	German	1399	743.84	1040630.00	61330.000	-1.365	0.172
	Dutch	95	801.42	76135.00			
Innovativeness	German	1379	737.67	1017241.00	61137.000	-0.645	0.519
	Dutch	92	711.03	65415.00			
Social commitment	German	1390	743.36	1033273.00	61352.000	-0.700	0.484
	Dutch	92	713.37	65630.00			

		N	Mean rank	Sum of ranks	U	Z	p
Security of employment	German	1401	744.33	1042801.00	60700.000	-1.650	0.099
	Dutch	95	810.05	76955.00			
Internatio-nality	German	1383	736.82	1019021.00	61985.000	-0.610	0.542
	Dutch	93	763.49	71005.00			
Good working atmosphere	German	1405	757.41	1064167.00	57023.000	-3.644	0.000**
	Dutch	95	648.24	61583.00			
Flat hierar-chy	German	1324	706.85	935863.50	41910.500	-2.648	0.008**
	Dutch	76	589.95	44836.50			
Flexible working times and locations	German	1394	752.21	1048577.00	51986.000	-3.337	0.001**
	Dutch	92	611.57	56264.00			
Reconcilia-tion of work and family life	German	1398	744.20	1040395.00	62494.000	-0.898	0.369
	Dutch	94	780.67	73383.00			
Attractive offers for university graduates	German	1396	745.25	1040368.50	65262.500	-0.297	0.767
	Dutch	95	757.03	71917.50			
Good career opportuni-ties	German	1399	738.74	1033504.00	54204.000	-3.470	0.001**
	Dutch	95	876.43	83261.00			
Training and development opportuni-ties	German	1402	744.34	1043566.00	60063.000	-1.928	0.054
	Dutch	95	817.76	77687.00			
Challenging and demanding tasks	German	1390	755.50	1050142.00	47263.000	-5.024	0.000**
	Dutch	94	550.30	51728.00			
Personal responsibi-lity	German	1391	756.05	1051670.00	48611.000	-4.804	0.000**
	Dutch	95	559.69	53171.00			
Adequate salary	German	1399	751.69	1051618.00	60587.000	-1.846	0.065
	Dutch	95	685.76	65147.00			
Additional privileges	German	1391	737.00	1025161.50	57025.500	-2.194	0.028*
	Dutch	94	831.85	78193.50			

		N	Mean rank	Sum of ranks	U	Z	p
Many days of holiday	German	1389	747.61	1038424.50	57496.500	-2.091	0.036*
	Dutch	94	659.16	61961.50			
Health-promoting measures	German	1387	741.68	1028714.50	64241.500	-0.256	0.798
	Dutch	94	730.92	68706.50			
Attrac-tiveness of location	German	1396	742.61	1036680.50	61574.500	-1.260	0.208
	Dutch	95	795.85	75605.50			
Nearness to home	German	1398	748.66	1046621.50	64089.500	-0.609	0.542
	Dutch	95	722.63	68649.50			
Cheap rental/ real estate prices	German	1372	725.91	995943.00	54065.000	-2.652	0.008**
	Dutch	93	837.66	77902.00			
**p-value <1%, * p-value <5%							

Source: Author´s illustration

The hypothesis 1.1 'A good working atmosphere and a good work-life balance play the biggest role for students when choosing an employer' can be partially confirmed for the German students. A good working atmosphere is most important to them. Dutch students, on the other hand, place greater value on self-realisation. Significant differences between German and Dutch students were also identified in some factors. Hypothesis 1.2 can thus be confirmed.

The euregio rhine-meuse-north is characterized by SMEs. For this reason, it is particularly important to find out whether these companies are perceived as less attractive than large companies by students. The previous evaluations already indicated that the company size and recognition of companies are of minor importance. In addition, the students were also asked for their preferred company size. The results of this question are presented in Figure 3.

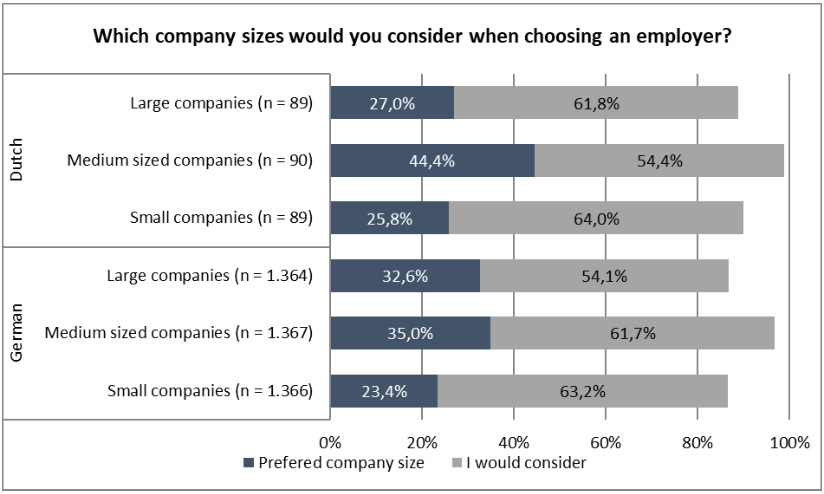


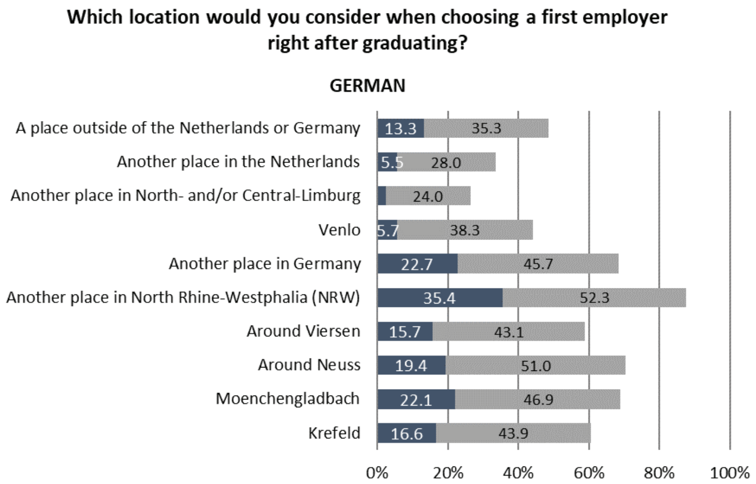
Figure 3 – Preferred company size

Source: Author´s illustration

The majority of students would consider all company sizes when choosing an employer. This result confirms that the company size is not an important factor in the employer choosing process of students. The most students of both 'nationalities' can imagine to work in a medium sized company. This applies to almost 100 percent of the students who acquired their university entrance qualification in the Netherlands or Germany. 44.4 percent of the Dutch students prefer to work in a medium sized company. For one quarter each, large and small companies are the preferred company size. Most German students prefer a medium sized company (35.0 percent), followed by a large company (32.6 percent). Thus hypothesis 2 'The majority of students can imagine working in a medium sized company" can be confirmed for the students of the euregio rhine-meuse-north. However, most Dutch and German students are flexible with regard to these company characteristics.

As already mentioned studies show that the euregio rhine-meuse-north suffers from a brain drain. Many students leave the region after graduation (Hamm et al. 2013a, 13 ff.). The question is whether the students want to do so or are forced to do so by other circumstances. Therefore, the students were asked where they would like to work after graduation. Figure 4 shows the results for the German and

Dutch students. The majority of German students prefers to work in Germany, but outside the euregio rhine-meuse-north. This applies to the results from HSNR study from 2014 (Fischer 2016, 43). The euregio is apparently perceived by the German students as less attractive than the rest of Germany. Nevertheless, more than half of the German students could imagine working in the German side of the euregio (Krefeld, Moenchengladbach, around Viersen, around Neuss). More than 40 percent of the German students could also image working in Venlo after graduation, but only one third elsewhere in the Netherlands. The border still seems to be a barrier. Many Germans study in the Netherlands, but would rather take a job in Germany afterwards. This also applies to the Dutch students. Figure 4 illustrates that more than 80 percent of the Dutch students can imagine working in the Netherlands. This is the case for the Dutch part of the euregio as well as for the rest of the Netherlands. However, less than half can imagine working in Germany and less than 10 percent prefer to work in Germany. Although they study so close to the border, most students do not consider the other side of the border as a job market. Hypothesis 3 'Students do not want to work in the euregio' can be confirmed for the majority of German students, but not for the Dutch students. Most of them can image to work in Venlo or another place in North- or Central-Limburg after their graduation.



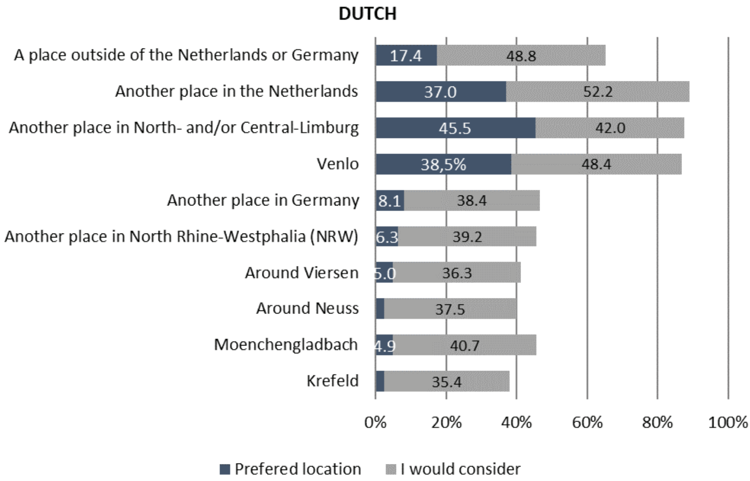


Figure 4 – Preferred location of first employer

Source: Author´s illustration

The question arises whether the low willingness (at least on the German side) to stay in the region has to do with the fact that students have too little contact with regional companies. The students were asked if they have (at least two month) working experience. 87 percent answered with yes. 56 percent of these students already had contact to companies from the surrounding area (Moenchengladbach, Krefeld, around Neuss, around Viersen, Venlo, Roermond or North- and/ or Central Limburg). Figure 5 shows whether these contacts have an influence on the desired location of the employer. The comparison shows that the willingness to stay in the euregio rhine-meuse-north increases when students already have contacts to regional companies. Most students without regional contacts can image to work in other parts of North Rhine-Westphalia or Germany (on the German side) after their graduation. Almost half of the students prefer another place in North Rhine-Westphalia. On the Dutch side, Venlo and the rest of the Netherlands are on an equal level, but more students prefer the latter location. Looking at the bar chart below, we see that contacts appear to have a significant impact on the preferred company location of students. On the German side, most students can still imagine taking up a job at another location in NRW. However, almost the same proportion can also imagine working in Moenchengladbach or Neuss. For 29 percent of these students, Moenchengladbach is even their preferred place of work. Krefeld, the district of Neuss and the district of Viersen are each the preferred location for around one-fifth. The willingness to stay on the German side of the euregio has increased noticeably due to contacts with regional companies. The preference to leave the region, on the other hand, has decreased. On the Dutch side, the positive effect of contacts with regional companies is particularly visible in the city of Venlo. The proportion of students who can imagine working in Venlo rises from 37 to around 53 percent. The effect on the remaining part of the Dutch side of the euregio, however, is very small. The results for the rest of the Netherlands are also quite similar. Contacts have an influence on the preferred employer location. In order to bind students to the region, it is therefore important to bring them into contact with regional companies during their studies. This is an important finding for regional companies, economic development agencies and universities. Students need to get in contact with the companies. The necessity of contacts is also shown by the further evaluations of the students' knowledge about the euregional economic landscape.

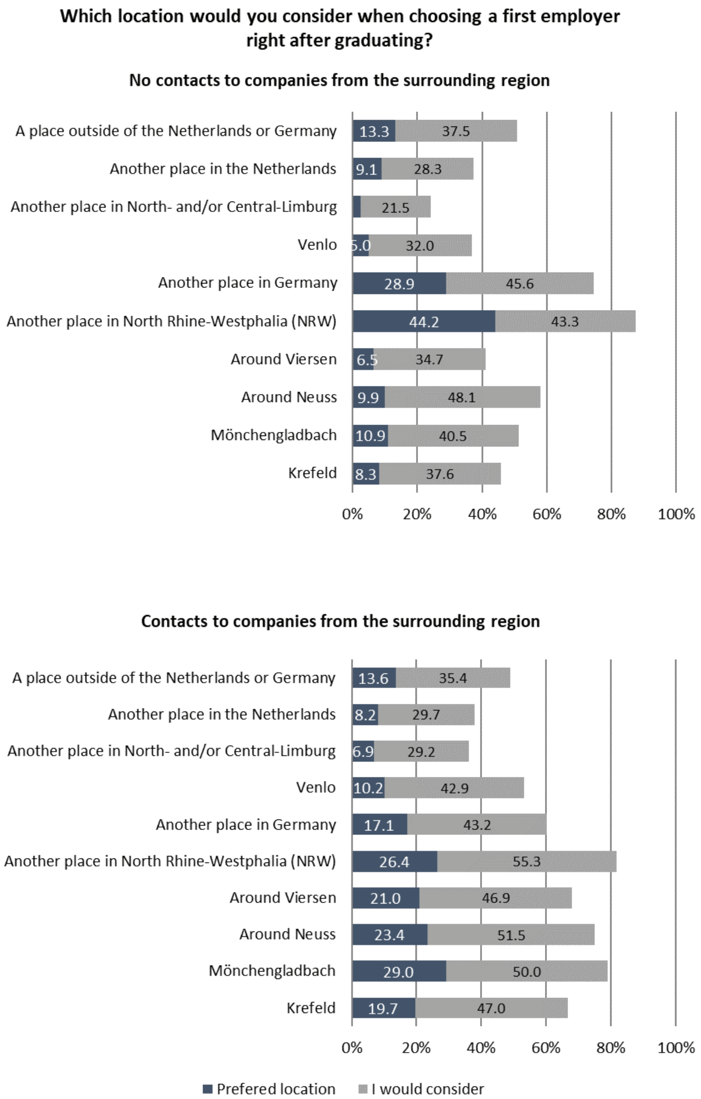


Figure 5 – Preferred location of first employer by contacts to regional companies

Source: Author´s illustration

The students were asked to rate how well they are informed about the euregional firms. They had to evaluate their knowledge about the German and Dutch side of the border region separately. The results in figure 6 show that their level of knowledge regarding the regional business landscape is expandable. This applies to both, German and Dutch students.

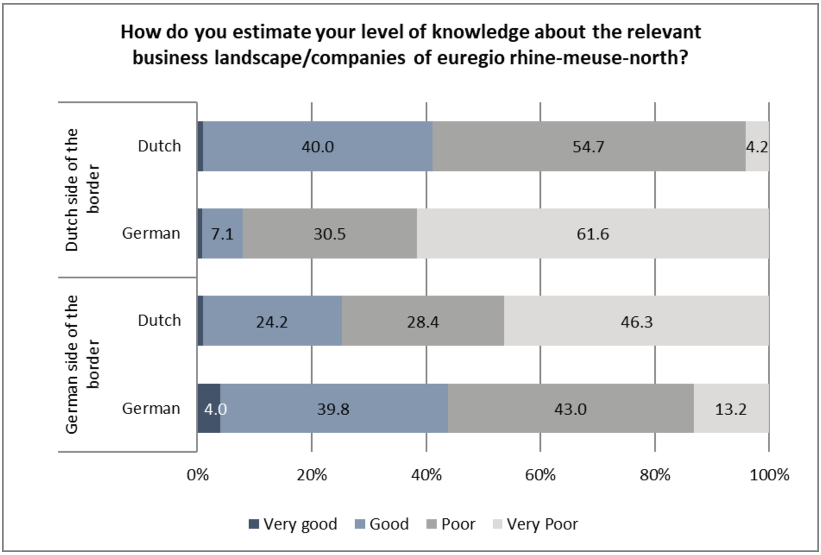


Figure 6 – Knowledge of the business landscape

Source: Author´s illustration

More than half of the German students believe that their knowledge about the business landscape on the German side of the euregio is poor or very poor. Only four percent think that they are very well informed. The knowledge about the companies on the Dutch side of the euregio is even worse. Less than one percent of German students believe they know the Dutch side of the euregio very well. Only 7.1 percent say they have a good knowledge. This means that around 92 percent are poorly informed about the business landscape on the Dutch side. This result shows the need for improvement. This applies also for the assessment of the Dutch students. Only 40 percent have a good knowledge about the Dutch side of the euregional business landscape. For the German side, the result is even worse.

Three quarters of Dutch students have poor to very poor knowledge of the German corporate landscape. This result is slightly better than that of German students, but it still illustrates the barrier effect of the border. Many students are already unfamiliar with the domestic companies in the area surrounding their university, and even fewer dare to look across the border. In order to clarify the level of knowledge about regional companies, the students were again specifically asked about their level of knowledge about certain regional companies. The students were asked to indicate whether they knew the companies only by name or whether they have deeper knowledge about the company. More well-known companies, such as 3M and Mars, were included in the survey. However, most of the companies surveyed are SMEs. Nevertheless, some of these companies operate worldwide or are even global market leaders in their field.

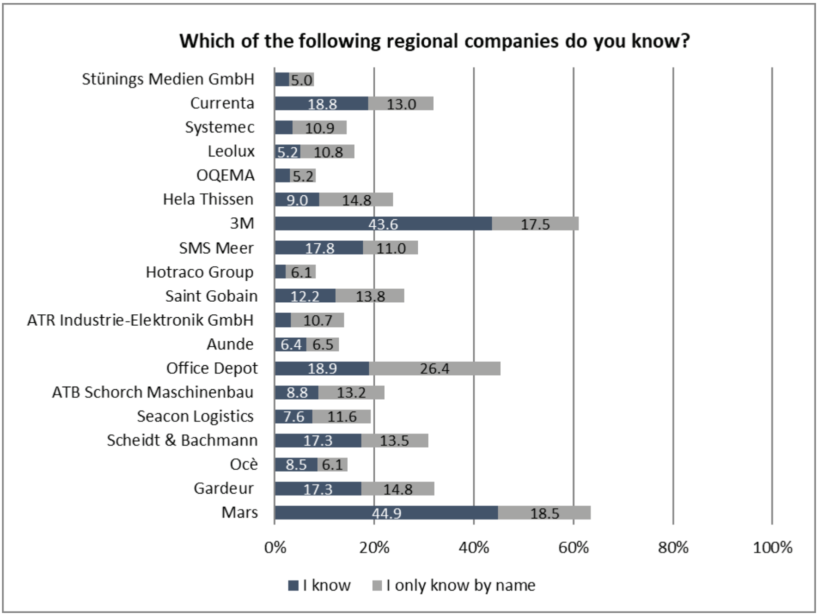


Figure 7 – Knowledge of regional SMEs

Source: Author´s illustration

Figure 7 shows the results for all surveyed students. The results show that only two companies are known to more than 50 percent of the students. These are the well-known companies 3M and Mars. Nevertheless, it is surprising how many students do not know the names of these two companies. Another explanation would be that they are not aware that the companies have a location in the euregio. This cannot be deduced from the results. At least 45.3 percent have heard of Office Depot in Venlo. The other companies are known to less than one-third of the students. This result illustrates that students at euregional universities are not sufficiently aware of the business landscape in the euregio. The fact that many students leave the region after graduation is therefore probably less due to the fact that the companies are perceived as unattractive, but much more because the students do not know them. The hypotheses 4 'Most students are insufficiently aware of the business landscape' could be confirmed on the basis of these estimations. This result also confirms previous studies. These also come to the conclusion that the students' low level of knowledge about regional companies is a reason for the regional brain drain (Hamm et al. 2013b, 56).

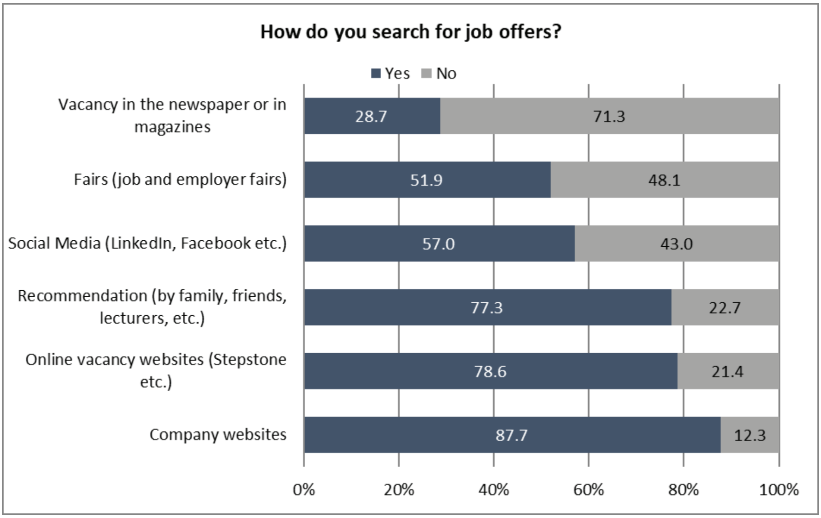


Figure 8 – Search for job offers

Source: Author´s illustration

This low level of knowledge becomes a problem in particular when we take a look at where the students look for job offers (see figure 8). 87.7 percent of the students inform themselves about the company website. The study by Augsburg University of Applied Sciences also comes to the conclusion that students most frequently obtain information about employers from the company website (Regnet 2017, 7). But they can only consider a company's website if they know the company. Therefore, unknown companies are not taken into account in the search process for a job. In addition to the company website, many students also search in online vacancy websites, like Stepstone. Placing ads on these well-known online job platforms is expensive. For many companies (especially smaller companies), the costs are too high to search for employees via this. This is probably the reason why SMEs are often not taken into account in the job search of students. However, recommendations also represent another important source of information for students. At this point, it is important that students are also made aware of SMEs. A stronger cooperation of the SMEs with the euregional universities could lead to a higher level of recognition and reduce the regional brain drain. Despite the social media affinity of Generation Z in particular, it is surprising that this channel is used much less frequently to find out about employers. However, it can be expected that the importance of social media in this regard will increase in the coming years.

6. Conclusion

The primary study has shown that students in the euregio rhine-meuse-north place particular value on a good working atmosphere, an adequate salary, training and development opportunities as well as good career opportunities and attractive offers for university graduates when searching for a job. This result is in line with other studies regarding the Generation Y and Z. Good working conditions and self-realisation are the two driving forces of these generations. Although they belong to the same generation and study close to the border, different preferences of Dutch and German students could be identified. German students place greater value on factors, such as the working atmosphere, flexible working conditions and flat hierarchies. For Dutch students career and further training opportunities are more important. This is maybe the fact, because informal and flexible working conditions are more common in the Netherlands (Busse 2006, 9; Deutsch-Niederländische Handelskammer 2020). Dutch students may simply assume these corporate characteristics. SMEs should take these results into account in their employer branding strategy in order to be perceived as an attractive employer from the perspective of students. The advantages of SMEs in particular, such as a good, family-like working atmosphere or responsible and varied tasks, should be highlighted. A positive result from the perspective of SME is that students do not attach particular importance to size and publicity of the firms. Moreover, the results show that German students in particular are more likely to work outside the euregio. In contrast, many Dutch students can imagine working in the Dutch part of the euregio. The other side of the border appears to be a less popular workplace from the perspective of German and Dutch students. The border still exerts a barrier effect due to different languages, cultures and legalities. In order to reduce this effect and to increase the willingness of students to stay in the euregio, it would be important to bring students even more into contact with regional companies. The results show that company contacts have a positive effect on the wish to stay in the region. Students with contacts to firms within the euregio prefer to find a job there. If the euregio wants to reduce the brain drain in the future, more measures must be taken to bring students and regional companies together. In order to increase the willingness to cross borders, it would be important that students also get to know companies on the other side. Cross-border study programs could help to increase the openness of students with regard to both labor markets. Such measures would lead to an improvement in the students' knowledge of the euregional corporate landscape. According to the current studies, this knowledge is still expandable for most students. This is especially true for the level of knowledge of the business landscape on the other side of the border. This low level of knowledge seems to be the fundamental reason why many students prefer to work outside the region. They are not familiar with many of the regional SMEs. Since students tend to look for jobs on company websites, they cannot even include these companies in their selection process. Instead, they look for the large, well-known companies, which are often headquartered in large cities such as Duesseldorf and Cologne.

The results of this study are of particular interest to companies, business development agencies and universities in the euregio rhine-meuse-north. The region and its companies are not unattractive to students. The students simply know too little about the corporate landscape. This applies to both the German and Dutch side of the euregio. SMEs should make themselves better known to this target group if they want to survive a shortage of skilled academic workforce to be expected in the future. Employer branding is becoming increasingly important. Companies need to know about the wishes and needs of the generation Y and Z in order to position themselves as attractive employers. For the regional and urban business development agencies it is of great interest that students remain in the region, too. A good supply of skilled workers benefits regional companies and thus the regional economy. Universities are also called upon to fulfill their function as educational institutions for highly qualified people and to provide sustainable impulses to the euregio. With their recommendations, the universities and professors also influence the students' job search. Close cooperations between universities and regional SMEs are therefore very important to counteract the brain drain in the euregio rhine-meuse-north.

The results also show the barrier effect of the border. For many years, measures have been taken to reduce this effect. Nevertheless, this impact is still present. As a border region, it should be in the interest of all euregional institutions to cooperate more closely and to promote cross-border exchange. The further reduction of the barrier effect of the border can lead to a competitive border region in the 'war for talents'. Cross-border projects pursue this goal and are important in order to grow together more strongly as a cross-border region in the long term.

This study provides insights into the preferences of students at Fontys Venlo and HSNR regarding their choice of a future employer. It also shows that the low level of knowledge and barrier effect of the border remains a problem. However, it does not provide knowledge about how students actually behave after graduation. Only graduate surveys can provide this knowledge. An update of the previous studies on the migration of graduates of the euregional universities could show how the brain drain in the region currently is. It would also be possible to determine the real reasons for leaving or remaining in the euregio. Furthermore, the present study deals exclusively with the euregio rhine-meuse-north. It would be interesting to conduct comparable studies for other euregios to see to what extent these results apply to border regions in general. The topic thus leaves room for further research.

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Chapter VII

Increase the consumer acceptance of insect-based food in western European countries

A German and Dutch market study

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Abstract

Insects could prove to be a sustainable solution to feeding the growing human population. While insects are already consumed in many countries, the acceptance of insect-based foods is very low in Western European countries. This cross-border study examined how the acceptance of German and Dutch consumers can be increased through marketing measures. To this end, the main factors influencing the assumption were identified. Market research and expert interviews were then carried out. According to the results of this research, consumers prefer insect-based foods in which the insects are not visible. Preference is given to foods that taste like and resemble known products. Disgust and food neophobia were identified as the largest negative factors affecting acceptance. Factors such as the willingness to experiment and positive taste experiences when consuming insects for the first time have been identified as potential drivers for higher acceptance. Based on the results of this work, recommendations for operational marketing measures are discussed.

1. Introduction

The Food and Agriculture Organization of the United Nations (FAO) estimates that the world population will rise to 9.1 billion people by 2050. At the same time, the demand for food and feed will increase by around 70%. In order to meet the increasing demand for food, annual grain production would have to be between 2.1 and 3 billion tons and meat production between 200 and 470 million tons (Van Huis, 2013). In order to adequately expand food and feed production, arable and livestock areas are created. However, the availability of land is limited. In addition, food production is often associated with high resource consumption and CO2 emissions (Meixner & von Pfalzen, 2018). Therefore, more environmentally friendly alternatives to traditional cultivation methods must be found.

Because of their nutritional value and their potential for environmentally friendly production, insects are an excellent complement to conventional food production (FAO, 2009). Edible insects contain high-quality proteins and other essential nutrients such as unsaturated fatty acids, vitamins and essential minerals (Rumpold & Schlüter, 2013; Van Huis et al., 2013; Makkara et al., 2018). In addition, edible insects are characterised by their comparatively lower water and land consumption than poultry, beef and pork (Orsi et al., 2019). Despite their ecological and health benefits, insects are not yet part of Western countries‘ diet (Hartmann et al., 2015). Consumer acceptance has been identified as one of the major barriers to the introduction of insects as a food and the greatest challenge facing today‘s insect industry (Van Huis et al., 2013; Verbeke, 2015; Mancini et al., 2019). Several studies (Lensvelt & Steenbekkers, 2014; Tan et al., 2015; Hartmann & Siegrist, 2016; Tan et al., 2016; Verbeke, 2015; Gmuer et al., 2016) have identified the responsible factors for the aversion to edible insects. However, according to Van Huis et al. (2013), food preferences are not permanent and can change over time.

Previous theoretical marketing approaches to increase the acceptance of eating insects (entomophagy) were based on educating consumers about the various benefits of eating insects (Meixner & von Pfalzen, 2018). DeFoliart (1999) recommends disseminating appropriate information through mass media and events such as Open Days. Hartmann et al. (2015) consider it unlikely that promoting insects as a food source based solely on their nutritional benefits would be an effective strategy for reaching diverse consumer groups. According to their study, marketing strategies should be geared towards convincing consumers through hedonistic characteristics of insect-based foods. Deroy et al. (2015) argue that increasing acceptance in the western world is more about sensory perception, it is also about cognitive processes.

Marketing strategies can influence consumer attitudes (Alsem & Kostelijk, 2016). However, only little information on novel food marketing strategies is available. In order to recommend marketing measures to increase adoption, it is necessary to analyse 1) the market for insect-based food products, 2) its products, and 3) the reasons for rejecting insect-based foods. So far, hardly any market data is available.

Insects have been subject to the Novel Food Regulation ((EU) 2015/2283) since January 2018. For each species, a permit must be applied for in order to enable the sale of this species or an ingredient made from this species in Europe (EFSA, 2021). Mealworms (*Tenebrio molitor* larva) were only recently approved by the European Food Safety Authority as the first insects to be officially safe for human consumption (EFSA, 2021). This is probably one of the reasons why the availability of insect products in European countries is still relatively low. At the moment, edible insects are rarely visible in German and Dutch food retailers and are mainly offered in online shops. In a field study, various insect-based foods such as muesli bars, pasta and burgers were found in some supermarkets (own study), but availability even seemed to decrease during the study period. In a survey conducted by Orsi et al. (2019) with 402 German participants, 56% of the respondents did not know that insect-based foods are available in Germany. Less than 12% of those questioned were able to name foods with insects.

A survey based on the awareness of insect-based food products in the Dutch market shows that only around 28% of the 101 respondents ever recognised that insect-based food products are available in Dutch supermarkets. Only 16% of those participants were able to name food products with insects available in the Dutch market. By looking at the willingness of buying foods with insects, the survey shows that more than 79% of those questioned, are not willing to buy these products (own study).

The aim of this study is to provide insight into increasing the acceptance of western European consumers through operational marketing. In this cross-border study, we focus on two countries: Germany and the Netherlands. First, a literature review was done to determine which factors influence the acceptance of insects amongst German and Dutch consumers. Second, to get an overview of the market, web research was conducted to determine which companies offering edible insects are active in the German and Dutch market and which products are available.

Thirdly to find out which marketing measures are most successful factors influencing acceptance, experts from various companies were interviewed and asked about their experience with measures to increase acceptance.

Based on the analysis findings, different marketing measures, that can potentially contribute to increasing acceptance, are presented. Suggestions are made for operational marketing measures to increase acceptance. Such recommendations are intended to serve SMEs as a guide for the development or adaptation of their marketing concepts.

2. Literature review: Factors that promote the acceptance of edible insects by German and Dutch consumers

An increasing amount of literature has focused on examining consumer acceptance of insects as a food and identifying the factors that play a role in this (Lensvelt & Steenbekkers, 2014; Tan et al., 2015; Hartmann & Siegrist, 2016; Tan et al., 2016; Verbeke, 2015). The following factors are highlighted in such studies: socio-demography, food neophobia, processing and preparation, visual appearance, curiosity and sensationalism, disgust, environmental and nutritional awareness, additional information about entomophagy, previous consumption and price. These factors are described below.

Socio-demographic factors

Previous studies have shown that willingness to consume insects is influenced by demographic factors such as age or gender (Orsi et al., 2019). In German and Dutch studies, men showed a greater willingness to consume insects than women (Hartmann et al., 2015; Tan et al., 2016; Lammers, Ullmann and Fiebelkorn, 2019). While in other studies this factor did not significantly influence the willingness to eat insects (Meixner & von Pfalzen, 2018, De Boer et al. 2013, Naranjo-Guevara et al., 2020). Nevertheless, Orsi et al. (2019) found that this discrepancy disappears if the insects are only used as an ingredient in the product. Hence, at least, gender does not have a significant impact on the acceptance of processed insects. The influence of age on the willingness to consume insects is shown in German studies such as Meixner & von Pfalzen (2018) and Orsi et al. (2019). Meixner & von Pfalzen (2018) describe this as low. They suspect that food neophobia increases with the age of the respondents.

Willingness to consume insects is also related to culture, and attitudes towards insect consumption vary across European regions (Deroy et al., 2015; Verneau et al., 2016; Menozzi et al., 2017; Sogari, Menozzi & Mora, 2019). For example, Piha et al. (2018) found that Finnish and Swedish consumers had more positive attitudes than Germans and Czechs. In their interviews with 231 young adults in Italy and 71 in the Netherlands, Menozzi et al. (2017) showed that the intention to eat a product containing insect meal is significantly higher in the Netherlands. Naranjo-Guevara et al. (2020) found no differences between German and Dutch students.

Food neophobia

Food neophobia, defined as the fear of unfamiliar food (Pliner & Hobden, 1992), emerges as one of the main influencing factors of acceptance (Hartmann et al., 2015; Verbeke, 2015; Hartmann & Siegrist, 2017; La Barbera, et al., 2018; Orsi et al. 2019). According to the literature, there is a significant negative effect of neophobia on the willingness to eat insects (Hartmann et al., 2015; Verbeke, 2015; Hartmann & Siegrist, 2016; Tan, Van Den Berg, & Stieger 2016; Piha et al., 2018). One way to reduce the possible impact of food neophobia is to combine the insects with known and familiar ingredients (Schösler et al., 2012; Caparros Megido et al., 2014; Hartmann et al., 2015; Tan et al., 2015; Gmuer et al., 2016; Tan, Van Den Berg, & Stieger, 2016).

Processing and preparation

Acceptance is strongly influenced by the type of processing (Gmuer et al. 2016, Tan et al., 2016). The preparation is described in the literature as a decisive factor influencing German (Hartmann et al., 2015) and Dutch (Tan et al., 2015) preferences. Familiarity with the product seems to improve willingness to consume in Germany and the Netherlands and is a driver for acceptance (Naranjo-Guevara et al., 2020). According to Hartmann et al. (2015) and Tan et al. (2017) the acceptance of edible insects in Germany and the Netherlands could be increased by including them in well-known taste profiles and well-known dishes. In addition, dishes have to meet consumer taste expectations. International studies show that insect dishes with well-known spices such as paprika or chilli are generally accepted (Caparros Megido 2014; Tan et al., 2015). On the other hand, Verbeke (2015) showed that insects' acceptance as a meat substitute was relatively low despite the familiarity of meat in European food culture. Only 19% of the respondents would be willing to choose insects as a meat substitute. Hartmann and Siegrist (2017), evaluated 38 products in which insects were processed as meat substitutes. The authors concluded that although some consumers are willing to eat such products, the respondents would not choose them as an alternative to meat. Similarly, in the study by Lammers, Ullmann and Fiebelkorn (2019), the willingness to buy an insect burger was higher than the willingness to consume it as a meat substitute. Therefore, it seems more promising to offer this sub-target group insect-based products as an option next to meat, rather than as a meat substitute.

The visual appearance

The preference for products in which the insects cannot be recognised is confirmed in the literature (Meixner & von Pfalzen, 2018; Hartmann et al. 2015; Orsi et al., 2019; Lammers, Ullmann and Fiebelkorn, 2019; Tan et al., 2015). According to Meixner and von Pfalzen (2018) and Schösler et al. (2012), the visibility of insects in food has a significant impact on German and Dutch consumers' willingness to try. Meixner and von Pfalzen (2018) suggest using insects initially as a protein source in powder or flour. Whole insects should not be offered until later, when consumers are already familiar with the concept of edible insects. It also makes a difference whether the insect-based foods are ready-to-eat or whether they have to be prepared beforehand. Schösler et al. (2012) found that the willingness to buy insects that still need to be prepared was significantly lower than the willingness to buy ready-to-eat insect snacks. Orsi et al. (2019) measured German consumers' willingness to buy products such as insect bars, mueslis, burgers, pasta and dried insects. Their results suggest that product categories like insect bars may be more widely accepted than insect-based dry mixes, which the consumer has to mix with other ingredients and then cook or deep-fry.

Studies have indicated that processing insects in well-known recipes such as meatballs (Tan et al., 2015), biscuits (Hartmann et al., 2015), hamburgers (Caparros Megido et al., 2016, Van Thielen et al., 2018) or pizza (Schösler, 2012), can improve acceptance. Familiarity is, therefore seen as an important driver for acceptance (Hartmann & Siegrist, 2016; Verbeke, 2015, Naranjo-Guevara et al., 2020).

Consumers have shown to be more willing to eat products containing fewer visible or more processed insect ingredients (Schösler et al., 2012; Caparros Megido et al., 2016; Gmuer et al., 2016; Menozzi et al., 2017; Sogari, Menozzi, D., & Mora, 2017, Jensen & Lieberoth 2019). Previous studies suggested integrating 'invisible insects' into food preparation and/or associating them with attractive flavours (Caparros Megido et al., 2016; Lombardi et al., 2019). However, occasionally combining insects with a familiar or more processed product is insufficient to enhance the acceptance (Tan, Van Den Berg, & Stieger, 2016).

Curiosity and Sensation Seeking

According to Meixner & von Pfalzen (2018), factors such as curiosity or novelty can influence acceptance. Therefore, curiosity could be used to enhance the thirst for adventure and the need for new culinary experiences. However, it cannot be assumed that all consumers have enough curiosity to try insect-based foods. Orsi et al. (2019) confirmed this in a German study in which all respondents had a low level of curiosity. Lammers, Ullmann and Fiebelkorn (2019) describe curiosity and the search for new products as „Sensation Seeking". The authors concluded that sensation seeking could contribute to getting consumers to try insect products for the first time. If this becomes a positive taste experience, this could lead to the inclusion of insects in the diet of the consumer in the long term and thus to acceptance (Lammers, Ullmann and Fiebelkorn, 2019).

Disgust

Disgust is one of the main barriers for insects to become part of the diet in European countries and plays an essential role in people's food rejection (Laureati et al., 2016; Hartmann and Siegrist, 2018). The disgust to insect-food could be justified, among other things, because insects could be considered disease carriers (Meixner & von Pfalzen, 2018). The perception that insects are disgusting is also deeply rooted in Western society's psyche (Looy et al., 2014).

Environment and nutritional awareness

Since entomophagy is connected to various positive environmental aspects, studies investigated consumers' environmental awareness as a positive factor influencing acceptance (Tan et al., 2015; Menozzi et al., 2017; Hartmann & Siegrist, 2018). However, other studies reported that high environmental consciousness does not demonstrate a significantly increased likelihood to consume insects (Hartmann et al., 2015; Laureati et al., 2016; Orsi et al., 2019).

In addition to environmental benefits, entomophagy offers various nutritional benefits. Their influence in the acceptance has also been examined (Hartmann et al., 2015). In the studies conducted by Orsi et al. (2019) and Kornher et al. (2019) it is found that health and nutrition-conscious German consumers are more likely to accept insect-based foods. Therefore, it was suggested using the health aspect to reduce the disgust factor to counter processed insects and address a target group that is open to new and functional food alternatives (Orsi et al., 2019). However, Meixner & von Pfalzen (2018) concluded that it does not seem to be effective in advertising the nutritional benefits of the entomophagy in German-speaking countries (Meixner & von Pfalzen, 2018).

Additional information on entomophagy

Previous studies have examined whether additional information can influence respondents' opinions on entomophagy benefits (Caparros Megido et al., 2016; Hartmann & Siegrist, 2016; Tan, Van Den Berg, & Stieger, 2016; Verneau et al., 2016). According to Hartmann and Siegrist (2018), information on the environmental impact and the sustainability of insect production could positively affect consumer acceptance. On the other hand, Hartmann et al. (2015) found that German consumers were not motivated by health benefits or sustainability attributes of insect food. This is also reflected in Meixner and von Pfalzen's (2018) work which examined two experimental groups. The first group received a standard entomophagy questionnaire. The second group watched an informative video about the benefits of eating insects. As a result, both groups did not differ in the degree of acceptance. Therefore, they assume that additional information does not have a significant, direct influence on the acceptance of German consumers. On the other hand, Naranjo-Guevara et al. (2020) showed that information plays an essential role tin predicting the willingness to incorporate insects into German and Dutch diets. Indeed, studies have indicated that promoting information about the benefits of edible insects (environmental and health aspects) could improve the consumer's willingness in different European countries (Lensvelt & Steenbekkers, 2014; Verbeke, 2015; Laureati et al., 2016; Verneau et al., 2016; Barsics et al., 2017; Lombardi et al., 2019; Orsi et al., 2019; Sogari, Menozzi, & Mora, 2019).

Previous consumption

The acceptance of insects as food in Western societies has also been studied in the light of previous experience. It was found that people who had already tried insect-foods showed a greater willingness to consume them again (Hartmann et al., 2015; Caparros Megido, 2016; Tan et al., 2015; Fischer and Steenbekkers 2018; Kornher et al., 2019). However, Hartmann et al., (2015) highlight that negative taste experiences can lead to rejection of insect-based foods.

Price

The price as a driver to acceptance of entomophagy has been researched less in Germany and The Netherlands than the other previously described factors. Meixner and von Pfalzen (2018), found out that consumers would be willing to buy insect-food for a „reasonable price“. Lammers, Ullmann and Fiebelkorn (2019) conclude that it is necessary to offer products at acceptable prices in supermarkets to encourage long-term consumption. However, since the idea of a reasonable price varies from person to person and is heavily dependent on target groups, there are no representative conclusions about the willingness to pay. According to a study by House (2019), conducted in The Netherlands, the price is likely to be a key factor for the incorporation of insects into Western diets. In a study by Kornher (2019), consumers who have a positive attitude towards entomophagy were willing to accept insect-products with small discounts as an alternative source of food. They furthermore indicate that such consumers are unwilling to pay higher prices for a novel food (burger with insects) than for a familiar product (beef burger) (Kornher, 2019). On the other hand, Orsi et al., (2019) emphasise that the acceptance or rejection of novel foods like insects does not depend primarily on rational factors such as price but more on emotional and cultural factors.

3. Methodology

German and Dutch market for insect-based food products

In order to get an overview of the German and Dutch market for insect-based foods, it was first determined which companies are active in the market and which products they offer.

A web search was carried out for this purpose. Using the web research method, the companies, as well as information on the products, offered, prices and sales channels, were identified. Companies' websites, the Dutch branch organisation Verenigde Nederlandse Insectenkwekers (VENIK) and contact with the Chamber of Commerce in the case of Dutch companies complemented the search. First, a search engine was used to look for terms that consumer would potentially use when searching for a company or product in the market for insect-based foods. To define which companies are operating on the market, three factors were considered:

1. Availability of the products: The products must be available in Germany and/or the Netherlands. Availability is given if there is an online shop, the products are offered via another online retailer, or the products are available in stationary stores.
2. Currency: Products must be offered in the euro currency. This ensures that the products are specifically offered on the European market.
3. German / Dutch packaging information: legally binding information such as ingredients and nutritional values must be given in the online shop and on the packaging. The criterion ensures that companies intend to reach a German / Dutch target group.

The companies that met all three defined factors were then examined in detail. For each company, the type of products and the number of these products were documented in an Excel table and the average price was calculated.

It was then determined which companies offer the products via an online shop. For this purpose, websites were searched for a link to an online shop. The websites were examined to see if the companies were providing information about the availability of the products in retail stores. In addition, companies were asked by email whether their products were available in grocery stores.

Expert interviews

With the aid of expert interviews, based on the influencing factors known from the literature review, we research which marketing measures are suitable to increase the acceptance of insect-based foods. Four semi-structured interviews were conducted with entrepreneurs who are already successful, in the Dutch and German market for insect-based foods (two interviews per country). The experts act in the market of nutrition, protein and food for festivals. Thereforet they have relevant experience and contact with endfinal consumers. Based on their years of experience, they can make statements about the effect of various marketing measures. The questionnaire for the expert interviews was based on the findings from the analysis of the factors influencing consumer acceptance (taken from the literature review).

As a narrative guide for the interviews, we followed a guide based on the theory of Gläser and Laudel (2006). At the beginning of the guide, notes were made on points that should be addressed before the interview. The experts were informed about the goal and consented to the audio recording. At the beginning of the interview, a warm-up question/icebreaker question was asked. This was intended to loosen up the interview situation and stimulate speech flow (Gläser and Laudel, 2006). The expert interviews were transcribed with the help of audio recordings.

The data obtained were analysed using qualitative content analysis, according to Mayring (2015). For this purpose, the categories „product policy“, „communication policy“, „pricing policy“, „distribution policy“ and „product policy“, were formed. The statements of the interviewees were then assigned to these categories.

Marketing measures

Based on the results of the analysis of the data from market research and expert interviews, measures that could help increase acceptance were described.

4. Results and discussion

German market for insect-based food products

At the time of the investigation, insect-based foods are still a legal grey area in the EU. Since January 1st, 2018, insects belong to the novel foods and are therefore subject to the regulation on novel foods. This means that they will only be authorised on the EU market if they have received express approval from EFSA. This was not the case for any insect until January 21, 2021. The *T. Molitor* larva - the dried yellow mealworm - has been approved for the first time since the end of January 2021. Surprisingly, there has been a wide range of insect-based foods on the EU market for years. However, only with moderate success, as a result of which the availability of the products in the supermarkets remained low and fell even further between 2018 and 2020.

Currently, at least 21 companies in Germany offer insect-based foods (Table 1). Some of these companies, such as „Snack-Insects" offer a broad and deep product range, while other companies such as „Beneto Foods" have specialised in one product category. A total of over 250 products are currently on offer. These products can be classified into 13 product categories of seasoned and unseasoned insects, insect meal, insect noodles, insect bars, insect muesli, protein powder, pastries, sweets with whole insects, alcoholic beverages with whole insects, sauces, dry mixes and burger patties. About 60% of the offer consists of unprocessed seasoned and unseasoned insects. About 40% of the offer consists of processed insects. with respect to the prices, the unprocessed insects are significantly more expensive than processed insects as part/ingredient of insect-based food. 100 g of seasoned insects are available for an average of € 34.58 while insect noodles are available for an average of € 2.65 per 100 g. Also, products are mainly distributed via online channels and rarely offered in the food retail.

Brand	Product	Price/100g	Online available	Available in supermarket
Snack-Insect https://snackinsects.com/	Dried insects (unseasoned)	32.61€	Yes	Yes
	Dried insects (seasoned)	46.83€		
	Bar	8.31€		
	Pasta	3.48€		
	Granola	2.78€		
	Lollipop	2.99€		
	Chocolate	22.96€		
	Flour	15.36€		
Insect2eat https://www.insec2eat.com/	Flour	4.80€	Yes	No
	Pasta	1.88€		
	Crispbread	2.45€		
	Bar	7.97€		
	Cracker	2.00€		
	Dried insects (unseasoned)	19.30€		
Isaac Nutrition https://isaac-nutrition.de/	Bar	3.26€	Yes	?
	Protein powder	46.00€/1000g		
	Flour	15.36€		
Crické	Cracker	4.98€	No	No
https://cricke-food.com/	Flour	11.95€		
Jimini‘s https://www.jiminis.co.uk/	Dried insects (seasoned)	51.29€	No	Yes
	Dried insects (unseasoned)	29.52€		
	Pasta	2,45€		
	Bar	3.89€		
	Granola	2.36€		

Brand	Product	Price/100g	Online available	Available in supermarket
SWARM Protein https://swarm-protein.com/	Bar	5.99€	Yes	Yes
Exosnacks https://www.exosnacks.de/	Dried insects (unseasoned)	37.16€	Yes	No
Wicked Cricket https://wicked-cricket.de/	Dried insects (seasoned)	55.71€	Yes	No
	Dried insects (unseasoned)	45.67€		
	Bar	8.54€		
Zirp https://www.zirpinsects.com/	Bar	4.98€		
	Dried insects (seasoned)	35.18€	Yes	?
	Dried insects (unseasoned)	35.47€		
	Cured insects (seasoned)	32.77€		
	Pasta	2.95€		
	Pesto	6.55€		
	Chocolate	6.92€		
Eat Grub https://www.eatgrub.co.uk/	Cured insects (seasoned)	22.90€	No	?
	Dried insects (unseasoned)	31.88€		
	Protein Powder	57.30€		
Instinct Insektensnack https://www.yourinstinct.de/	Bar	5.24€	Yes	Yes

Brand	Product	Price/100g	Online available	Available in supermarket
Sens https://eatsens.com/de	Bar Protein Powder Cracker Pasta Flour	4.15€ 33.30€ 3.98€ 1.95€ 5.99€	Yes	Yes
Eat More Bugs https://www.eat-more-bugs.de/	Alcohol shots Flour Dried insects (unseasoned)	2.91€ 9.99€ 28.17€	Yes	?
Bug Foundation https://bug-foundation.com/home.html	Burger patty	2.99€	No	Yes
Plumento Foods https://plumento-foods.com/	Pasta Flour Dried insects (unseasoned) Falafel dried mix	1.60€ 15.99€ 29.97€ 2.22€	Yes	Yes
Six Feet to eat https://www.sixfeettoeat.de/	Flour Dried insects (unseasoned)	16.23€ 15.71€	Yes	No
Entomi https://www.entomi.de/	Burger dried mix	5.45€	Yes	?
Bento Foods https://www.benetofoods.com/	Pasta	4.25€	Yes	?

Brand	Product	Price/100g	Online available	Available in supermarket
Imago Insect Products https://www.imago-insects.com/	Bar	4.99€	Yes	?
	Burger dried mix	3.99€		
	Dried insects (unseasoned)	9.96€		
	Dried insects (seasoned)	9.96€		
	Bolognese dried mix	3.33€		
	Falafel dried mix	3.99€		
	Flour	4.99€		
Next Food https://www.next-food.net/de	Dried insects (unseasoned)	22.55€	Yes	?
	Dried insects (seasoned)	22.00€		
	Flour	4.99€		
Delibugs https://123delibugs.de/	Dried insects (unseasoned)	35.83€	Yes	?
	Flour	7.41€		
	Lollipop	2.10€		

Table 1. German market for insect-based food products

Dutch market for insect-based food products

From around 2006 the exchange between science, politics and business in the Netherlands began to formalise into a network for edible insects. The common goal was to encourage and facilitate insect consumption in the Netherlands and elsewhere in the West. The constitution of this network and its members‘ continued mutual influence have resulted in a small number of insects having established themselves as food insect species (House, 2018). These are *Locusta migratoria, Acheta domesticus and T. Molitor*

Although the Netherlands is considered a leader in producing and selling insect-based foods (House, 2018; Govorushko, 2019), few products are available in Dutch supermarkets (Table 2). In this respect, there are currently no major differences on the German and Dutch markets. However, it is interesting that already in 2014, frozen mealworms and crickets were included in the assortment of the

Dutch retailer Jumbo. However, due to low demand, the supply has been restricted again (House, 2018). Next to producing food products, the Netherlands belongs to the countries with high investments in the production (breeding/rearing) of insects for human food (Govorushko, 2019)

Company	Products	Price/100g	Online available	Available in supermarket
Delibugs https://123delibugs.de/	Dried insects (unseasoned)	35.83€	Yes	Yes
	Flour	7.41€		
	Lollipop	2.10€		
deSmaakspecialist https://shop.desmaakspecialist.nl/good-life-krekels/	Dried insects (unseasoned		Yes	Yes
Jimini's https://www.jiminis.co.uk/	Dried insects (seasoned)	51.29€	Yes	Yes
	Dried insects (unseasoned)	29.52€		
	Pasta	2,45€		
	Bar	3.89€		
	Granola	2.36€		
Tasty Bugs https://www.tasty-bugs.nl/	Dried mealworms Dired crickets Dired Grasshoppers	6.46€ 20.12€ 33.38€	Yes	?
TinyFoods https://www.tinyfoods.nl/	Dried insects (unseasoned)	74.75€	Yes	Yes
	Dried insects (seasoned)			
	Lollipop	2.10€		
	Bars	5.23€		
Kreca https://www.krecafood.com/	Insect powder	10.92€	Yes	?
	Dried insects (unseasoned)	12.03€		

Company	Products	Price/100g	Online available	Available in supermarket
GaiaFood	Protein powder	5.38€	Yes	?
Lollibugzz	Dried insects (unseasoned)	13.90€	Yes	?
	Lollipop	1.95€	Yes	?
Hey Planet https://www.hey-planet.com/	Insect powder	28.33€	Yes	?
	Bar	7.47€		
	Crispbread	4.03€		
	Bonbons	13.42€		
Kriket https://kriket.be/	Bar	5.40€	Yes	Yes
Enough insects https://enough-insects.com/	Dried insects (seasoned)	23.80€	Yes	?
	Sweets	19.83€		
	Falafel	6.95€		
Imago Insect Products https://www.imago-insects.com/	Bar	4.99€	Yes	?
	Burger dried mix	3.99€		
	Dried insects (unseasoned)	9.96€		
	Dried insects (seasoned)	9.96€		
	Bolognese dried mix	3.33€		
	Falafel dried mix	3.99€		
	Flour	4.99€		

Table 2. Dutch market for insect-based food products

German and Dutch market

Some companies and products are available in both Germany and the Netherlands (Table 3).

Brand	Product	Price/100g	Online available	Available in supermarket
Jimini‘s https://www.jiminis.co.uk/	Dried insects (seasoned)	51.29€	Yes	Yes
	Dried insects (unseasoned)	29.52€		
	Pasta	2,45€		
	Bar	3.89€		
	Granola	2.36€		
Imago Insect Products https://www.imago-insects.com/	Bar	4.99€	Yes	?
	Burger dried mix	3.99€		
	Dried insects (unseasoned)	9.96€		
	Dried insects (seasoned)	9.96€		
	Bolognese dried mix	3.33€		
	Falafel dried mix	3.99€		
	Flour	4.99€		
Delibugs https://123delibugs.de/	Dried insects (unseasoned)	35.83€	Yes	NL: Yes GER:?
	Flour	7.41€		
	Lollipop	2.10€		
Hey Planet https://www.hey-planet.com	Insect powder Bar Crispbread Bonbons	28.33€ 7.47€ 4.03€ 13.42€	Yes	?

Brand	Product	Price/100g	Online available	Available in supermarket
Imago Insect Products https://www.imago-insects.com/	Bar Burger dried mix Dried insects (unseasoned) Dired insects (seasoned) Bolognese dried mix Falafel dried mix Flour	4.99€ 3.99€ 9.96€ 9.96€ 3.33€ 3.99€ 4.99€	Yes	?

Table 3. Companies and products available in Germany and the Netherlands

Product-related preferences and factors influencing acceptance

Research has shown that 30% of the consumers are willing to consume insects in the Netherlands (Statista 2019), but only a small number of them regularly consume insect-based foods. In both countries, disgust is the main hurdle when it comes to eating insects (Hartmann & Siegrist 2018; Tan, van den Berg, & Stieger, 2016). The results (Fischer and Steenbekkers 2018; Schlup & Brunner 2018) showed that both food neophobia and disgust make an independent contribution to the willingness to eat insects and that overcoming disgust is significantly more difficult. According to Hartmann et al. (2015) and Tan et al. (2016), products with visible insects are rarely accepted by both German and Dutch consumers. Therefore, the willingness to consume is lower than with processed insect products. This finding was also confirmed in the expert interviews. The analysis of the factors that influence acceptance also shows that it is beneficial for the willingness to consume if the products offered are similar in taste and appearance to known products (Hartmann & Siegrist, 2016; Verbeke, 2015).

According to Lammers, Ullmann and Fiebelkorn (2019) the disgust factor was dominant among consumers. The experts agreed that disgust is initially influenced by the products' visual aspects and concerns about whole insects: *"... I would like to highlight the importance of incorporating insects into known products..."* and *"What people do not see cannot cause a rejection"* . Visibility and taste have a huge impact on the acceptance of insect-based foods. The acceptance of visible and hidden insects that were an ingredient in the product was assessed in several studies (Schösler, de Boer & Boersema, 2012; Tan et al., 2015; Caparros Megido et al., 2016; Tan, Van Den Berg & Stieger, 2016; Verneau et al., 2016). Visible insects were typically rejected more often than meals in which the insects were not visible. However, around 63% of the products on the market contain whole and visible insects. This surprising result leads to the recommendation to develop and offer products in which the insect is not visible. At least in the current phase in which neophobia and disgust must be overcome and consumers have to be convinced to try them out, this strategy seems promising.

The expert interviews show that the preparation effort also plays a role in the acceptance of insect products. German and Dutch consumers are less willing to eat insects if they have to prepare and cook them. According to the experts, this unwillingness to prepare the insect-based food primarily seems to be caused by not knowing how to prepare it. According to this thesis, pasta containing insects in the flour should be less of a problem for consumers than insect flour, which still has to be processed in a recipe. It is all the more astonishing that 60% of the insect-based foods offered on the market still have to be processed or prepared in recipes. This means that a large part of the current offer is not part of German and Dutch consumers' current consumption preferences. The products that contain the insects in a processed form and do not require any preparatory work could have the greatest potential for acceptance.

In addition to the product's convenience level, the right distribution channel also plays a decisive role in the perception and ultimately acceptance of the new product category. An interesting example is the Bug Foundation company, which offered its insect burger in the restaurant chain *Hans im Glück*. A ready-made insect burger patty is a popular and convenient product for gastronomy. For the end consumer, preparing a burger that first has to be fried in the pan, is less convenient. It is important to emphasise that different target groups can be addressed depending on the preparation effort. For example, people with an affinity for cooking are likely to be more willing to experiment with insects.

In terms of price, experts report that the insect-based products are still more costly than traditional foods due to low production volumes. For example, 100g of seasoned insects cost an average of € 34.58, while a regular snack like french fries costs less than € 1 per 100g. In this way, high prices represent an obstacle to purchase that prevents consumer acceptance. With prices so high, this is true even for people with a positive attitude towards entomophagy. Due to the steep costs, whole insects are hardly competitive as food and are currently not very suitable to be included in the daily diet. The prices for foods containing insects are generally less noticeable depending on the number of insects they contain. From this point of view, they therefore have a higher potential to become a component in the diet of German and Dutch consumers. Of course, it must be considered that the perception of a reasonable price is subjective and depends heavily on the target group. The benefits that the product delivers to the target group must be clearly emphasised and desired and perceived as such by the target group. When determining a price, it is crucial to find out what the respective benefit is worth to the customer. For people who are sceptical about entomophagy, even a low price is not a decisive purchase criterion. In this case, it is essential to encourage the first attempt and achieve a positive taste experience.

Consumers who have already tried insects are generally more willing to consume them again (Fischer & Steenbekkers, 2018). According to the experts , consumers are often pleasantly surprised by the taste and can overcome cognitive barriers: "*Oh that tastes like nuts or so, I did not expect it to taste so good*". In this sense, the first try could be a key factor in the acceptance of insects, as negative taste expectations can be refuted, and disgust is thus overcome. It therefore seems promising to give potential consumers more opportunities to try insect products.

The impact that providing information about the benefits of entomophagy has on acceptance is controversial in the literature (Verneau et al., 2016; Barsics et al., 2017; Sogari, Menozzi & Mora, 2019; Lombardi et al., 2016). According to the expert interviews, it helps to inform consumers about the taste of the new products. It is especially useful to mention familiar and popular flavours. A recommendation that can be derived from this is to provide information about the nutritional and environmental benefits of the products and focus primarily on taste. It seems to make sense to describe a taste that is popular with the vast majority.

Factors such as curiosity and the willingness to experiment also induce some people to try insect products (Lamers, Ullmann and Fiebelkorn 2019). Curiosity and the thrill of trying something new or even daring to eat something strange could act as drivers for trying things out. However, this only applies to a certain target group and should not focus on acceptance-increasing marketing. Instead, it should be an additional factor to define such a potential audience excited to try new things.

Marketing measures to influence acceptance

Several marketing measures that aim to increase acceptance in all target groups can be derived from the results. These measures are described in the following paragraphs.

In general, it should be noted that the factors of disgust and neophobia must be overcome in order to increase the acceptance of insects as food. According to experts, these factors can be reduced by allowing consumers to see the unpackaged product and not identify any insect parts. In addition, no insects should be depicted in a naturalistic form on the packaging. When communicating, care should also be taken to describe the product with known and popular properties. In this way, the scepticism about the unknown can be taken away from the consumer. It seems contradictory to advertise the new food category‘s specific and unique traits on the one side, while trying to promote familiar characteristics on the other side. But exactly this combination might be a promising strategy for insect food. In view of the Dutch or German preferences, it may be advisable to distinguish between typically Dutch and typically German spices / taste preferences. While a kind of "bitterballen" with a typical „creamy" taste could be very promising for the Dutch market, for the German „taste" it could be an onion / cheese note on a crispy potato.

In the expert interviews, another strategy was shown to be effective, a combination of provocation and information. The provocation attracts attention and may encourage the first try. The following information about the product causes cognitive engagement. As mentioned earlier, the information should relate to the taste of the insect product to increase the willingness to try it. Information can also be conveyed through positive customer ratings or using influencers. Negative taste expectations might be overcome through communication and refuted through tastings and samples. The elements of provocation and information should be reflected in the entire marketing communication. Opportunities for tasting the insect products and thus the opportunity to convince with taste should be greatly expanded.

In the interviews, the experts were also asked for their opinion on specific target groups. Environmentally conscious, nutritionally conscious people and athletes were seen explicitly as possible target groups. In addition, they were seen as particularly easy to reach via the Internet. The experts also mentioned spontaneous buyers as an interesting group. This applies in particular to people who spontaneously buy convenience products and can easily be contacted in the food retail sector. Plan buyers and athletes, on the other hand, are more accessible via the Internet. In summary, it can be said that the target groups with their different needs can also be reached with different products and sales channels. For athletes, protein bars and protein powder purchased from the online shop are suitable, while spontaneous buyers (possibly for reasons such as curiosity) could appeal to products such as burgers, snack insects or sweets in grocery stores.

5. Conclusion

Consumer scepticism about food insects might decrease as the number of products on the market grows - be it in catering or food retail. In anticipation of legal approval and based on the belief in the trend for edible insects, a wide variety of edible insect products have come onto the market in recent years. However, the success of this new category is still questionable. The reasons for the reluctant demand are varied and range from the strangeness of the product category, neophobia, scepticism about safety and taste, (in)convenience and ignorance of price barriers, to the simple disproportion between consumer needs and product properties. In addition, a large proportion of potential consumers are unfamiliar with the edible insects on the market, and that applies to both the Netherlands and Germany. All of these factors were more or less clearly mentioned in the interviews of entrepreneurs who had their first experiences with edible insects in the market. For the future, the success factors and thus opportunities seem to be clearer. The most important recommendations for a successful product concept for edible insects seem to be 1) the insect or parts of it must not be visible, 2) the insect should be part of a familiar recipe or taste, 3) convenient and familiar use should be possible, 4) obvious price barriers must be avoided and 5) a positioning must be found that meets at least one urgent need of the target group - be it in the area of health or environmental awareness. The differences between Dutch and German consumers with regard to the acceptance of edible insects appear to be minor. The first approach to increase acceptance could, however, be different. Food preferences in terms of taste and familiarity vary in both countries and are one of the success factors to consider. It could therefore be an advantage - especially in gastronomy - to highlight specific taste preferences and differentiate between German and Dutch tastes. But there are also some success factors that can be taken into account across borders. Both cultures value simple, convenient preparation and use equally. There is also no measurable higher acceptance for naked insects or luxury item prices. This means that the processed insect components should be hidden in any case and the price comparison in the product category should be inconspicuous.

The way in which all these factors are implemented in the product concepts is the subject of forthcoming research and we can be excited to see what awaits us. There is no one fits all strategy for edible insects.

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Chapter VIII

Differences between Germany´s and the Netherlands´ handling of COVID-19 and its effects on the cross-national labour market

A View on European Integration

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Abstract:

This paper deals with the economic situation in the Rhine-Meuse border region between Germany and the Netherlands. Specifically, the labour market will be addressed by asking: How do national differences in the management of the pandemic affect the labour market in the Rhine-Meuse border region between Germany and the Netherlands positively or negatively? After discussing the outlines of the research project, a specific set of key performance indicators will be mirrored with the national regulations enacted during the pandemic to identify possible relations. This article argues that actions to save both national economies were enacted in a very desynchronized way, meaning the timing, type, and size of economic stimuli and rescue packages. This uncoordinated acting and the lack of cooperation in this regard led to disturbances in the previously (January/February 2020) parallel developing labour market. Additionally, this article argues that the political segmentation of this labour market is partially responsible for the differences in development. Almost all metrics researched resembled disturbances in the labour market that could have been prevented by better practices. Towards the end of 2020, this labour market finds itself in a situation in which both sides have different growth outlooks.

Glossary:

Business cycle:	Business cycles are a type of fluctuation found in the aggregate economic activity of nations. A cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions.
Dependent variable:	A variable whose value depends on that of another.
Flexible inflation targeting:	Flexible inflation targeting means that monetary policy aims at stabilizing both inflation around the inflation target and the real economy.
Independent variable:	A variable whose variation does not depend on that of another.
Monetarist era:	Monetarism, school of economic thought that maintains that the money supply (the total amount of money in an economy, in the form of coin, currency, and bank deposits) is the chief determinant on the demand side of short-run economic activity.

1. Introduction

Modern macroeconomics has been changed and influenced by many economists over the last 100 years. John Maynard Keynes‘ *business cycle* was considered a go-to theory to help economies recover from financially ambitious situations until faced with high inflation and high unemployment in the 1970s. Out of this misery birthed the *monetarist era* with ideas focussing on the government‘s role in regulating the circulation of money to create low and stable inflation to ensure better living conditions in the future. A few decades later old and new ideas started to mix and new policy regimes consisting of Keynes‘ and Friedman‘s schools emerged. The *flexible inflation targeting* regime was again subject to a discussion when the financial crisis of 2008 hit the world (Economist, 2020). Next to these very famous ideas, many schools of thought had been developed in the past years. Looking at all the different opinions, ways, and levels on which a nation can counteract a financial crisis it becomes clear that countries develop their own tactics and policies. Almost like history repeats itself, the year 2020 has become one of the turning points in macroeconomic thinking, exposing the world to a completely new set of challenges. The pressure to rapidly digitalize, the fear of failing healthcare systems, and the missing liquidity of hundreds of companies, just to name a few, affect all European citizens, countries, and companies alike.

The Dutch-German trade partnership can be described as one of the strongest in all the European Union. The Netherlands is the largest import partner of Germany (CIA, 2020a) and Germany is the second-largest import partner of the Netherlands (CIA, 2020b). Only looking at one side of the border region, without a larger scope, would be wrongdoing for both countries. These areas hold immense economic potential that can only be noticed when ignoring the political border itself. By doing that one will quickly realise the amount and density of economic activity. The magic of the European union worked wonders by creating unique economic scenarios, which in return should be treated uniquely.

Many people do not see the border regions as important economic areas. National thinking, the promotion of larger cities, and the support for domestic markets seem to be easier and more appealing in a political sense. The economic activities in Europe‘s border regions should be very topical but in times of needs, it seems, countries prefer to think and act nationally (Pijnenburg, 2020). Thus, the research question being answered within this article is: How do national differences in the management of the pandemic affect the labour market in the Rhine-Meuse border region between Germany and the Netherlands positively or negatively?

In its essence, this article will consider *independent variables* that relate to the COVID-19 pandemic and the labour market. These *independent variables* will influence several *dependent variables,* which will be at the heart of this research project. To further assess these *dependent variables,* a set of key performance indicators is selected to better describe the labour market situation in the cross-border region.

Businesses that scouted this specific border region as an opportunity for their organisation are facing changes created by two governments that may oppose the original incentive to conduct business in the Rhine-Meuse border region. It is a region that heavily relies on a diverse cross-border labour market and desynchronized decision making can disturb this labour market massively.

This article is structured to provide an overview of the research design first to then explain the methods and KPIs used to funnel the research. After that, the results of the research will be formulated to build a basis for the conclusion and ultimately the recommendations. Lastly, a critical appraisal will touch upon the limitations of the research and the assumptions made to critically assess the reliability and validity of results.

2. Research design

2.1 Main & sub-questions

The central question being dealt with in this report is „How do national differences in the management of the pandemic affect the labour market in the Rhine-Meuse border region between Germany and the Netherlands negatively or positively?". This question is the leading motive for this project and can be broken down into four separate sub-questions that need to be answered. First, „What did the labour market in the cross-border region look like before the pandemic in January 2020?". Second, „What drastic measures were taken by the German government to counteract the COVID-19 pandemic?". Third, „What drastic measures were taken by the Dutch government to counteract the COVID-19 pandemic?". And fourth, „How did the labour market develop on both sides compared to the measurements taken, and which new challenges appeared?".

2.2 Concept demarcation

To fully grasp the meaning of and understand the research questions, stipulative definitions of vague terms need to be created. In the context of this research, „drastic measures" mean regulations and specifications by the government that affect businesses in such a way, that typical business practices are not possible anymore or need to be restructured. Additionally, „new challenges" mean hurdles, obstacles, and challenges mainly caused by the regulations enacted by the government as a response to the COVID-19 pandemic.

2.3 Research methodology

2.3.1 Research philosophy

The research philosophy practiced for this article is oriented to the realism approach. Critical realism allows for flexibility in the choice of methods, especially the decision for qualitative or quantitative research. A critical and realistic approach involves capturing data with respect for ongoing and past events (Easton, 2009).

2.3.2 Type of research

The type of research for this article can be described as fundamental research. This document aims to expand the knowledge of a business, organisation, or institute to create principles and recommendations. The outcome of this article can hold significance to society in general and expand the general pool of knowledge (Dudovskiy, n.d.-a).

2.3.3 Research approach

The research approach chosen for this project is the inductive approach. The article and research project are designed for analysis and interpretation. The goal is to find regularities and to develop the conclusion based on the findings through qualitative as well as quantitative research. The research question formulated is open-ended and the focus of the research lays on the process itself. The analysis will depict a narrative and consist of constant comparisons. The focus of the research is on exploratory data analysis, meaning the understanding of dynamics plays a large role in this project (Dudovskiy, n.d.-b). Additionally, with iteration, or repetition, as a guiding principle, a higher standard of results can be achieved, which is especially useful considering the unexplored nature of this topic (Verhoeven, 2019).

2.3.4 Data collection methods

The analysis will consist of qualitative and quantitative data analysis. Other reports, articles, and case studies will be at the heart of this article. This will provide in-depth insights needed for the inductive approach. Furthermore, information will be substantiated by numerical data. A mix of narrative and discourse analysis is the most appropriate, providing information through the revision of secondary qualitative data and the analysis of quantitative data (Verhoeven, 2019).

2.3.5 Ethical considerations

The works of other authors are being acknowledged and identified as per the style of the Harvard referencing style. The author will attempt to maintain high levels of objectivity in discussion and analyses throughout the research.

3. Theoretical framework

3.1 Dependent & independent variables

This article is structured around a set of independent and *dependent variables*. As COVID-19 is the reason for this research project, the main *independent variable* is structured around it. The *independent variable* can be formulated as „the pandemic and the national government regulations that followed it“. Influenced by this variable are „unemployment“, „economic activity like labour mobility“, „commuters“, and „labour market metrics like working hours and labour productivity“. These dependent and *independent variables* build the basis for the KPIs being used to describe the labour market situation.

3.2 Key performance indicators (KPIs)

Four metrics will make up the specific set of KPIs used to describe the labour market situations on both sides of the border.

First, the unemployment rate is one of the most prominent metrics to use to describe the health of an economy. Applied over a longer period, it indicates which sectors, geographical or industry, are losing jobs. Additionally, countries and country unions often use this performance indicator as a starting point for the evaluation of its monetary policy (Amadeo, 2020a). Furthermore, it must be noted that unemployment not only affects the unemployed but the overall body of workers due to a loss in general purchasing power (Picardo, 2020). This metric is the most generic out of this selection, and does not provide detailed information, and will thus display the starting point. The unemployment rate (UR) is calculated as follows:

$$UR\ (\%) = \frac{Unemployed\ people}{Total\ labour\ force} * 100$$

Following a three-way division, the total adult population can be divided into employed, unemployed, and out of the labour force, with the total labour force encompassing employed and unemployed people (Lumen, n.d.). The data used to calculate this, and the following metrics, are based on the respective agency's definition of unemployment. Although every country differs slightly in its definition of unemployment, the two characteristics of (1) temporarily not being in an employment relationship and (2) being registered as unemployed with the employment agency are reoccurring themes amongst all (Arbeit, 2020a).

Second, the employment to population ratio is mainly used to describe the share of the population that is not taking part in market-related activities, either through unemployment or by being out of the labour force in general (ILO, n.d.-a). This ratio specifically depicts the ability of an economy to create employment, which is interesting for the evaluation of government actions to preserve the economy during a pandemic. Often, such as in this article, it is used in tandem, together with the unemployment rate to complement themselves. The employment to population ratio can be deemed ‚incomplete' by some, as other metrics are often needed to fully understand the outcomes of this ratio, let it be average earnings or working conditions (ILO, n.d.-a). These factors will be further addressed in the analysis section of this paper. Additionally, this ratio relates to the employment level to population size and is thus less affected by long-term trends, making the metric statistically more reliable (Leon, 1981). The employment to population ratio (EPR) is calculated as follows:

$$EPR\ (\%) = \frac{Persons\ employed}{WorkingAge\ population} * 100$$

Third, the labour force participation rate is the measure of the active labour force of an economy. This means it encompasses both employed and work-seeking citizens. In combination with unemployment numbers, the labour force participation rate will offer insights into the economic performance of a country or region (InvestopediaStaff, 2020a). By some, this metric is described as a measure of supply, as it partially deals with people looking for jobs as well (Clark and Summers, 1982). This, obviously, will assist in the evaluation of a country's performance during a pandemic, as rising unemployment numbers, specifically of people looking for jobs, are expected. This performance indicator will deliver insights on the effects of government actions. Besides, as it includes both the number of people working, as well as the number of people searching for work, a more detailed look at the labour market situation can be ensured and proved valuable for further analysis (Amadeo, 2020b). The labour force participation rate (LFPR) is calculated as follows:

$$LFPR\,(\%) = \frac{Labour\ Force}{Civilian\ NonInstitutionalised\ Population} * 100$$

The labour force variable includes employed as well as unemployed people seeking for work while civilian non-institutionalised population excludes citizens in penal, mental, or homes for the aged.

Lastly, the number of job vacancies will be used as a simple tool to complement the metrics mentioned above. It will allow for a general overview of the labour market. A look at the evolution of job vacancies in 2020 can give insights into the direct effects of government actions on the labour market people experience every day. Job vacancies are the counterpart to unemployment calculations as they help describe the needs and wants in terms of labour demand. It will deem itself helpful for further analysis as it provides information about the possible allocation of labour (together with the unemployment metrics) as well as the, possibly, desynchronized actions of Germany and the Netherlands, facing the pandemic (Dunlop, 1966).

4. Data Gathering

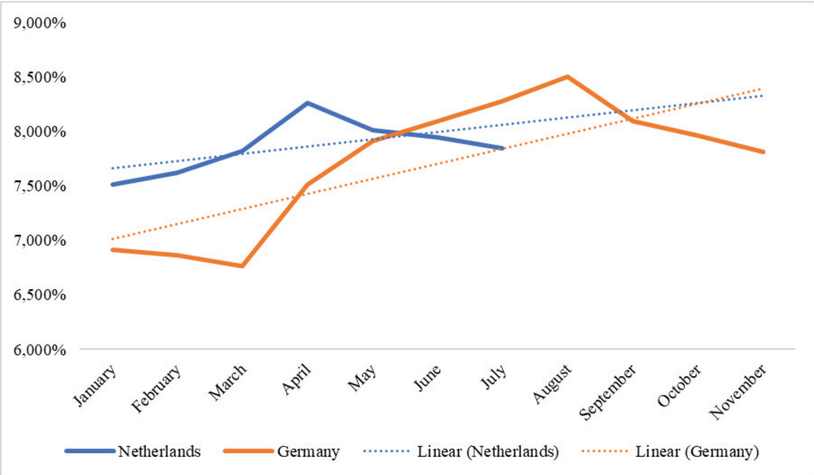
The first research sub-question will be dealt with by considering the months of January and February in the depictions in Figures 1 to 5. To address the second research sub-question, Figure 1 displays a rough timeline of economic stimuli, rescue packages, and helping initiatives for companies and self-employed in Germany and the Netherlands. The effects of these measures function with a delay, as most of the times, it is in the company‘s responsibility to initiate the help and no all-encompassing statements for all companies can be made. To create a reasonable timeline of measures, multiple news outlets, as well as government publications, will be used. The data depicted in the statistics of Figures 2 to 5 will be adapted from various sources such as statistics agencies, government departments for statistics, and public employment services. As Figures 2 to 5 work with specific data from the municipalities within the border region, the border region itself must be defined. The region dealt with in this report is loosely oriented on the Euregio Rhine-Meuse North (Euregio, 2021) and adapted to the most prominent reporting types (municipalities, cities, districts, etc.) in Germany and the Netherlands. For Germany, these areas include Kreis Kleve, Kreis Viersen, Krefeld, Düsseldorf, Rhein-Kreis Neuss, and Mönchengladbach. For the Netherlands, these areas include Gennep, Bergen, Venray, Venlo, Horst aan de Maas, Peel en Maas, Beesel, Roermond, Roerdalen, Echt-Susteren, Maasgouw, Leudal, Nederweert, Weert, and Cranendonck.

Figure 1 – Timeline of government measures

	Germany	The Netherlands	
January	*[Nothing]*	*[Nothing]*	1 - 31 January 2020
February	*[Nothing]*	*[Nothing]*	1 - 28 February 2020
March	*[Nothing]*	TOZO1 & NOW1	1 March 2020
	[Nothing]	Stimulus [90 billion €]	12 March 2020
	[Nothing]	Expanded SME credit guarantee scheme	15 March 2020
	[Nothing]	Rescue package	17 March 2020
	Stimulus [156 billion €]	*[Nothing]*	23 March 2020
April	New guidelines for the event industry	*[Nothing]*	2 April 2020
	EU stimulus [500 billion €]		9 April 2020
	EU credit assistance [540 billion €]		23 April 2020
May	*[Nothing]*	*[Nothing]*	1 - 31 May 2020
June	*[Nothing]*	TOZO2 & NOW 2	1 June 2020
	Stimulus [130 billion €]	*[Nothing]*	3 June 2020
	EU stimulus and investment program [750 billion €]		21 June 2020
July	*[Nothing]*	*[Nothing]*	1 - 31 July 2020
August	*[Nothing]*	*[Nothing]*	1 - 31 August 2020
September	*[Nothing]*	*[Nothing]*	1 - 30 September 2020
October	*[Nothing]*	COVID-19 support [11 billion €] & TOZO3 & NOW 3	1 October 2020
November	Stimulus [10 billion €]	*[Nothing]*	3 November 2020
	New operating cost allowance guidelines	*[Nothing]*	13 November 2020

Source: Timeline of government measures, Author's Illustration, Data adapted from (MDR, 2020b), (Netherlands, 2020a), (Darroch, 2020), (Netherlands, 2020b), (Netherlands, 2020c), (Business.gov.nl, 2020b), and (Business.gov.nl, 2020a)

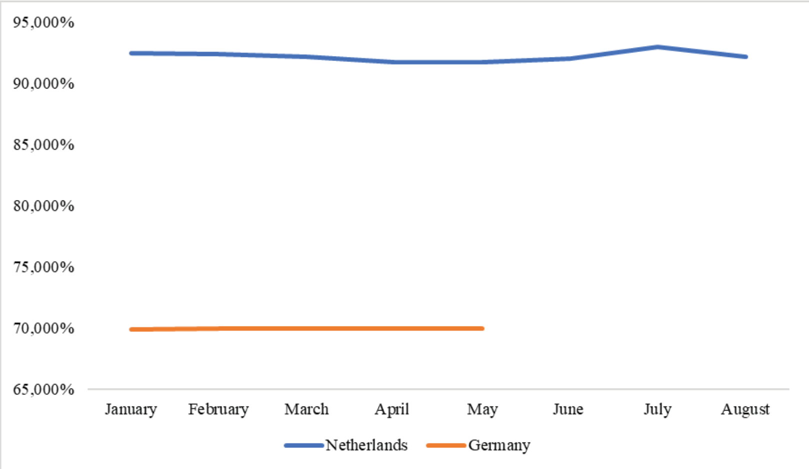
Figure 2 – Unemployment rates



Source: Unemployment rates, Author's Illustration, Data adapted from (Arbeit, 2020b), (CBS, 2020), (UWV, 2020a), and (IMF, 2020)

Figure 2 shows that the Netherlands' and Germany's unemployment rate was developing in a parallel manner until March 2020. After that, both unemployment rates were rising in April, the Netherlands to 8.259% and Germany to 7.517%. From April to August Germany's unemployment rate was still rising meanwhile the Netherlands' was falling. Official reporting of Dutch number stops in August, as they are reported quarterly. Although reporting ends at this point, trend lines indicate that the Netherlands managed to keep its unemployment rate around 7.75% with a lower average growth rate. Germany started with an overall lower rate, but the trend line suggests an overall greater growth in unemployment. Additionally, and interesting to note, both sides of the labour market experienced different peaks in unemployment, with Germany in August and the Netherlands in April.

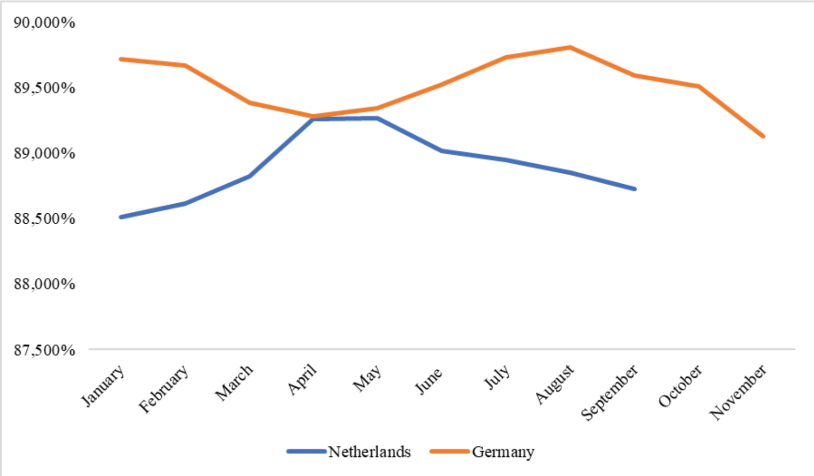
Figure 3 – Employment to population ratios



Source: Employment to population ratios, Author's Illustration, Data adapted from (Arbeit, 2020c, Arbeit, 2020d, Arbeit, 2020e, Arbeit, 2020f, Arbeit, 2020g, Arbeit, 2020h) and (UWV, 2020a)

Figure 3 depicts the employment to population ratios, which are arguably the most stable metrics researched in this article. Until the official German reporting stops in May, both ratios developed in a parallel manner with the Netherlands around 92% and Germany around 70%.

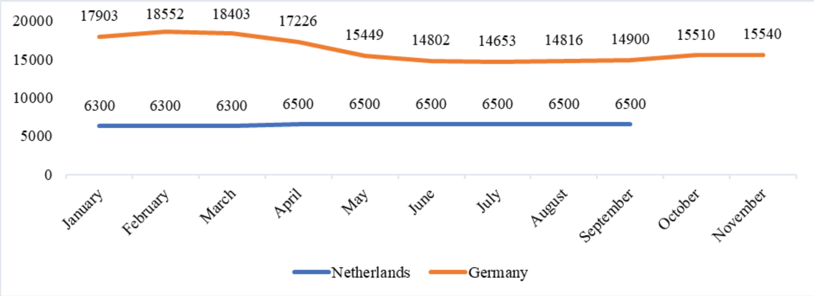
Figure 4 – Labour force participation rates



Source: Labour force participation rates, Author's Illustration, Data adapted from (Bundesamt, 2021), (Bundesamt, 2020), (CBS, 2020), and (UWV, 2020a)

Although the in Figure 4 depicted labour force participation rates only change on a small scale, between 88.5% and 89.8%, they are synonymous for the changes in the labour market and given the size of the labour force they regain their relevance. Both Germany's and the Netherlands' rates develop parallel just like other metrics researched above. In April and May of 2020, the Netherlands experienced a plateau around 89.2% while Germany reaches an all-time low with 89.2%. With the Netherlands official reporting stopping in September, it must be mentioned that its rate was only slowly decreasing towards the end of the year. Germany on the other hand, reached its highest rate with 89.8% in August of 2020, after which a decline can be noticed. Of course, these changes are minor, though there must be a reason for it, nonetheless. Even the smallest of changes must have a reason, especially since it is moving synonymously with other metrics which are influenced by the pandemic and government decisions.

Figure 5 – Job vacancies



Source: Job vacancies, Author's Illustration, Data adapted from (UWV, 2020b) and (Arbeit, 2020b)

Figure 5 shows the total number of job vacancies registered by the respective national department, such as the Bundesagentur für Arbeit in Germany. The overall number of job vacancies is comparatively uninteresting as the German side of the border region has a significantly higher population and thus a larger labour force (IT.NRW, 2020). Additionally, the Netherlands is reporting its numbers every three months, thus due to the timing of the article, the available numbers stop in September. There are no drastic fluctuations to be noticed in Dutch job vacancy numbers, ignoring a small difference of 200 between March and April of 2020.

Germany's highest job vacancy numbers can be registered pre-pandemic in February with 18,552. After that, the numbers fall to 14,653 in July only to slowly rise again to 15,540 in November. Considering all the research conducted and having it displayed in Graphs, it becomes apparent that March, April, and June saw the greatest change in labour market metrics. By comparing this fact with the in Figure 1 described timeline of government measures one can notice that the most extreme changes line up with the density, diversity, and varying types of government actions. Furthermore, the Netherlands were never ‚hit as hard' as Germany. This is not supposed to praise one side's actions and it is not supposed to picture one side as the winner and the other as the loser. Considering the circumstances these results describe a situation in which one side simply lost more than the other. There is one last theme to be noticed in every graph, a more or less ‚recovery phase' from September to October. Especially in Germany, this phase saw a lift in the original ‚lockdown' measures.

5. Discussion

With reference to the chapter ‚Data gathering', the initial thesis of implications for both sides caused by individual decisions made by governments has been backed strongly. In the following chapter, the results of the analysis will be interpreted and possible relations between the labour market situation and government actions will be discussed.

It is generally understood that the labour market builds the groundwork for every working economy. It is very closely linked to capital, good, and service markets (Kenton, 2020). As depicted in the previous chapter, and as theorized at the beginning of this article, during the COVID-19 pandemic, most countries in the European Union put cooperation with other nations on hold while deciding to fight their own battle against the pandemic. As Guiseppe Celi, Dario Guarascio, and Annamaria Simonazzi describe in their article about the divided European Union during the COVID-19 pandemic, despite COVID-19 being symmetric in nature, European economies are affected in a very asymmetric way (Celi et al., 2020). Considering the research done this could be traced back to European nations not treating the European Single Market as one.

Although there are voices that almost deem the European Union to be a failed project (TheGuardian, 2020) in the context of the pandemic, it can be argued that this precarious situation the Union finds itself in, was simply a wakeup call and not the result of long-prophesied self-destructive behaviour. Considering the data gathered, specifically referring to January and February, it becomes clear that, at least in the border region between Germany and the Netherlands, equal developments were in place. Only after the virus had reached other European countries than Italy, developments started to differ. Additionally, it must be mentioned that these developments are not inherently different from each other. In fact, all drastic changes described in the previous chapter occur during the same periods. Only the intensity and longer-lasting effects are found to be the distinguishing factors. As argued above, the markets, specifically in the border region, are also not inherently different from each other. Only the different treatments imposed by the governments created different performance developments. As early as 2003, research theorized that the success and the reasons for cross-border business lie in their key role for regional policy and multi-level governance (Perkmann, 2003). This makes the developments of 2020 even more questionable, with the way and type of policies almost working against the original purpose of cross-border business.

As already prominently demonstrated in the visualisation above, and with reference to the government measures imposed, there were changes in the labour market to be noticed that roughly line up. As mentioned above, the months of January and February will allow insights into the pre-COVID-19 era in the border region as well as serve as figures for comparison to judge final outcomes. In March, COVID-19 struck the ‚rest' of the European Union (Marcus, 2020). Negative reactions in the unemployment rate, labour force participation rate, and the number of job vacancies were expected and, without earlier intervention, unavoidable. Thus, both governments created economy rescue packages and measures to individually fight the effects of the pandemic. It is relevant to note that the Netherlands, and thus the Dutch side of the border, was faster in reacting and designing measures, starting with these at the beginning of March (Business.gov.nl, 2020b) (Business.gov.nl, 2020a), roughly 20 days before Germany announced its economic stimulus (MDR, 2020a). This marks the starting point for the fight against the economic impact and is symbolic for the desynchronized decision making that will later affect the border region. April and May mark the peak for unemployment in the Dutch border region with 8.259%. In contrast, German unemployment still rose steadily. This meant that, although being a simplistic measure, considering the given heterogeneity of the labour market, the developments strongly suggest weaker labour market performance and a lacking ability to create jobs for the labour force (ILO, 2019). As a lagging indicator, the unemployment rate is in direct response to changing economic conditions. This could be the pandemic in general, but also the government measures imposed (InvestopediaStaff, 2020b). The unemployment rate often develops parallel to the economic activity in an area. The economic activity in the cross-border region is influenced by both countries unlike the economic activity in, for example, a larger city, which might be an eco-system of its own (FocusEconomics, n.d.). The type of unemployment both sides are confronted with does not fit one of the four classic types of unemployment. Frictional unemployment (1) describes the unemployment caused by switching from one job to another or when just entering the labour force. Structural unemployment (2) describes the mismatch in the demographics of workers and the types of jobs. Cyclical unemployment (3) is caused by missing demand in an economy. Seasonal unemployment (4) is dependent on the industry and can be recognized in, for example, the agricultural sector (MasterClass, 2020). This means, there are other specific factors such as demographic change, declining demand, or seasonal change that can be ruled out as the main reasons for the rise in unemployment. They take on the role of second-place causes, as they still exist but are not responsible for the massive changes. During this period, the Netherlands experienced its highest labour force participation rate, showing an increase in the labour available to engage in the labour market (ILO, n.d.-b). Although the overall metric is higher on the German side of the border, a steady downfall can be recognized. Some consider a high labour force participation rate in combination with a low unemployment rate to be a clear sign of a healthy and robust labour market (Majaski, 2020). At this moment, the cross-national labour market, with rising unemployment numbers and fluctuating labour force participation rates, can be considered anything but stable. This downfall is also resembled in the development of job vacancy numbers in Germany, though not in the Netherlands. During this period, both countries were observing the effects of their first measures, not deciding to take further actions. This ties into the narrative of both governments intervening in the market, with different methods, during different times, resulting in different outcomes to fight the same problem in, arguably, the ‚same market'.

The idea that border regions should not be treated as separate is not new. Niles Hansen (1976) describes in his paper „The Economic Development of Border Regions" from 1976 that „..., many regions are directly and significantly affected by proximity to an international frontier." (p. 3). Thus, cooperation in pandemic situations should come naturally. It is important to note that June marks the end of the so-called „first lockdown" in Germany, i.e., the ‚strict' regulations imposed earlier in 2020. To boost the economy, Germany spent additional 130 billion euros on the economy (MDR, 2020c) while the Netherlands expanded TOZO as well as NOW to TOZO2 and NOW2 (Business.gov.nl, 2020b) (Business.gov.nl, 2020a) around the same time, at the beginning of June. The Dutch unemployment rate is falling further while Germany's is rising further. After overtaking the Dutch unemployment rate in May of 2020, Germany peaks in August with an unemployment rate of 8.5%, which is, considering data from January and February, very untypical. Not only the unemployment rate but also the employment to population ratio, and the number of job vacancies experienced improvements. These ‚improvements' either consist of stagnating rates or slightly rising numbers. While this can be considered a good sign, Dutch numbers behave different - with stable job vacancies and slowly decreasing unemployment rates. Although the trend line suggests a long-term rise un the Dutch unemployment rate, the last two months investigated hint towards a short-term decrease in unemployment.

There is no doubt that individual success should be celebrated, though these individual successes are only minimal and an acknowledgement of contradictory goal setting and policymaking, considering an economy that should work for the people (Commission, 2019) and the European way of life (Commission, n.d.-b). The period of September, October, and November cannot be reliably analysed by simply looking at the released data as most reporting happens quarterly or every three months. After six months of rising unemployment rates, the German side of the border experienced falling unemployment numbers again. While the job vacancy numbers were stabilising, both the Dutch side as well as the German side experienced a decrease in labour force participation rates. It is to be noticed that towards the last months of 2020, both sides of the labour market were disturbed heavily and, although changes were inevitable, uncoordinated acting influenced the performance of both sides of the border.

The unemployment rate, labour force participation rate, and the job vacancy numbers were affected heavily by changes in the labour market environment. On all metrics besides (maybe) the employment to population ratio, developments were different, can be expected to develop differently in the future, and are at a ‚worse' state in November than they were in January and February. A general theme was that extreme changes always occurred during the same months. The cross-national labour market went from looking like one to looking like two separate ones. Although multiple factors play a role, these different developments can be partially traced back to government actions.

6. Results

The uncoordinated fighting of the pandemic‘s effects on the economy amplified the negative implications on the cross-national labour market. It can be recognized that both governments acted desynchronized throughout the pandemic, with one side acting faster and, subsequently, the other side enforcing different measures. This article is not supposed to categorize the outcomes into good or bad, it simply becomes apparent that the final months of 2020 show very unaligned developments in contrast to the situation in January or February. As an example, the unemployment rates are now on different tracks with the German rate rising significantly faster. These are the results of labour market disturbances that could have been prevented by better coordination and cooperation. The specific reason why companies like to settle in this border region, or border regions generally, is because they want to profit off someone or something across the border. This could be a business partner, or simply employees that fit the qualifications needed for a specific job, such as language and cultural understanding. This often causes employees to commute to stay in their home country. Others may be registered for social security in their home country. While others enjoy a mix of both. Such a diverse working environment requires special attention in crises situations. The different labour market scenarios created, paired with lockdowns, travel restrictions (Reimann, 2020), and other hurdles, complicate doing business and might even hold the cross-national business, once thought of as an advantage, against the companies. Labour market segmentation, a strongly debated topic in economics, deals with the way labour markets have been, can be, and should be segmented to improve fair competition and overall living standards. Generally, there are many different ways to segment a labour market, such as geographical, cultural, formal, informal, or between migrant and non-migrant workers (ILO, n.d.-c). Especially during the pandemic and underlined by the actions of governments depicted in Figure 1, political segmentation played a large role in splitting an intertwined market in two. On almost all levels but political, this market can be considered one: People learned to speak one language, the cultural diversion has shown not to be a problem (Dijst et al., 2005), the European Union enforced the four freedoms (Commission, n.d.-a), and there are no geographical barriers. Only in the pandemic of 2020, both sides started to take different approaches again. Making regional policies within only one country will ultimately ignore commuters, people living in their country of origin, and people that are still registered for social security in their home country. Given the data presented in this article, one could conclude that the labour market indicators were all majorly influenced at the same times but developed differently due to national decisions. Despite the inevitable legal hurdles, it is to be assumed, an alignment of government, or at least regional, actions would have lowered the degree of labour market disturbances. Not only would this have possibly provided better outcomes for companies and employees, but it would have been another act of integration in the European Union and a sign that global problems need to be fought on a global scale. Both countries, and regions, have demonstrated that cooperation is possible in the pandemic, as it was prominently shown in the bilateral medical assistance given to each other (Staff, 2020).

The results of the analysis show overwhelmingly negative outcomes for the labour market on both sides of the border. With the choices made by the governments, generally, it is hard to turn such a situation into something that would be considered positive. Thus, a positive outcome would simply be the application of an effective damage reduction strategy to satisfy the whole labour market. To conclude on the main research question „How do national differences in the management of the pandemic affect the labour market in the Rhine-Meuse border region between Germany and the Netherlands positively or negatively?", all of the negative and ‚positive' effects of the government measures on the labour market were explored. As both sides chose different approaches from the beginning on, different outcomes were inevitable. These different outcomes are signs for mainly negative developments that relate to anti-COVID-19 measures.

The recent developments have shown how Germany and the Netherland's set their priorities in crisis situations. Although both are part of the European Union for quite some time now, cross-border working is not as safe as once thought. This article might encourage people to rethink what it means to be part of the European Union and what it means to collectively deal with these types of incidents. Germany, as well as the Netherlands, should embrace the possibilities offered by the European Union and follow a stringent and coherent strategy, even in ambitious situations, that is in line with European values and goals. Companies and employees should see cross-national labour as another risk that should be respected, as cross-national working is not to be taken for granted.

7. Critical Appraisal

The research presented in this article has several limitations concerning the gathering of data, the methodology, and the interpretation of results. Identifying these limitations will help improve future research.

First, complications in data gathering became apparent when collecting numerical data from official government departments. For every department, and, in fact, for every type of statistic, there are different rules and regulations attached to the reporting. Some statistics, such as the Dutch unemployment rate, might be reported monthly, but the data is released quarterly. Meanwhile, Dutch job vacancies are averaged and released every three months in comparison to German job vacancies, which are reported and released monthly. This limits the possibility for analysis. Additionally, each country uses its own definitions for specific terms such as unemployment, thus a common ground needs to be found to be able to compare data. Since the border region between Germany and the Netherlands is a comparatively large stretch of land, the geographical area researched in this article is loosely oriented on the Rhine-Meuse North cross-border region. Although it serves its purpose for this report, it does not guarantee each part of the border region to be equally affected. Furthermore, this article is based on data gathered in free databases provided by government departments and Fontys licensed databases, such as Statista. This might have limited this article in its range as more specific data could have possibly been found. Additionally, cross-national labour markets are an, in comparison with other economic fields, unexplored topic. Thus, the article is limited in its ability to substantiate its findings with scientific literature.

Second, this article was written in a time span of five months, limiting its range considering the broad topic dealt with. Moreover, this article was written in the context of the ‚Fontys Minor: Doing Business in and with Europe‘, meaning it was not possible to funnel more time into this article than is projected by the five ECTS one receives by successfully finishing this module. Furthermore, as this article was finished at the end of 2020, neither the year 2020 nor the pandemic is over. This implies the usage of further assumptions and underlines the limitations caused by the reporting schedule of data. The key performance indicators used in this article are selected to create a general overview of the labour market situation and are not viable to gain specific and detailed insights into the cross-national labour market. This forced the researcher to assume relationships, although substantiated through literature, and keep the broader scope of the project. As reliability can be judged by consistency over time, internal consistency, and interrater reliability (Price et al., n.d.), the first and second criteria can be guaranteed in this report. Reliability is ensured using trustful sources for quantitative research, such as government websites, and the referencing of often-cited scientific studies, for qualitative research. The interrater reliability, or reliability across researchers, can be questioned as the topic of cross-national labour market metrics is not researched enough. The validity of data can be described as a judgement that is based on various types of evidence, for example, if it covers the points of interest for this research project (Price et al., n.d.). This means the validity is partially dependent on the interpretation and goal of the research project. Since a large portion of the report consists of the evaluation of numerical data, which is undoubtedly correlated with the dependent and independent variables mentioned above, the data used can be considered valid.

Third, the interpretation of data might be influenced by some type of research bias. It must be noted that, although the correlation has been demonstrated prominently, the causation cannot be fully proven. With the resources given it is not possible to trace back the effects to the cause fully. Although fitting literature was found and assumptions were justified, the aim of future research projects might be to deepen the knowledge in this field and use newer data to analyse the effects of the pandemic.

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Chapter IX

Analysing the different influences of product vs. customer orientated strategy: Focusing on small and medium-sized companies in the contiguous German and Dutch border region

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Abstract

The goal of this research paper is to close the research gap between product focused strategy and customer focused strategy in SME`s. The cross-border region of North-Rhine Westphalia, Germany and Limburg, Netherlands is the target focus during the research.

As the market is steadily evolving more and more towards customer focus, it is from utmost importance to compare both strategies, in order to determine opportunities and threats. In particular, at the defining possibilities to improve customer relationship and customer retention is the main aim in this paper. Qualitative and quantitative research has been conducted, in order analyse the research gap and to deliver appropriate results.

Expert interviews with SME´s in Germany and Netherlands have reflected the current situation in product and customer orientated companies as well as their perception of the customer relationship. In contrast, tailored surveys in form of Kano questionnaire have been used to determine the perception of customers who experienced either one of both strategies. Moreover, needs and demands has been contrasted to company perception of customer needs and demands, in order to evaluate potentials to adapt.

The comparison of qualitative and quantitative research results has shown that customer orientated companies are already doing better based on customer relationship and customer retention. Moreover, these companies are better prepared for the trend towards customer focused market and to maintain satisfied customer and therefore their retention.

Nevertheless, having a product focused strategy is still promising to be profitable in the current market, as the shift towards customer centric is not as strong as it will be in the future.

Based on these research results it is advisable to slowly adapt towards customer focused strategy, in order to stay competitive in the long run. Acclimatising from department to department would be a good opportunity to adapt healthy to the new strategical orientation.

1. Introduction

The change of product driven market and company focus on a customer/service driven market and company focus. The world is constantly changing as well as the industry, market, trends, behaviours, needs and demands. Companies have the obligation to follow these changes, in order to stay competitive. The authors analyse how well small and middle-sized (SME) companies in Germany and Netherlands are actually adapting to these changes and how strongly the focuses have evolved. On top of that, differences, strengths and weaknesses as well as similarities between companies in these two countries will be reflected, in order to determine improvement points for the future.

Often, keeping customer retention high and simultaneously keep up the business performance, had been observed as entrepreneurial challenges. In both cases, the company focus has been laid on products offered instead of customer needs and demand and therefore, struggled to meet customer expectations effectively, despite having a competitive product portfolio (Haffner, 2017; Lalka, 2019). On top of that, during the studies at Fontys as well as through own learnings, the authosr could see a clear shift and adaption of outdated or better said product and market focused methodologies and models such as: the marketing 1.0 evolving to marketing 3.0, the golden circle, 4P´s marketing mix adapting to SAVE or 4C´s marketing mix, industry 4.0 and society 5.0 (Verma, 2010; Straker et al., 2019; Wani, 2013; Salgues, 2018; Kotler et al, 2010). Moreover, during the last decade, Internet and technological advances have changed both, markets as well as consumer behaviour and therefore it is crucial for companies to understand and adapt to those changes. (Erragcha, 2014; Martinez-Ruiz, 2017).

2. Research problem / aim / approach

The market is evolving and simultaneously challenging companies with a traditional product focused strategy. The aim of this study is to evaluate the potential of shifting the focus from product centric strategy to customer centric strategy in small to middle-sized German and Dutch companies, in order to improve business performance. Furthermore, differences and similarities between these two contiguous countries will be evaluated, in order to reflect how much influence particular company styles can have for the ambitioned change (Gebauer and Kowalski, 2012). Due to a steadily changing market as well as customer behaviour, needs and demands, companies need to adapt their operational style, in order to stay competitive and accomplish high customer retention (Khana and Gouri, 2018). Currently, literature for product focused and for customer focused strategy can be found, but there is a gap with regards to the change and adaption from one to another. Especially, for German and Dutch small and middle-sized companies, no further literature could be found, with focus on comparing both strategies. Furthermore, in cooperation with academics and research groups focussing particularly on companies at the German/Dutch border, relevant primary research can be accomplished. In addition, expert knowledge can be gathered, to fill the current research gap, by involving related Germany and Dutch SME as well as associated customers.

2.1 Research objectives

The following research objectives have been defined, in order to support the research aim. Continuous changes and trends in the market as well as relevant participants are challenging companies to stay competitive as academics already suggested. For this paper, the main focus has been set on the German and Dutch market narrowed down on small and middle-sized companies. Additionally, the shift from product centric to customer centric and the resulting impact on the company and market will be outlined.

1. Evaluating similarities and differences between product and customer centred companies within the German/Dutch SME region through expert interviews.

2. Identifying customer perception and comparing it to company perception to determine misunderstandings and evaluate points of improvement.
3. Evaluating possibilities for German and Dutch small and middle-sized companies to adapt for the future changes and to increase CRM and customer retention.

3. Literature review

As this paper focuses on the influence of product centric operating companies versus customer/service centric operating companies and the resulting, relevant literature will be summarised and assessed.

3.1 Product orientated operation

Product centric or product focus defines the operational orientation of a company with regards to the market circumstances. A product is understood to be a tangible commodity created to be sold. Academics and manufacturers generally refer to products as "goods" (Goedkoop, 1999; Judd, 1964). During the era of product orientation, significant resources were distributed by companies to develop superior products/services, and to improve them over time through appropriate market positioning (Kotler, et al., 1999; Li et al., 2010). Products can be as different as the imagination allows. For example, a product can be highly tailored on a specific customer or it can be manufactured to serve everyone equally. It can be of high quality and have a unique selling proposition or it could be of low quality, meaning low production price, to sell as much as possible (Shirai, 2014; Tukker, 2015; Nilsson and Lindahl, 2016). The Ansoff Matrix on the other hand, describes the four possibilities how a company can enter a market with a product which is: existing market & product = market penetration, existing market & new product = product development, new market & existing product = market development and finally, new market & product = diversification (Schwael and Billing 2018; Navarra and Scaini, 2016).

3.2 Customer/service orientated operation

There are many reasons to adjust strategic orientation towards customer such as: justifying high price, keeping a high customer retention or develop a competitive advantage (Wetzel, 2014; Gustafsson, 2005; Fader, 2012). Over time, companies have adapted their orientation to be more customer related in order to stay competitive and react to innovations and environmental changes. It is said to be a continuous process leading to identify customer needs and demands and increasing value offered towards customers (Voigt, 2011; Pinho, 2008). In order to gain advantage over the competition, companies aim to be recognised as customer focused from their customers. As an example, since 1995 one of Amazons missions and marketing tool is to be the world's most customer focused and friendly company and looking at the awards received, they succeeded (Shah et al. 2006; Lee et al. 2015; Amazon 2020). When focusing the strategy on the customer, needs and interest from customers have to be placed as the highest priority for companies, without forgetting the interests of all other stakeholders such as the CEO, staff and managers, to be profitable in the long run. To do so, Schneider and Bowen (1993) suggested that regularly gathering customer needs and demands, products can be designed and delivered on a good level. Thus, pursuing a strategic focus with customers in the centre, will be more likely for the company, in order to increase value for customer (Schneider and Bowen, 1993; Desphande et al., 1995; Achrol and Kotler, 2012).

3.3 Customer relationship management

The concept behind customer relationship management (CRM) proposes that customers are different based on their needs, habits and preferences and is founded over a couple decades ago (Heskett, 1987). Based on Zablahs (2005) statement that no common ground resulting in fragmented research fields, todays CRM analysis are done conceptual, empirical and practical (Zablah et al., 2005). Noticeable here is, that CRM evolved over time and is one of the most frequently discussed topics in the field of marketing with many articles written on how to implement the methodology successfully (Payne and Frow, 2013; Chang, 2009; Salim and Keramati, 2014). Therefore, long term profitability has to be increased by improving the relationship between company and customer and to create maximum value (Bose, 2002; Chen and Popovich, 2003; Nguyen, 2013). XU (2002) described

CRM as a tool, which mines customer data from touch points of customers and helps to predict the upcoming purchases and which integrates most of the company department which interacts with customers directly / indirectly. In addition, Ernst (2011) added, that CRM not only helps to have a positive impact on organisation and customer, but also on the development of new products. In the last ten years, use of online platforms had a significant rise and customers can communicate in a large network of people and therefore passive customers have changed drastically to active in the relationship with the company (Matlhouse et al., 2013). For SME´s, diversification with focus on CRM is key to stay competitive and not to lose major clients (Arsic et al., 2019). Additionally, SME´s should rely on one of two strategies: customer knowledge management or customer orientation with help of innovative orientation, since both are key factors to improve marketing results and performance of the company (Fidel et al. 2015; Fidel et al. 2018).

3.4 Product orientation – critical review

Over the past decades, the mass production changed drastically to be more customer orientated. In the twenties, the marketing condition to operate product orientated have been perfect thanks to its homogenous orientation (Ford and Crowther, 1930; Drucker 1954). In the following years, companies mostly had a product centric approach, without taking into consideration the needs and values of customer (Wikstrom, 2004; Bao et al., 2010; Jianchi & Xiaohong, 2009). Adam (2005) referred in his studies to the significance of involving customers into the company process and their impact on the product itself. In addition, Hoda (2010) confirmed this statement by adding that not involving customers into the whole planning process, would result in problems and business losses. Involving customers into the whole process, will help a business to know how the product should look like or which features it should provide (Bhalerao and Ingle, 2010; Adam et al., 2005). In the late 80s, the term “servitization” has been spread as the process of adding services to products to create competitive advantages. It is believed, that by adding service to the product, value creating capabilities such as distinctive, sustainable and lower costs can be created (Meijkamp, 2002; Slack 2005). However, Oliva and Kallenberg (2003) added that not only customer needs to be involved, but the whole structure and production processes of the company has to be adapted. According to Voss (2003) and Chase (1989), a distinct mix of organisational structure and process is key, since here the existing limitation is based on the particular industry, which aims to implement service into the product. While Chase and Garvin (1989) and Quinn (1990) argued that value is created by adding service to the products, Wise and Baumgartner (1999) are in contrast suggesting that companies need to go proactively towards the customer. On top of that, Levitt (1981) claimed that adding service to products, seldom can be tested in advance before the introduction phase. Before doing so, customer needs and demands need to be understood and trust has to be built up (Lovelock, 1979). Looking at the product development itself, most of the time the project to create a new product fails in the last stage of the development process. Based on Kim and Wilemon (2002), the cause of this failure is mostly resulting from the beginning stage.

3.5 Customer orientation – critical review

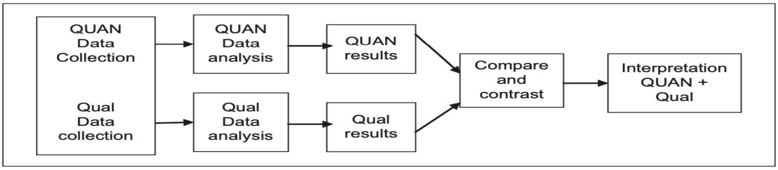
Can too much customer focus result in a disadvantage? Academics have been challenging this question over the past decade. While Donavan (2004) proposed and Haas (2006) confirmed that operating with a customer focus would influence sales positively, some other academics are denying this statement. Franke (2006) stated that no scientific evidence has been recorded that customer focused operation would positively influence the future decisions of a customer. In addition, it has not been analysed, if customer focus has future negative influences on buying behaviour (Haas, 2009). This assumption comes from the previous empirical studies of consumer decisions based on a positive generated sales talk. It is set to say that no clear evidence could be driven if, the engagement has a positive impact on the customer decision or a negative (Evans et al., 2000; Niebisch, 1993). Customer orientated strategy has been described as "understanding target customers and creating superior value in order to generate brand loyalty" with focus on various marketing concepts tailored for the specific aim (Slater, 1994; Ingenbleek and van Trijp; 2013, Kirca et al., 2005). Slater (2007) and Zhou (2005) stated that the outward orientation of considering the market, customer and technology, helps organizations to adapt accordingly to the environment with focus of the own strategy. However, Kirca (2005) in contradiction stated that researchers have failed to find a systematic link between environment circumstances and the market strategy of a company. In addition, previous research has addressed how to integrate customer into the operational processes but failed to clearly answer how customer engagement effect operational and improvement stage (Gillig and Sailer, 2012; Islam & Rahman, 2016). While Fruchter (2005) and Gunnar (2008) believe that retaining customer would influence the organizational profit and strength compared to competition positively, Kotler and Armstrong (2011) added that customer retention begins long before the first buying intention. Moreover, adding higher switching costs, customers tend to retain at the company (Jones et al., 2007). In contrast, Huang and Yu (1999) stated that buying behaviour can be habitual and unconscious and is difficult to be changed. In addition, providing a convincing product/service which fulfils customer needs and expectations, without convincing commitment and without gaining the trust of customers, retention is difficult to maintain (Sharma et al., 2007; Johnson & Cullen, 2017).

3.6 Research philosophy and approach

In this research, the philosophical position of interpretivism/ constructivism paradigm can be seen as the starting point, because of its contextual and reflexive approach with a qualitative research base focused on human knowledge and information (Yanow and Schwartz, 2014; Hammersly, 2013). Creswell (2007) and Hammersley (2013) both said that: Interpretivism can best be described as the phenomenon to understand complex and unique context instead of generalising „understanding" by seeing and experiencing the world diverse through different contexts and cultures. Since during this research qualitative research in form of expert interviews, surveys and focus groups will take place, understanding in depth who each individual is and where exactly the perception origins from, is key to develop an appropriate conclusion. The perspective of the participants is different from the perspective of the authors and therefore needs to be fully understood (Krauss, 2005). In accordance with the above-mentioned academics, this study also focuses on solving a specific objective and therefore, through qualitative research aided by quantitative data, a deeper understanding of the reality of the participants will be generated. In accordance with the philosophical stance, this study has a diverse nature. Using the reviewed academic literatures, this study aims to solve the question if shifting the focus from product focus to customer/service focus will bring a benefit to companies. The first major objective was to find out if similarities or differences between product focus and customer focus occurs in German and

Dutch SME´s. Therefore, different influences on companies with their respective focus is analysed and compared. Another purpose to shift the focus is to identify possibilities to improve the CRM effectively, in order to support the move from product centric to customer centric. Finally, the last research objective concerns the competitiveness of SME´s and how to improve these by maintaining or even increasing customer retention, which as Dawkins and Reichheld (1990) claimed, has a bigger impact on the company turnover as recruiting new customers.

4. Methodology



Source: Outwater et al., 2011

For this research, data has been gathered sequential, starting with qualitative data and then followed by quantitative data. Moreover, integrated design approach will be used to evaluate results from qualitative data supported with results from quantitative data to draw up conclusions (Caracelli and Greene, 1997; Almeida, 2018). The main reasons for this method are as follows: Qualitative data has been preferred over quantitative data because it helped the researcher to analyse in depth the company´s, as well as get a clear insight of the company perspective. On top of that, quantitative data is used to catch the subjective voice of customers and to determine correlations or contradictions from both perspectives. In order to mix these two methods successfully, the triangulation design has been chosen, since it is a well-known approach to support the research aim by comparing and contrasting the quantitative and qualitative results (Creswell et al., 2003; Outwater et al., 2011).

The authors have set the data collection and analysis with focus on retailers and manufacturers in Germany and Netherlands. Moreover, data will also be collected through key customers of appropriate companies. Together with the supervisor, the external expert and his research group, key companies have been identified and proper expert interview questions have been developed. By conducting expert interviews, qualitative first-hand data as well as valuable perspectives of the interview partner can be obtained and evaluated to identify points to improve and to compare to the quantitative collected data (Young et al., 2017). Based on the pre-settled amount of five necessary qualitative interviews from the University, the authors decided for at least five expert interviews in the retail industry and five in the manufacturing industry to have a representative outcome (Owen, 2020). Furthermore, quantitative data gathering is done via interviews with closed questions, which then will be evaluated and compared to the interview results from the associated company. Founded by Noriaki Kano (1984), the Kano model is one tool to analyse, whether companies do fulfil customer expectations and perceptions or if certain points have to enhanced in order to deliver customers a satisfactory product/service. In order to do so, product/service specifications are considered and simultaneously discussed in form of a questionnaire on how well these specifications satisfy the customer (Sauerwein, 2000; Rotar and Kozar, 2017; Lin et al., 2017).

4.1 Kano model

The amount of satisfaction one customer does expect and does experience, depends on the different expectation criteria regarding product/service specification, one sets for themselves. Therefore, it is from outmost importance for companies to understand the needs and expectations of the customers and also the grade of influence different parameters does have onto the satisfaction of the customer. Adapting product and service offered accordingly based on customer wishes and demands, is key to create value for customers. Noriaki Kano, founder of the Kano model thought about a method to understand customer perception on such a scale, that customer wishes, and demands are understood and demonstrated as measurable results. Companies can react appropriately to fulfil and adapt these demands, if they do understand customer perception better (Kano, 1984; Klopp, 2012). Most customer satisfaction researcher and academics stated that a one-dimensional customer satisfaction scale where improving product quality would result increase customer satisfaction. However, Kano stated that a multi-dimensional, nonlinear connection would be more logical. That means, fulfilling/ not fulfilling customer preference and wishes would not necessarily increase/ decrease customer satisfaction on a linear level. A nonlinear relationship between product feature and customer satisfaction would be a reasonable and a more realistic outcome (Anderson & Mittal, 2000; Borgianni, 2018).

5. Results and discussion

For the purpose of evaluating appropriate answers for the research questions, qualitative and quantitative analysis has been conducted in the field of retail and manufacturing industry, in small and middle-sized German and Dutch companies, as well as their customers. The fundament for the conclusion and recommendation has been set by combining expert interviews with interview partner from SME´s and KANO questionnaire for the relevant customer target. **Qualitative research** has been conducted with five German and five Dutch SME´s on the contiguous border.

In depth questions
1. How would you describe the current customer retention of your company?
2. What would you say are the most important reasons for the good (or bad depends on the answer) customer retention?
3. On a scale from 1 to 10, how do you rate the customer relationship management of your company?
4. Do you think, you meet customer expectations? If yes, How? If no, Why?
5. Which marketing tools and channels do you make use of to promote your product efficiently?
Strategic development questions
1. Is your company growing the way you expected it to grow?
2. How would you counteract declining customer retention?
3. What are the key benefits in your strategic orientation?
4. How would you describe the strategy of the market leader in your industry?
Product/customer centric specific questions
1. Would you rather see your company as customer or product orientated?
2. Please describe me how important customer satisfaction is for your company.
3. (Product orientated companies) Did you ever considered to switch the strategic focus to be more customer orientated?
4. (Customer/service orientated companies) What would you say are the main reasons why your strategy is focused on customer/service rather highlighting products you offer?

Quantitative research has been conducted through an adapted kano questionnaire, with German and Dutch customers offline and online.

Question	**Functional** If the company…	**Dysfunctional** If the company…	
1	product/service fulfil your need,	product/service does **not** fulfil your need,	how do you feel?
2	does offer superb customer service,	does **not** offer superb customer service,	how do you feel?
3	does offer high quality product/service,	does **not** offer high quality product/service,	how do you feel?
4	does offer reliable product/service,	does **not** offer reliable product/service,	how do you feel?
5	offer a 100% guaranteed satisfaction promise,	does **not** offer a 100% guaranteed satisfaction promise,	how do you feel?
6	focuses on environmentally friendly solutions,	does **not** focuses on environm. friendly solutions,	how do you feel?
7	makes it easy to get in contact with,	does **not** makes it easy to get in contact with,	how do you feel?
8	offers multilingual contact possibilities,	does **not** offers multilingual contact possibilities,	how do you feel?
9	would offer a high-quality product/service but a moderate customer service	would **not** offer a high-quality product/service but a moderate customer service,	how do you feel?
10	would adapt their strategy to be more focused on customer needs and demands,	would not adapt their strategy to be more focused on customer needs and demands,	how do you feel?

5.1 Data analysis

5.1.1 Qualitative research results

During the expert interviews, the in-depth questions have been used to get first insight on how the company is performing and the interview partners perception of the company's performance.

5.1.2 Product focused

To start, looking at the current customer retention of product orientated companies in Germany and Netherlands, the answers have been quite similar. Despite the current COVID-19 crisis, the customer retention of the product focused companies could be described as "good / very good" looking back onto the last years. This result comes from the fact that the interviewed companies do make use of offering their product and service online, instead of only focusing the traditional offline distribution channels. Customers still could buy and order the desired products and services. One German company even stated that sales have been tremendously increasing compared to the same time last year. Furthermore, regarding the question "what the most important reason for the good customer retention are", the feedback has been slightly different. Whilst one company stated that the high quality and product reliability are reasons for the good customer retention, another stated that the fast delivery and technical standard of the product would be reasons customers tend to stay. Moreover, question related to the focus on the customer relationship management on product focused companies have been answered as follows: The answer possibilities ranged from 1 as the worst up to 10 as the best and have been answered on average with 6.5 which indicates the missing customer focus in the whole strategic planning. Since these companies do focus more on their product features, product quality and their supply chain, this leads to cutbacks regarding customer satisfaction and relationship. However, the results in the Dutch companies have been better, with an average of 8.0, compared to German companies. This is a first indication that Dutch companies do focus even more on customer satisfaction. In addition, the feedback regarding whether product focused companies do meet customer expectations, has been answered with yes by all participants. Interview partners are assuming that meeting customer expectations can be seen as fulfilled, solely based on the premise that the customer retention is satisfactory enough and products are still bought, without actually knowing what customers really do expect and want.

Fifth, the different marketing tools and channels used from product orientated companies are as follows: Since the product is strongly in the centre of the marketing, ways to promote the product efficiently have been recognised in offline and online channels such as Facebook, Instagram, website, E-mail marketing, advertisement in local newspaper and magazines as well as going to fairs. Here, no difference could be observed between both countries, as they use the same advertisement possibilities and the same channels.

5.1.3 Customer focused

Based on customer orientated companies, Most answers regarding the current customer retention have been “excellent or great”. Also, here the COVID-19 crisis did not influence the customer retention at all. Dutch companies claimed that COVID-19 even helped them to boost their turnover, which has not been the result in German companies focusing on customers. By focusing on the customer demands, needs and wishes, these companies could adapt their product/service in a way that customers do not really need to switch their supplier. However, also here it has to be kept in mind that fulfilling customer wishes not necessarily would result in success or customer satisfaction.

Second, the excellent customer retention is an outcome from the high focus on customer needs and demands, mentioned earlier. Instead of focusing too much on what their product quality and capabilities are, these companies create added value which customers get, in a successful way and with focus on customer satisfaction.

Third, the customer relationship management has been rated with an 8 on average, which reflects the success of customer driven strategies. Of course, the customer relationship plays an important role at companies with customer focus, which they try to improve by offering superb customer service and by solving customer complaints, offering customer orientated solutions and by trying their best to fulfil customer wishes.

Fourth, regarding the question if customer expectations are met, customer orientated companies answered with “yes”, which was the expected answer. By focusing on the customer wishes and needs, compulsory customer expectations should be met to a high degree. Fifth, with regard to the marketing tools and channels used from the customer orientated companies, the answers have been the same as they have been for the product orientated companies. No difference could be observed between either product or customer orientated Dutch and German companies. However, the only difference which could be observed is that Dutch companies do rely a little bit more on word of mouth as German companies do, which indicates the high trust they have in their customer base and their customer relationship management.

5.2 Strategic development

By focusing on the strategic development, differences between product focused and customer focused companies can be seen. It is worthwhile to see, if one or the other is doing better regarding the growth and strategic orientation.

5.2.1 Product focused

The first strategic development related question is focusing on the company growth. Interview partner should explain whether if their company has been growing the way they expected it to grow, looking back at the past couple of years. While most companies have been answering the question with "yes", one company stated that the company did not expect to take that long to grow. Their forecast indicated that the growth would take three to four years less than it took at the end.

Second, despite having satisfactory customer retention, interview partners needed to answer the question how they would counteract declining customer retention. The purpose of this question was, to see if product orientated companies are willing to adapt their strategy, if customers move away. Product orientated companies would still try to get in touch with the customer to understand the reason, why they left the company but would not necessarily change their strategy. Instead, product specifications would be checked again and if needed, improved or changed. Moreover, to counteract declining customer retention, product orientated companies in Germany would rather try to acquire even more new customers. However, this was not the case in Dutch product orientated companies. Here, the answers have been different, with interview partners stating that instead of aggressively acquiring new customers, they would try to understand the complaints of the customers. By listening to the customer, they would try to work a way out to turn the dissatisfied customer to a satisfied.

Third, regarding the key benefits of the strategic orientation with product focus, the answers have been more or less the same. Being up to date with product innovation, digitalisation and technology and being able to continuously offer high quality products or fast delivery, is fundamental to stay competitive.

Fourth, the strategy of the strongest competitor in the market is essentially quite similar with focus on quality, reliability and technological innovation. However, the economics of scale are giving some companies the advantage over others by creating the possibility to invest even more intensively in quality and technology. This was the same for both countries and the respectively strongest competitor.

5.2.2 Customer focused

To start, in terms of customer focused companies, results from the first question indicated that in the very beginning, these companies struggled to maintain growth, but were able to catch up fast enough to have a growth, which now reflects the forecasts. Furthermore, with regard to potential declining customer retention, the results reflect a high customer centric strategy. To counteract declining customer retention, despite having such a high focus on the customer, companies would actively search for reasons customer moved to the competition. In addition, they would attempt to win the customer back, depending on how important the customer was. Moreover, the whole customer relationship management would be involved to improve the customer retention instead of increasing efforts to acquire new customers. On top of that, the key benefits of this strategic focus could be described as follows: by focusing on the customer needs, demands and wishes, trends can be pursued efficiently and fast reactiveness to changing customer habits is guaranteed. In addition, this question shows that, Dutch companies tend to focus more on the customer needs and demands compared to German companies.

By implementing customer focus in the strategic orientation, customer satisfaction can be kept high and therefore, customer retention can also be kept high. Finally, regarding the strategy of the strongest competitor, the results have been more or less the same. Customer focused businesses, with regard to the competition are doing their outmost to increase customer satisfaction and customer retention, in order to stay competitive and to have a strong customer base. There has been no big distinction drawn between interviewed companies and their competition.

5.3 Product/Customer centric specific questions

The final column of questions is focusing on the company focus in general and on the main reasons for choosing the particular strategy.

5.3.1 Product focused

The first question regarding the strategical orientation could quite naturally be answered with "product orientation", which indicates the high focus on production.

The second question refers to the perception of importance of customer satisfaction for the company. Here, product orientated companies described the customer satisfaction as important but not as much important as sales in general. Of course, a satisfied customer is a good sign, but not all customers can be made happy on the same level with and the same product and therefore, if the majority is happy, the company is happy as well.

Nevertheless, the indication that Dutch product orientated companies do give a little bit more focus on customers compared to German companies, can also be seen here. They tend to rate the importance of customer satisfaction slightly higher.

The third question focused on the possibility to switch the strategic focus to be more customer orientated. Surprisingly, German companies would not consider switching or even adapting their strategy in the near future to be more customer orientated, indicating the strong confidence Germans do have in their products. On the other side, Dutch companies are showing the willingness to adapt to a constantly changing and evolving market, even if it means to changing the strategic outlay of the company. Implementing customer focused approaches in the traditional product orientated strategy, would be considered as a possible solution to make us of.

5.3.2 Customer focused

The first question could be answered as "customer orientated company" for the strategical orientation. With regards to the "importance of customer satisfaction", customer orientated companies rated the satisfaction of customers/consumers with very high importance. For them, customer satisfaction is fundamental for the customer relationship and the customer retention. Therefore, it is considered to be one of the strongest focus in the strategic outlay of customer orientated companies, to put effort in.

One interview partner stated that "customer satisfaction is reflected in customer loyalty" and added that "turning a dissatisfied customer to a satisfied takes much effort but is worth it to increase customer retention". Moreover, it was stated that satisfied customers do most of the time make free advertisement through word of mouth with their relatives. In addition, Dutch companies tend to invest more effort in customer satisfaction by doing regular customer satisfaction surveys and meetings, in order to give their customers a voice. In German companies on the other hand, this kind of effort to catch the voice of customer, has been missing quite often.

Finally, by asking "why did they choose customer focused strategy instead of product/service focused strategy" following results could be driven. By listening to customer needs and demands and enhancing customer relationship, product/service can be improved implementing customer needs, which results in high customer retention. Offering qualitative products seems to be easy but will not keep customers loyal to the company, since others can also offer good quality products, one interview partner stated. Instead, by delivering a unique experience and fully satisfying customer needs, true loyalty can be created. On top of that, Dutch interview partners added that, giving customers the feeling that they are valued and listened to, do enhance their customer relationship. One interview partner added, if customers are not be seen as simply "customers" but rather as valued partner for the company, it would help to be even more successful in the future.

5.4 Comparing strategies and countries

After conducting the qualitative data analysis, following results can be outlined.

First, it seems like German companies in general are slightly stronger focused and confident in their products compared to Dutch product orientated companies. In the Netherlands, despite having a strategy strongly product orientated, customers still are more focused to, as in German companies.

Second, looking at the growth of the past couple of years, focusing on customer instead on the product, indicates a closer growth rate towards the forecast, in both countries. This indicates the potential customer focused strategies can bring, as well as the importance to become more responsive to customer needs and demands. Results also have shown that, compared to Germany, Dutch companies are definitely more willing to adapt towards customer orientated strategies.

Third, the overall customer satisfaction and customer retention are as expected, clearly stronger within customer focused companies. No clear differences between both countries could be observed. The only minor difference noticed was, that customer retention increased slightly stronger in Netherlands, which can be attributed to the COVID-19 influence and therefore is not considered to be of any sort of relevance. Fourth, based on the answers of both countries, Netherlands seems to be more customer orientated as Germany. This assumption is backed up from by the fact that German companies are more focused on their products and are less willing to adapt towards customer focused strategy. On top of that, Dutch companies have weighted the importance of customer satisfaction higher.

Finally, Dutch companies also have the edge focusing on customer satisfaction and customer retention by turning dissatisfied customers to satisfied, while German companies tend to simply acquire new customers.

5.5 Quantitative research results

	Online	Netherlands		Germany		Total	
Male	38	Male	24	Male	17	79	53%
Female	32	Female	16	Female	23	71	47%
							0%
18-25	29	18-25	0	18-25	3	32	21%
26-33	17	26-33	24	26-33	22	63	42%
34-41	13	34-41	6	34-41	5	24	16%
42-49	8	42-49	8	42-49	7	23	15%
50-57	3	50-57	2	50-57	3	8	5%
58-65	0	58-65	0	58-65	0	0	0%

The kano questionnaire has been conducted to catch the voice of customers as well as the customer perception, in order to compare it to the company perception in the later stage of the analysis.

The questionnaire has been partly conducted online and in the city of Duesseldorf to have a fair number of results from German customers. Also, the city of Venlo has been chosen for the survey, in order to have an equal amount of feedback from Dutch customers. In total, 150 people have been surveyed with 70 online, 40 in Duesseldorf and 40 in Venlo. This number results in a confidence interval of 7,98 with a confidence level of 95% (Madzik et al. 2019). The gender score was equally distributed with 53% male to 47% female. Based on the gender score as a demographic value in Germany and Netherlands, this numbers do come close to the whole population in North-Rhine-Westphalia and Limburg combined.

In the following, the results from the different questions are represented and also evaluated with the kano evaluation form, to represent the customer insight on product focused and customer focused strategical perception.

Question one was related to the fulfilment of customer needs. Here, a clear difference between the answers could be observed. Nevertheless, most of the participants would consider the fulfilment of customer needs as a "must-be". If customer needs are not fulfilled from companies, most of the customers would dislike it, which would result in a huge increase of dissatisfaction. Yilmaz et al. (2005) stated that if companies want to improve their business, they clearly need to understand the factors providing higher value to their customer base. In addition, Lager (2008) already suggested that meeting customer needs is essential for a company to stay competitive.

Question two referred to the possibility to offer superb customer service. Most of the participants would consider superb customer service as an “attractive” implementation rather seeing it as a “must-be”. If a company would not offer superb customer service, customer would most likely live with it, without getting affected in their satisfaction level, whereas implementing it would boost satisfaction tremendously.

Question three is as Drucker (1973) already stated, something customer nowadays are perceiving as one-dimensional influence. Whereas decades ago, high quality would be some sort of attractive benefit for the customer, nowadays customers are expecting high quality products. To increase the willingness of customers to stay loyal and to buy more often, high quality is expected and goes hand in hand with the reliability of products, in order to create repetitive sales (Lovelock, 1983; Oliver, 2010). Hinterhuber and Matzler (2009) are seeing a strong correlation between company success and customer satisfaction and are suggesting, that companies should shift focus more and more towards customer relationship. Combining product quality and reliability with customer service and customer value seems to be a good first step, based on the recommendations of Daveni (2007) and Bailom et al. (2007). This recommendation is also reflected in the kano survey results in Germany and Netherlands for question four.

Based on the results of question five, the above statement does receive credit for putting customer satisfaction in the centre of a successful company development. Most of the survey participants gave the answer that, a 100% guaranteed satisfaction promise would be an attractive factor for them. This result indicates that creating value for the customer would create satisfied and loyal customers (Duffy, 2003).

Furthermore, question six has been answered quite diverse. The majority had the opinion that environmentally friendly working companies are attractive ones. However, customers still would buy products from non-environmentally friendly companies, without getting dissatisfaction.

Question seven referred to the contact possibilities a company does offer. In the last couple of years, customer complaints have been rising, which proves to be a major challenge for companies (Alcantara, 2020). Therefore, it is even more important to know how to counteract this issue successfully, in best case with a satisfied customer. During the surveys in Germany and Netherlands, the results have been clear for both ways, functional and dysfunctional with an outcome of one-dimensional perception.

These results are suggesting that value is created for customers, which results in an increase of satisfaction, by making it easy for customer to get their complaints solved. Customers do have a high sense of justice and if they feel treated unfair, customer satisfaction and loyalty could be affected in a negative way, resulting in a declining retention rate (Homburg et al. 2010, Yilmaz et al. 2015). Multilingual contact possibilities on the other side, are not really anticipated from customers, as results from question eight have shown, giving the opportunity to focus on more important tasks.

The ninth question has been used to analyse the customer perception with regards to the product quality combined with customer service. It was of great relevance to know, if customers would rather prefer high quality product over high quality customer service. Results from this question can be described as follows: most customer would perceive it negative, if a company would offer high quality product but moderate customer service. In contrast, moderate quality product but high customer service is appreciated from customers. These results are in accordance with the statement of Angelova and Zekiri (2011), which says that high quality service is the new selling point of companies and the driving factor of customer satisfaction.

The final question is focusing on the adaption of company strategy towards customer orientation. The results in Germany as well as in the Netherlands are similar with the huge majority voting for "I like it that way", indicating that customer focused strategy tend to be a positive influence on the company and on the customer. During the case study on customer driven business strategies of Pynnönen et al. (2012), the conclusion to include customer perspective on the company strategy has been identified. They suggested analysing customer values, implementing it to the business strategy and adjusting it later on, would help a company to evolve into a customer focused business. This case study has been confirmed later on from Wirtz and Daiser (2018). They also complemented that customer driven changes within the company should be highly individual since no "one size fits all" principle is applicable in such a complex change.

5.6 Research results reflection

Based on the findings of the qualitative and quantitative analysis conducted, following results can be detected. In general, it seems that interview partners have huge confidence in their strategy, no matter if customer orientated or product orientated strategy. The results have been the same for Germany and Netherlands, reflecting the strong similarity in the operating markets and strategical attitude. Since interview partners are on the management level of the company hierarchy, their perception can be seen as reflective. However, customer orientated companies do seem to be more prepared for the future, since the trend is favouring customers more and more. Evidence can be found in in different academic literatures, which have been published within the last ten years. With new innovations, the industry is evolving to be more digital and more in favour of costumers (industry 4.0), which in addition, society is adapting to (society 5.0). As Pereira et al. (2020) already suggested, in order to generate a competitive advantage in the future, the newest technological innovations and technical standards have to be pursued. By adapting and evolving the company, the customer relationship can be improved resulting in enhanced customer loyalty and retention (Mashur et al., 2019). Further benefits of increasing customer loyalty are the possibility to demand premium prices, free word of mouth marketing, decreasing operational and customer acquisition costs and higher profit through higher customer retention. This statement from Kotler (2012) has been confirmed by Harrigan et al. (2015) with the addition that loyal customers are more likely to spread the good experience and less likely to switch to the competition. In addition, Hasanat et al. (2019) have further argued that improving CRM and customer engagement, will lead to customer loyalty for retail companies. Also, these customers have a stronger repurchase behaviour and are not distracted by other attractive alternatives on the market.

These statements can be confirmed for German and Dutch small and middle-sized companies pursuing a customer focused strategy, as the research results are reflecting the great customer loyalty and retention. These are the results of the strong focus on customer needs and demands and adapting to those. In contrast, also in product orientated companies, loyalty and a good customer retention rate can be seen. This statement, which has been confirmed in the quantitative analysis, is reflected in the perception of customers, who are still appreciating and expecting high quality and reliable products. To conclude, in the present, no significant difference in the overall performance and customer satisfaction between both strategies can be seen up to this point. However, clear indications to operate more customer focused in the future, could be recognised not only in terms of statements from different academics but also during the qualitative and quantitative research results for Germany and Netherlands. Looking at the results from the quantitative analysis, most of the company´s perception is in accordance with the customer perception. However, also differences could be observed during the evaluation of the surveys. While product orientated companies tend to highlight the product quality and specifications, customers rather would see their needs and demands reflected in the product. It is a "must-be" for them, to get listened to their needs and demands, rather than to have the best high-quality product in the market (Becker and Jaakkola, 2020). Furthermore, based on the questionnaire results, customers want to experience outstanding customer service, tailored to satisfy their needs to 100%. In contrast, product orientated companies, especially strongly in Germany, do think with outstanding product quality and portfolio, customers will be satisfied anyway. Here, customer orientated companies have the edge with focus on what customers really want and are better prepared to satisfy customers. They therefore are able to create stronger brand loyalty and customer retention in the long term (Mostert et al., 2016). Nevertheless, these results do not mean that product quality is unattractive at all, since research results are indicating that the customer satisfaction is increasing/decreasing proportionally to the offered product quality. Customer satisfaction indeed can be generated through product and service quality as Jahanshani et al. (2011) suggested and Christianto et al. (2020) confirmed.

These assumptions are also reflected in the qualitative research results focused on customer retention and customer satisfaction in small and middle-sized German and Dutch companies. Parmler (2019) and Fader (2020) already anticipated, that at the end, customers would appreciate if companies would adapt their strategy more to customer orientation. This indicates to be key for future success, which is also the reflection of the quantitative and qualitative analysis results of the authors.

6. Conclusion and recommendation

To close this research paper, a conclusion based on the evaluation of the qualitative and quantitative research will be drawn, combined with a recommendation and possible further research recommendations. The indication goes strongly towards customer centred market and strategies tailored to these trends. However, as research results are showing, the current market as well as customers still seems to be getting saturated sufficient enough from product orientated companies. Based on the qualitative research results of customer satisfaction and customer retention, for now there is no urge to make the change in strategy. This current situation clearly reflects the good outcome, product orientated strategies can still generate, despite having customer orientated competitors within the market. However, step by step changes towards customer focused strategy should be pursued, which can lead to improved profits and help to stay competitive in the long run. In addition, such a change should be made cautious as Homburg (2012) and Auguste (2006) already suggested, that structural changes should be done partly, to avoid a negative backlash. Adapting step by step from one department to another department will help to be more precise on what really needs to be changed. To make it clearer, not the whole marketing department needs to be fully changed, but parts of it, in order to create a customer focused organisational structure. Despite German and Dutch customers still appreciating high quality and reliable products, as quantitative research shows, even more would appreciate a more customer orientated future strategy. This means, a fair mix of both, good quality and superb customer orientation should result in great customer satisfaction and retention. In addition, including customer insights in the new product development process, should result in a high-quality product outlining customers preference, while creating high satisfaction (Tuli et al. 2007; Habel et al.2019). It is of utmost importance especially for German and Dutch small and middle-sized companies, to be aware of the trends ongoing in the market and the digitalisation taking place. This assumption comes from the fact, that in these companies, budget and possibilities are limited and therefore, adapting to the trend should be done as early as possible, in particular for product orientated companies. Even the European Union is currently investing in the cross-border region of Germany and Netherlands, to help SME´s to keep up with digitalisation (Sülter, European Commission, 2020). Furthermore, an early structural adaption would lead to a slow healthy change and would help to prevent pressure in the later stage, where the market change proceeded strongly towards customer focus (Homburg et al., 2000; Gebauer and Kowalkowski, 2012).

Moreover, as Wright et al. (2006) already suggested, the customer relationship should be the main focus in the whole structural change, as it is the centre of gravity and determines the later outcome of customer satisfaction and retention.

However, as Gebauer (2012) and Kowalkowski et al. (2017) already indicated, not only fundamental changes in the strategy can help product orientated companies to better adapt towards upcoming trends, but also the increasing importance of service.

Schroeder et al (2016) suggested that servitization helps product orientated companies to boost performance and profit and simultaneously creates value for customers. Moreover, Frank et al. (2019) added that digital technologies should be pursued to adapt strategy towards servitization, as it would need more information and control possibilities as solely product orientated approaches.

To finalise this paper, two possibilities to counteract the trend towards customer orientated market has been pointed out.

First, product orientated German and Dutch small and middle-sized companies could slowly restructure their strategy towards customer orientation by adapting from department to department. As budget is often not high enough to make a structural change on company level, a slow and healthy step by step adaption should be pursued.

Second, they could modify their product driven strategy towards product and servitization based strategy. Through this method, customers could be satisfied not only by high quality and reliability, but also the added value of service to the already offered product portfolio. However, these necessary changes are not as urgent as firstly assumed, since the market is changing fairly slower as predicted. Product orientated German and Dutch small and middle-sized companies are still capable of being competitive enough for customer orientated companies.

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