### **MASTER THESIS**

To attain the academic degree of Master of Arts in Business from the Degree Programmes International Marketing of CAMPUS 02 University of Applied Sciences

## DEVELOPMENT OF A MARKET SELECTION MODEL FOR SUSTAINABLE PACKAGING MARKETS

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Graz, 10.05.2017

## **Declaration of Authenticity**

I hereby certify that I have written the present thesis independently and without help from any third parties. I have not used any sources other than those which are clearly indicated and have duly provided details of the sources of both direct and indirect quotations. The present piece of work and parts thereof have to date not been presented to this or any other examination board in the same or similar form, nor have they been published. The present version is the same as the electronic version submitted.

Graz, 10<sup>th</sup> May 2017

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## Summary

This master thesis has developed a market selection model for the comprehensive assessment and analysis of markets for sustainable packaging solutions. The goal was to create a model characterized by simple handling, attractive design and flexible adjustment possibilities.

The theoretical part of the thesis deals with different influencing factors from the areas of internationalization, model conception and selection of criteria. The focus lies on the characteristics of B2B markets as well as market requirements for sustainable product solutions. The model construction as well as the instrument selection are supposed to ensure the greatest flexibility possible in order to analyse a high number of alternatives efficiently as well as to analyse a small number of alternatives precisely. To ensure the operational viability of the model, a large number of potential assessment criteria were identified and summarized in a list thus completing the theoretical part of the thesis.

After compiling the model, experts from both the fruit and vegetable sector were consulted in empirical interviews. These interviews and their findings were used in order to evaluate the selected criteria according to their importance. Additionally, they proved to be very helpful for the final optimization of the model. After development had been completed, the model was first applied on a real market selection. The goal was to define three target markets for the forthcoming expansion of the Verpackungszentrum GmbH, a packaging manufacturer from Austria. A total of 21 European countries were analysed on the basis of 16 criteria in order to determine the best alternatives possible. Eventually, three countries, which were comprehensively analysed and found compatible to the company's requirements, were selected. Through the results of the analysis as well as further recommendations, the functionality and the practical applicability of the model was proven perfectly.

## Zusammenfassung

In der vorliegenden Masterarbeit wurde ein Marktselektionsmodell für die umfassende Bewertung und Analyse von Märkten für nachhaltige Verpackungslösungen entwickelt. Ziel war es ein Modell zu kreieren, welches sich Handhabung, ansprechendes durch einfache Design und flexible Einstellungsmöglichkeiten auszeichnet.

Für die Erstellung des Modells wurden im theoretischen Teil der Arbeit unterschiedliche Einflussfaktoren aus den Bereichen Internationalisierung, Modellkonzeption und Kriterienauswahl behandelt. Dabei lag der Fokus auf der Charakteristik von B2B Märkten, sowie Marktanforderungen an nachhaltige Produktlösungen. Der Modellaufbau, sowie die Instrumentenauswahl sollten dabei größtmögliche Flexibilität gewährleisten um sowohl eine hohe Anzahl an Alternativen effizient zu untersuchen als auch eine geringe präzise zu analysieren. Um die Einsatzfähigkeit des Modells zu gewährleisten wurden zum Abschluss des theoretischen Teils der Arbeit eine Vielzahl potentieller Bewertungskriterien eruiert und in einem Kriterienkatalog zusammengefasst.

Nach Erstellung des Modells wurden im Rahmen von empirischen Interviews Experten aus dem Obst- und Gemüsebereich zu Rate gezogen. Diese bewerteten die gewählten Kriterien nach ihrer Wichtigkeit und gaben wichtige Rückschlüsse zur finalen Optimierung des Modells. Nach Abschluss der Entwicklung wurde das Modell erstmals für eine Marktselektion angewandt. Diese hatte das Ziel für das Verpackungszentrum Graz, einem Verpackungshersteller aus Österreich, drei Zielmärkte für die bevorstehende Expansion zu selektieren. Insgesamt wurden dabei 21 europäische Länder auf Basis von 16 Kriterien analysiert um die bestmöglichen Zielmärkte zu bestimmen. Am Ende konnten drei Länder selektiert werden, welche umfassend analysiert wurden und den Ansprüchen des Unternehmens entsprechen. Mit dem Ergebnis und den weiterführenden Empfehlungen endete einerseits die Arbeit und konnte andererseits die Funktionalität und Praktikabilität des Modells nachgewiesen werden.

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## List of Abbreviations

VPZ	Verpackungszentrum Graz
B2C	Business to Consumer
B2B	Business to Business
DMU	Decision-Making-Unit
EBA	Elimination by Aspects
MS	Market Selection
MSM	Market Selection Model
WTP	Willingness to pay
OECD	Organization for Economic Co-operation and Development
AHP	Analytical Hierarchy Process
R&D	Research & Development
GMOA	Global Market Opportunity Assessment
CORE	Companies' Readiness to Export
IMIS	International Market Information System
PESTEL	Political, Economic, Social, Technological, Environmental,
	Legal factors
FAO	Food and Agriculture Organization of the United Nations
REER	Real Effective Exchange Rate
EAI	Environmental Awareness Index
PPI	Producers, Processors and Importers

## **1** Introduction

The following chapter aims to describe the company Verpackungszentrum GmbH (VPZ), its business model and the company's innovative products. Furthermore, the initial situation of the thesis and the problems the company is currently facing will be described.

## 1.1 Verpackungszentrum GmbH

Ever since 1982, the Verpackungszentrum GmbH has been specializing on researching new biogenic packaging. The family company, based in Graz, currently employs seven workers and is managed in the second generation and is managed by the Meininger family. In collaboration with engineers from the packaging industry, organic producers and universities, the company creates new packaging systems for the fruit, vegetable, meat, eggs and fast food industry. In 2012, the company made a breakthrough in the research of the world's first compostable fruit and vegetable packaging (cf. Meininger 03.10.2016).

## The Product – Compostable cellulose nets

This thesis focuses on the latest innovation of the VPZ: the compostable cellulose nets which serve as packaging for fruit and vegetables. The product is made of cellulose fiber, exclusively made out of Central European beech wood. The special fiber is manufactured by Lenzing AG, then twisted by the Borckenstein GmbH and finally processed by the German firm Henning GmbH. The VPZ coordinates the whole operation and distributes the finished product among various supermarkets (cf. Kainer 03.10.2016). The production process is shown in Figure 1.



Figure 1: Production process cellulose nets (based on Kainer 03.10.2016)

The compostable nets are biodegradable and save several tons of plastic annually. In addition, the fibre is breathable and its moisture control ensures a longer durability of the product. The soft texture of the nets also lessens damage to sensitive fruits and vegetables (cf. Meininger 03.10.2016).

## **1.2 Initial Situation**

In the beginning of this decade, the packaging wholesaler Verpackungszentrum Graz GmbH revolutionized the field of biogenic packaging. After decades of development and research, the company succeeded in producing a packaging for fruit and vegetables that is 100% compostable. The product has received numerous awards (Fig. 2) and was first introduced to the Austrian market in December 2012 (cf. Meininger 03.10.2016).



Figure 2: Awards for compostable cellulose nets (Verpackungszentrum GmbH 2016a)

The compostable cellulose nets for fruit and vegetables conquered the Austrian market by storm and have become standard use in the leading supermarkets in Austria. Well-known brands like "*JA! Natürlich*" of REWE Austria and *"Zurück zum Ursprung*" of Hofer Austria started including the compostable nets into their lines. Additionally, both Spar and Lidl were recently acquired as retail partners thus making the company the top supplier for all leading supermarkets in Austria.

The sales figures are rising sharply and the demand for the product has been unbroken since its introduction at end of 2012 (cf. Kainer 03.10.2016). Table 1 shows the development of sales since the product launch.

Period	Meters	Year-to-date
2013	1.970.400 meters	0 %
2014	2.649.000 meters	34,43 %
2015	3.304.200 meters	24,73 %
2016 (plan)	4.800.000 meters	45,27 %

Table 1: Sales figures Verpackungszentrum GmbH (based on Kainer 03.10.2016)

Although the product costs twice as much as comparable products on the Austrian market, sales have doubled over the last three years. Only 20 % of revenues are currently generated on foreign markets from small partnerships in Luxembourg, Italy, Slovenia and Poland. Despite the partnership with all major Austrian supermarkets, only 40 % of the maximum production capacity is fully utilized and an expansion in product capacity by increasing development of machines is already in planning (cf. Kainer 03.10.2016)

Positive development of the product as well as its numerous awards also gained international attention. The company has received numerous inquiries from around the world and the product was perceived very positively at trade fairs and foreign appointments. Accordingly, the company intends to exploit existing resources and establish itself as a pioneer and innovator in the field of biogenic packaging on the European market. As a first step, the brand *"packnatur"* was registered in order to increase brand recognition and to distinguish the product from the non-branded competition on future markets. The aim is to generate the majority of sales in foreign markets and to strengthen the company's position in Austria (cf. Kainer 03.10.2016).

## 1.3 Company Objectives

The following section describes the company's goals, namely the actual and target status of the company's objectives. Figure 3 illustrates the goals.



Figure 3: Company objectives (based on Kainer 03.10.2016)

## 1.4 Problem definition

The company faces the challenge of having to evaluate the international requests objectively and to make the right decisions in order to reach the mentioned objectives in chapter 1.3. So far, no study of markets has taken place and current partnerships were acquired situationally. Although the company has numerous contacts with potential foreign customers, it lacks experience to assess which markets would be best suited to reach the objectives while at the same time harmonizing with the corporate culture, infrastructure and vision of the company. Another issue is the assessment of demand for the product in other countries. In addition to economic interests of the supermarkets, the cultural and welfaredependent needs of customers must also be evaluated. Furthermore, the influence of large intermediary packagers varies from country to country. For example, a potential extension of cooperation with existing Austrian partners like REWE and Spar on other markets has failed so far due to different market conditions and needs abroad (cf. Kainer 03.10.2016). Common market selection models do not meet the requirements of the company due to the specific conditions of packaging markets. To continue the rapid growth, the company requires an individual model dealing with the specific factors as well as enabling faster decision making for future target market selection.

In order to enable a targeted selection, the company has ruled out countries not suitable due to the nature of the product. The relatively high costs of the product can only compete in countries with a corresponding willingness to pay. Additionally, since the preferred entry method is export, missing trade agreements as well as high transport utilities make a launch in several countries impossible. Based on this experience and previous contacts with potential buyers, the company has provided a list of restricted countries. This list serves as a basis for further research within the development of the thesis (cf. Kainer 03.10.2016). Figure 4 highlights the countries which will be part of further research within the market selection process.



Figure 4: Countries for market selection (based on Kainer 03.10.2016)

## 1.5 Thesis objective

In order to achieve the before-mentioned company objectives, the main focus of this thesis is:

Development of a B2B Market Selection Model for sustainable packaging markets and its application to identify three target markets in Europe

In addition, the developed model is intended to meet the following requirements:

- The developed selection model is to be applicable to the European sustainable packaging market
- The structure of the model is intended to enable a standardized and largely automated assessment of potential markets
- The model must be capable of assessing individual markets

### Non-Objectives

- Recommendations for market entry mode
- The investigation of previously entered markets
- Brand related recommendations

## 1.6 The problem-solving Process

In this chapter, the conceptual structure of the thesis will be described. Figure 5 illustrates the four phases of the work and the relationship between the individual blocks, which will contribute to the achievement of the thesis' objectives.

In phase 1 (blue section) the company, the product concerned and the company's goals will be presented. The first chapter of the theoretical part (green section) deals with the topic of internationalization. In addition to motives and influencing factors, the characteristics of B2B markets will be discussed.

Subsequently, extensive chapters about market selection, forming the main focus of the theoretical part, will follow. Chapter three then discusses the Market Selection Process itself and explains it on the basis of individual components. Chapter four deals with the most important criteria used for the evaluation of markets. The last chapter focuses on the main findings of the theoretical part as well as on the factors influencing the design of a selection process.

The practical part begins with the concept of the market selection model. This chapter includes the design of individual phases, the evaluation method and the scoring approach for the criteria used. Additionally, this section also includes the primary research part of the thesis. The model will be supplemented by the impressions gained from expert interviews. The weighting of the individual categories and criteria is also carried out by selected experts.

Subsequently, the model will be applied on the European Packaging Market. The number of countries will gradually be reduced in the respective phases. Initially, the collection of data is accomplished through secondary research. In the final phase of the investigation, comprehensive country reports will be prepared, which will supplement the results with additional, more detailed information of the three most suitable countries in order to allow a precise comparison to a reference country.

The conclusion of the thesis will be a detailed recommendation of three target markets as well as other application possibilities of the designed model for future decisions.



Figure 5: Frame of Reference (own presentation)

## 2 Internationalization of B2B companies

The following chapters describe important area relevant for the decision on internationalization, different approaches and influencing factors such as market, product and the company itself.

## 2.1 Characteristics of B2B Markets

"Business to business" markets typically include companies that provide products and services to other companies for production and completion of further products or services. On the one hand, these products can be intended for end users, while on the other hand, they can also serve as a basis for further production steps. Furthermore, wholesalers who resell or rent products are part of the B2B business (cf. Zimmerman/Blythe 2013, p. 2). In comparison to B2C companies, B2B companies usually deal with complex products and have a small number of customers. Additionally, since companies tend to act rationally, the buying and selling process is much more extensive compared to the B2C sector. Therefore, many different influencers are often involved in the buying and selling process, with different ways of thinking and different areas of responsibility. Due to the complexity and value of the products, buying processes are often lengthy and are therefore based on trustworthy longer-term partnerships (cf. Lilien/Grewal 2012, p. 3). Table 2 illustrates the key differences between B2B and B2C markets.

Business to Consumer	Business to Business	
Marketing culture	Manufacturing/Tech culture	
Market to end of chain	Market to value chain	
Perceptual proposition	Technical proposition	
Value in brand relationship	Value in use, quantifiable	
Large customer segments	Small number of customers	
Smaller unit transactions	Large-unit transactions	
Consumer decides	Web of decision participants	
More direct purchases	Complex buying sequence	
Table 2: Difference B2B - B2C markets (based on Lilion/Growal 2012 p. 4)		

Table 2: Difference B2B - B2C markets (based on Lilien/Grewal 2012 p. 4)

#### 2.1.1 Variables that affect B2B buying decisions

The decision-making process for B2B transactions depends on many different factors. On the one hand, the product complexity related variables, on the other hand the financial extent as well as the strategic importance of the purchase (cf. van Weele 2009, p. 24).

Table 3 describes the different variables that affect B2B buying decisions. The relevant variables for packaging companies are highlighted in orange.

VARIABLE	DESCRIPTION
Characteristics of the product	The range of B2B products extends from small parts such as screws to complex systems. Accordingly, the purchasing process depends on the type, complexity and value of the product. For example, the influence of the technology department in complex products will be higher than in mass products.
Strategic importance of the purchase	Often, due to their value or importance for the production process, products are particularly important to the company. Thus, a comparatively low-cost bottleneck item, indispensable for the continuation of production, can strategically require the involvement of top management.
Sums of money involved	The more valuable the product, the more likely it is for higher hierarchical levels to be involved. This concerns negotiations on investments as well as valuable raw materials.
Characteristics of purchasing market	For some goods, the choice of suppliers is very low, in the worst case there is a monopoly on the market. In monopolistic markets, the scope for negotiation is correspondingly complex.
Degree of risk related to the purchase	The higher the risk for the company, the more departments are involved. For this reason, B2B companies tend to establish long-term partnerships and prioritize reliability and experience in the selection of suppliers.
Role of purchasing department in the organization	Depending on the size of the company, decision-making may also vary. Thus, larger companies are usually organized more professionally and involve several decision-makers while smaller companies often only rely on a few or individual specialists. In particular, new products that require adjustments, training and
Degree of which the purchase affects existing routines within the organization	education present new challenges for companies and therefore require the involvement of several disciplines. This leads to an increase in time consumption and complex decision-making, for instance concerning new production equipment or computer systems.

Table 3: Variables that affect B2B decision making (based on van Weele 2009, p. 24f.)

All of these variables determine the decision-making process in the company. However, they also function as the main challenge for suppliers due to them having to adapt to a company's specific circumstances (cf. van Weele 2009, p. 25f.). Although fruit and vegetable packaging has a comparatively small piece value, the acquisition process depends on many different factors. As described in chapter 1.1, these products have characteristics relevant to internal departments such as marketing, sales and logistics. Additionally, they are also of great importance for external intermediate suppliers such as the packagers who may also be involved in the decision-making process. The determination of the influence of these variables will also become an important aspect in the choice of criteria for the market selection process.

### 2.1.2 The Decision-Making Unit

Behind the described variables in the previous chapter, people with different roles and different influence form the Decision-Making Unit (DMU). The DMU, also referred to as Buying Center, consists of all people playing an active role in a decision-making process. For companies, it is not only important to find out which individuals are involved in the decision-making process, but also to establish the goals and risks differentiating as well as connecting the participants. The influence of the respective role is both dependent on the company and the product (cf. Havaldar 2005, p. 43). Table 4 describes the different roles and their characteristics.

	The role can basically be taken by everyone in the company.
Initiators	Generally, an initiator is the person recognizing a need for locating a
	problem
Buyers	One of the most important roles in the buying center. Are responsible
Duyers	for offer collection, negotiations, orders and handling of deliveries
	In many cases, the users also function as the initiators of the
Llooro	purchase. The importance and influence of the role can vary widely.
05615	The user might be an engineer in R&D, but could also very well be a
	shopfloor worker
	Influencers can be both, internal and external. Internally, they are
	often specialists from the fields of technology or quality management,
Influencers	who exercise influence through their expertise in special products.
	Externally they may be consultants from independent companies

ROLE
------

#### DESCRIPTION

	The final purchase decision is made by the decider. Thus, it is
	important to identify the deciders in a respective company. For
Deciders	routine and standard purchases, buyers can take on the role of a
	decider, while in the case of expensive, complex products, the
	decider is usually one or more people from the top management
	Gatekeepers are generally responsible for the flow of information.
Catakaanara	Hence, they can make it difficult to reach decider or buyer. The role
Galekeepers	is usually taken on by assistants or secretaries who provide
	information to the remaining members of the DMU

Table 4: Decision Making Unit Roles (based on Havaldar 2005, p. 43f.)

There is no uniform picture of the respective roles and their influence in the packaging sector. Deciders can be marketing managers who want to use the product for image reasons, but also buyers who rather take the price component into account. In the later course of the market selection it will be crucial to identify the demand of decision-makers and the specific motives influencing the decision of purchase.

### 2.1.3 The European Fruit and Vegetables Packaging Market

The global packaging market has a volume of over 400 billion dollars with 50% is attributable to food packaging. Europe accounts for more than one-third of the global packaging market (cf. EY 2013, p. 2). Figure 6 illustrates the market shares of the global packaging market.



Figure 6: Global Packaging Market 2012 (based on EY 2013, p. 2)

The times in which packaging only appropriately embodied basic functionalities such as protection and transportability are over. Packaging is growing more and more important for producers, retailers and consumers alike. The requirements for packaging have risen sharply and new innovations have to meet a variety of criteria. The basic functions such as protection and compatibility have to be achieved more and more economically while at the same time being much more environmentfriendly and sustainable (cf. Storaenso 2014, p. 2f.). Figure 7 illustrates the five key factors for packaging nowadays.



Figure 7: Key factors for Food packaging (Storaenso 2014, p. 3)

Packaging manufacturers face the challenge of having to adapt to several different needs along the packaging value chain. It is important to keep raw material costs as low as possible, to enable a disturbance-free production and to provide packers with the highest degree of compatibility, while at the same time supporting retailers in strengthening the brand (cf. Storaenso 2014, p. 2). In particular, newly developed sustainable packaging solutions cannot withstand the price comparison with plastic or other cheaper materials, which is why the focus of these products lies on markets with a higher demand for premium packaging solutions and the main focus not mainly being cost efficiency (cf. Kainer 03.10.2016).

## 2.2 Motives for internationalization

The motives for internationalization can have various reasons depending on the market, the type of product and the company. Over the last decades numerous approaches to the description of common motifs have been defined in literature.

### 2.2.1 Types of Motives

The prerequisite for internationalization is, as with all corporate decisions, the determination and commitment to succeed. It is indispensable that the company understands the full scope of the internationalization process including possible setbacks and imprecations. Additionally, it is also important to understand the different motives of internationalization and the skills required to implement them strategically. Basically, a distinction between two opposing types of motives is made: the proactive and reactive motives. While proactive motives represent the company's desire for strategic change, reactive motives are the result of external stimuli and market changes. Fig. 8 illustrates the major proactive and reactive motives (cf. Czinkota 2004 p. 3f.).

Proactive Motivations	Reactive Motivations
Profit advantage	Competitive pressures
Unique products	Overproduction
Technological advantage	Declining domestic sales
Exclusive information	Excess capacity
Managerial urge	Saturated domestic markets
Tax benefit	Proximity to customers and ports
Economies of scale	

Figure 8: Proactive and reactive motifs for going international (based on Czinkota 2004, p.4)

#### 2.2.2 Proactive Motives

In contrast to the reactive approach, the proactive decision to act internationally is usually carried out from a comfortable position. The company has already established itself on one or more markets and is trying to exploit the competitive advantages, technological skills or efficiency potentials as a next step. The reasons range from striving for higher profit, to tax benefits or production advantages abroad. The results of a study by Westhead et al. noted that the larger a company, the more frequent the decision to internationalize is made proactively. The main proactive reasons are as follows (cf. Pietilä 2007, p.12).

#### Market seeking

One of the most common reasons to focus on foreign markets is the presumed sales potential new countries might offer. Very often, the prospect of rapid profit and rapid growth is one of the main factors for expansion. In particular, if the product requires no great adaptation and the demand in foreign markets is known, export is promoted quickly. The difference between presumed profit and actual reality is often underestimated. Especially at the beginning of export activities the gap between real and target profit can be very high and confronts companies with major challenges. Despite adequate preparation and market research, there are often unexpected developments such as political changes or currency fluctuations making the rapid export less lucrative (cf. Hollensen 2007, p. 43). Success depends on the company's ability to identify attractive markets and to react adequately to market changes. The decision of expansion is often based on factors such as market size, market growth, presence of attractive market segments and the demand for the products of the company (cf. Morschett/Schramm-Klein/Zentes 2015, p. 80).

The prospect of higher sales is one of the main motives of packaging producers such as the VPZ. A rapid expansion is to be carried out as efficiently and without problems as possible. The company has already defined export as favourable internationalization method and plan to focus primarily on markets with low product adaptation, low export costs and few barriers.

#### Resource seeking

The second main motive for internationalization is resource-seeking, which is the counterpart to market-seeking. In contrast to market-seeking, the approach does not mainly aim to increase turnover but rather to reduce costs and achieve economies of scale (cf. Keegan/Schlegelmilch 2001 p. 4). By the mid-1960s, the Boston Consulting Group proved that a cost saving of up to 30% can be achieved by doubling the production volume output. Since then, companies have been looking to exploit this effect and optimize production costs. For this reason, similar markets are often targeted in order to achieve rapid scale effects through fast export and low product adaptation. Hence fixed costs for personnel, marketing and R&D can be distributed to a much higher number of units. A well-known example are hard drives. They experienced a cost reduction of 50% per output doubling from 1980 to 2002. While a gigabyte of memory cost \$ 80,000 in 1984, the price in 2001 was only \$ 6

per gigabyte due to exploitation of economies of scale. (cf. Reeves/Stalk/Pasini 2013). Figure 9 illustrates the reduction of costs per unit with rising output.



Figure 9: Experience Curve Effect (Hill/Schilling/Jones 2016, p. 114)

As described in chapter 1.3.1, the second main motive is the utilization of production capacities. By increasing the production capacity, a packaging producer aims to reduce the unit costs since these are one of the main deficits against competing products. Correspondingly, the focus lies on markets with a large number of potential partners and a presumed higher demand.

#### Technology competence/unique product

The impulse to operate internationally can also result from the technical superiority or uniqueness of the product. Inquiries from abroad act as external stimuli and suggest potential competitive advantages on foreign markets. However, it is difficult to estimate how long any potential benefits can endure in foreign markets. The rapid technological advances and the lack of patent-law protection abroad have dramatically reduced these advantages. Nevertheless, many companies are able to transfer the competitive advantages from the domestic market to other markets. The ability to build appropriate competencies reduces the risk and opportunity costs and increases the likelihood of achieving similar successes on foreign markets (cf. Hollensen 2007, p. 43f.)

#### 2.2.3 Reactive Motives

Reactive motives generally result from the environment and market changes that require a decision from the company. This includes negative influences from competition and changes on existing markets, as well as new market potentials through additional production capacities or new trade agreements. A prime example for this can be the entry of new market participants and thus a dwindling success in existing markets. Another reason might be the development of competing foreign markets and the decision whether these should also be developed before the competition can exploit the market. Further stimuli for reactions can be the life cycle of products or the optimization of production and utilization of capacities (cf. Czinkota 2004, p. 6-8). The main reactive reasons are as follows.

#### Declining domestic sales/market saturation

One possible reason for internationalization can also simply be the lack of size of the home market. Another reason might be that the market is saturated and only offers little potential for growth. If this is the case, a company may have difficulty realizing economies of scale and scope and is thus vulnerable for competitors from abroad (cf. Mpofu/Chigwende/Karedza 2013, p. 58).

As described in section 1.2, the company has experienced strong growth so far. However, this was strongly favored by the acquisition of the larger market participants in the past years. The Austrian market only includes small potential partners and thus the exploitation of the market is foreseeable. Hence the focus of the company will be more concentrated on larger European markets.

#### Seasonal influence

Another reason may be the nature of the product. Throughout the year there is no stable demand for products having exclusively specialized on winter or summer. For instance, in order to achieve a stable demand, an European producer of agricultural machines focuses on the southern and northern hemisphere alternately depending on the part of the earth on which the current season is summer (cf. Hollensen 2007, p. 46f.)

Fruit and vegetable networks are primarily used for seasonal fruit and vegetable varieties. Many Austrian companies were unable to achieve estimated sales goals due to a loss of crops in Austria. Therefore, they also have to take environmental influences into account in the future (cf. AgrarMarkt Austria 2016, p. 3). Due to geographic and environmental factors, future target markets should therefore have a constant demand with the lowest possible risk of fluctuation.

#### Proximity to international customers

Numerous times, the physical or cultural proximity to customer groups is also a determining factor in internationalization. Thus, many German companies operate in Austria due to linguistic proximity and the similarity of the two cultures. However, physical proximity does not always suffice when it comes to making international profits. Due to their shared language, US Americans, for example, perceive Canada and Great Britain as being much closer than neighboring Mexico (cf. Hollensen 2007, p. 47). An extreme example is Belgium in Europe. A company placing its headquarters there can target several European countries within a few hundred kilometers. However, the psychological distance referring to cultural as well as social differences should not be underestimated. Many expansions failed due to the mistaken belief that the neighboring country might show similar preferences as the home market. For this reason, it is often advisable to target markets that have a low psychological distance rather than relying only on geographic proximity (cf. Czinkota/Ronkainen 2013, p. 283)

Although the geographical proximity to many markets for Austrian packaging producers is given, important influencing factors such as language, cultural differences and consumption patterns should also be taken into account. Especially for vegetables and fruit there is a strong consumption difference all over Europe. Accordingly, the selection of potential markets does not necessarily depend on the number of potential customers but rather on consumption patterns (cf. EUFIC 2012).

## 2.3 Influential factors for internationalization

This chapter covers the prerequisites for a successful internationalization, as well as barriers likely to hinder a successful expansion.

### 2.3.1 Organizational Readiness to internationalize

Even if a company has sufficient entrepreneurial and economic motives for an international market expansion, the basic prerequisite is the company's readiness in terms of organization, infrastructure and resources. The product also has to meet appropriate criteria in order to be successfully offered on other markets. A frequently used approach is the Global Market Opportunity Assessment (GMOA), which examines the company's readiness for international markets in six steps (cf. Cavusgil/Riesenberger 2009, p. 15f.). Table 5 illustrates the six steps necessary to evaluate a company's readiness to internationalize.

	ACTIVITY	RATIONALE	TYPICAL TASKS
1	Analyse organizational readiness to internationalize	Objective analysis of the company's readiness to operate on international markets	Analysis of strengths, weaknesses, chances and risks (especially hindering factors),
2	Assess the suitability of the firm's products and services for foreign markets	Assessment of the compatibility of products and services for target customers	Evaluate differences between own products and target market products, find competitive advantages
3	Screen countries to identify target markets	Reduces the number of potential markets through a market selection process	Reduce the number of potential countries by applying criteria like market attractiveness, risks, growth
4	Assess industry market potential	Gain understanding of the total market potential	Estimate potential target group, develop a 3-4 year sales forecast, identify entry barriers, competitors and industry-specific protectionism
5	Select foreign business partners	Identify most suitable partners in target markets and how to reach them	Checklist of ideal partner criteria, desirable attributes, activities the partner should be able to perform
6	Estimate company sales potential	Develop a forecast of sales and market share	Develop a 3-5 year forecast of company's sales, understanding of price mechanism, distribution channels and competition in target market

Table 5: Global Market Opportunity Assessment (based on Cavusgil/Riesenberger 2009, p. 17f.)

The company has already evaluated the first two steps and has ensured a companyand product related readiness to internationalize. The market selection model developed in this thesis focuses on the third step of the internationalization process and is intended to enable an efficient selection of future markets.

The evaluation of readiness should be an ongoing process in the company and be regularly monitored. In addition to the GMOA Approach, there are numerous other methods to evaluate the readiness for international markets (cf. Daley/Scott 2000, p. 3). Especially CORE (Companys Readiness to Export) offers a simple way to check both the company and the product readiness online on a regular basis. In addition to a graphically appealing evaluation, previous results can be saved and a simple documentation is possible (cf. Michigan State University 2016).

#### 2.3.2 Product Readiness to internationalize

An important factor in assessing the readiness to internationalize is whether a product can be marketed in a foreign market or if it requires adaptation. Products that have a good chance to be successful on international markets usually meet the following criteria:

- 1. Sell well on the domestic market it is very likely that successful products-will succeed abroad, especially with similar market conditions
- Cater to universal needs Products that target universal needs such as cosmetics, financial services, or medical needs, and meet these needs in a new, difficult-to-copy manner have good prospects for success
- 3. Address a need not well served in particular foreign markets in countries where specific needs are not yet covered or customers are currently developing these, there is high potential for success
- 4. Address a new or emergent need abroad Oftentimes, new needs arise through trends, political developments or after crisis. However, this has to be recognized at an early stage (cf. Cavusgil/Knight/Riesenberger 2012, p. 340f.)

The packaging networks of the VPZ meet all the criteria mentioned above. The product targets a large market, has innovative features and meets the requirements for the demanded sustainable, environment-friendly packaging described in chapter 2.1.3. However, the type of usage in other countries remains an unknown variable

is. Fruit and vegetables might be packed differently in other countries compared to Austria. Likewise, the fruit and vegetables offer differs in the respective countries. Hence, it is important to consider the extent to which product adaptations are necessary.

In order to keep the degree of adjustment as low as possible, it is advisable to look for similarities to the home market when selecting future markets. Further factors that may require adjustment include the following:

- o Climatic and environmental factors
- Social and cultural factors
- Manufacturing, storing, shipping and handling considerations
- National safety and health standards
- Government import controls
- Low local purchasing power (cf. Zou/Kim/Cavusgil 2009, p. 24)

### 2.3.3 Barriers for Internationalization

Although the number of motifs indicates that internationalization has many attractive aspects, the number of companies which are active internationally is comparatively low. This is primarily due to the barriers that hinder a company on its way to internationalization (cf. Messina 2015, p. 1). In a comprehensive study from 2009, the OECD examined two categories of barriers and ranked internal and external barriers as follows.

#### Internal barriers for Internationalization

According to the OECD study, companies perceive internal barriers more significantly than external barriers, as they generally require enormous company restructuring. Additionally, the perception strongly depends on company size and previous international experience. While smaller companies tend to account for export costs and resources, larger companies are more likely to be affected by external limitations. (cf. Huber/Nerudova/Rozmahel 2015, p. 106). The two main internal reasons for the inability to operate internationally are, however, usually poverty and limited managerial skills and knowledge (cf. resource O'Cass/Weerawardena 2009, p. 1328). According to a OECD study, the lack of management skills and the lack of knowledge about international markets were frequently mentioned in almost all participating countries. In particular, there is a lack of ability to weigh risks and adapt to the needs of international markets (cf. OECD 2009, p. 10). In Europe, the results of the study differ somewhat due to the East-West cultural and linguistic differences. The result also depends strongly on whether a company is already internationally active or plans to do so in the future. According to the study, excessive price differences between countries as well as the high cost of internationalization are the biggest obstacles for international business. Figure 10 shows the internal barriers that European SMEs have to face on their way to internationalization (cf. European Commission 2009, p. 58).



Figure 10: Internal Barriers for European SMEs (European Commission 2009, p. 58)

As for most packaging producers, the biggest challenge is the price. As described in chapter 2.1.3, one of the most important factors in the packaging market is to keep costs as low as possible. The featured product within this thesis is 30% more expensive than currently used alternatives on the market and accordingly the acquisition of new business partners is difficult. Therefore, a prerequisite for the selection of future markets is that the product quality being of higher value than the mere costs.

#### External barriers for Internationalization

While external barriers, in contrast to internal ones, are more difficult to influence, they are generally applicable to all market participants. This includes for example the lack of access to data sources or the general lack of data for certain markets. Furthermore, insufficient relations with foreign markets can hinder international market entry ambitions. Access to markets, sales partners or customers can be politically restricted by export regulations, tariffs and quotas. In addition, infrastructure, technological progress or the state of development of the country may not be sufficient for successful market penetration. Another reason could be the lack of support from the company's home country. Lack of subsidies or assistance in obtaining necessary information makes it difficult to enter new markets (cf. Messina 2015, p. 2). In particular, with regard to Europe, lack of capital, lack of support and lack of information are the most frequent reasons for companies to withdraw from internationalization (cf. OECD 2009, p. 60). Figure 11 illustrates external barriers for internationalization in EU- and non-EU markets.



Figure 11: External Barriers for Internationalization (European Commission 2009, p. 60)

A large number of the mentioned barriers also applies to the packaging industry. The acquisition of relevant information, as well as its evaluation and weighting is the main subject of this thesis. Both, the barriers and cost factors, cannot yet be estimated and will be decisive criteria in the market selection process. Cultural differences, as described in Chapter 2.3.2, are also an important factor due to the high density of countries in the European region. The same applies to the extent and number of tariffs, currency differences, transport costs and laws and regulations.

## 2.4 Process patterns of internationalization

As described in chapter 1.4, export was defined as a preferred method of internationalization. For this reason, the market entry methods are not discussed further in this thesis. Apart from the choice of the method, the timing as well as the internationalization process is of great importance for the design of a market selection model.

#### Process and timing of Internationalization

The most common approach to the internationalization of a company is described within the Uppsala model. The Uppsala model describes an incremental process in which a company successively targets new, similar countries from a firm position on the home market. Initially, the focus lies on psychologically and geographically close countries and only through the increasing build-up of experience the risk in the selection of other countries will be increased. The reason for this approach is the initial lack of experience in the evaluation of international markets and the lack of routine in the estimation of risks and potentials (cf. Schelhowe-Lütke 2010, p. 36)

The second aspect of internationalization is the time of entry for new markets. A distinction is made between waterfall and sprinkler strategy. While waterfall describes the sequential development of individual markets within a defined time frame, the Sprinkler Strategy is used to develop a large number of markets at the same time (cf. Christofor 2008, p. 37). As described in chapter 1.4, the VPZ's approach corresponds to the Uppsala approach. The company has little international experience and wants to expand their international activities successively. As described in the company objectives in chapter 1.3.1, the company intends to triple the sales figures in order to exploit their current production and storage capacity. In line with current sales figures on the Austrian market, this aim requires the development of further 1-3 markets over the next 3 years depending on the potential sales volume on future markets. Accordingly, for the design of the market selection model, the number of desired markets must be taken into account. Figure 12 illustrates a sequential approach of internationalization as targeted by the VPZ.



Figure 12: Waterfall Internationalization Strategy (Christofor 2008, p. 38)

## 3 The international market selection Process

In the previous chapters, many components influencing the composition of a selection model such as company objectives, motives and market characteristics were presented. Within the Market Selection Process these must be summarized as best as possible within the framework of a selection model. The factors and possibilities for designing this model are described in more detail in this chapter.

### 3.1 Market Selection Methods

Basically, a distinction between single-stage and multi-stage market selection procedures is made. While a one-step process usually uses a segmentation criterion to make a quick selection, multi-stage procedures can consist of two, three or even four stages in which one or more one-step instruments reduce the number of potential target countries. The extent and the choice of the right method depends on the number of potential markets and the measurability of the criteria. It is therefore not uncommon that the degree of detail and quality of the underlying data increase strongly during the selection process thus also increasing the effort and time required (cf. Büter 2010, p. 75f.). Figure 13 illustrates the two different Market selection methods.


Figure 13: Market Selection Methods (based on Kutschker/Schmid 2011, p. 964)

## 3.2 One-stage approach

Single-stage processes exist in a wide variety and are used for the purpose of comparing and evaluating different alternatives efficiently using easily available data. In order to be able to use one-step procedures efficiently and in a targeted way, it is customary to apply criteria which are first of all simple and quickly available and secondly, enable a rapid reduction of countries as basis for further investigations. Therefore, macro and microeconomic variables are often used to gain a first sense of potential markets and to reduce the number of countries. While micro-segmentation generally evaluates quantitative market variables such as size and development, micro-segmentation focuses on qualitative criteria like social and personal customer values (cf. Gaston-Breton/Martin 2011, p. 270f.)

In the case of selection instruments, a distinction is made between compensatory and non-compensatory instruments. Non-compensatory instruments are designed in a way that non-fulfilment of certain criteria automatically leads to the exclusion of an alternative. While on the one hand this approach enables fast results, on the other hand it can also lead to the exclusion of good alternatives. Compensatory instruments allow a potential alternative to compensate for possible weaknesses in one category by reaching high values in other categories (cf. Roth/Mullen 2002, p. 62). The following instruments are applied in single-stage procedures and include example applications with respect to B2B markets.

#### Checklist Method

Checklists are a simple and uncomplicated method to guickly evaluate markets based on specific criteria. Frequently, checklists are used in the pre-selection phase of a market selection to scale down a large number of countries to a researchable extent. However, it is not recommended to only use the checklist method when evaluating the potential of a market since subjective values are sometimes determined and the analysis is often solely based on whether a criterion has been met or not (cf. Böhmann et al. 2011, p. 269f.). In order to reduce the number of countries in the initial phase, criteria for checklists are often selected so strictly that a non-passing automatically leads to the exclusion of a country from any further processing. Nowadays, there are many systems such as the International Market Information System (IMIS) which keep data up-to-date and enable an automated assessment. Thus, a well-designed checklist can be kept up-to-date relatively simply. Additionally, in the case of certain criteria adopting a negative trend on a certain market, it also serves as an early warning system for a company. Figure 14 shows a checklist which contains a mix of quantitatively measurable and qualitatively assessable criteria. This way, a variety of fields of interest can be evaluated in an efficient manner, whereby subjectively treated criteria should not be categorized as KO-criteria (cf. Neubert 2013, p. 66f.).

Nr.	Criteria	COUNTRY A	COUNTRY B	COUNTRY C
1	Share of industry in GNP >x % and industrial production >x bn. euro	yes	no	yes
2	Existence of a free-trade agree- ment	yes	yes	yes
3	Increase in price of currency of tar- get country	yes	yes	no
4	Import tariffs on industrial products <10 %	yes	yes	yes
5	Customers see demand and reco- gnize benefit from use of machinery	yes	no	yes
6	Logistics costs <10 % of entire costs	yes	yes	yes

Figure 14: Example of Checklist method (Neubert 2013, p. 67)

#### Elimination by Aspects Method

Originating from the checklist method, Amos Tversky developed the Elimination by Aspects Method (EBA) in 1972. While questions within the checklist method can often only be answered with a yes or no or check whether a criterion is fulfilled or not, the criteria within the EBA procedure can be weighted and ranked (cf. Tversky 1972, p. 280). The selection of the criteria is also similar to those from the checklist procedure and typically includes aspects from the micro and macro environment of the company. These are, however, ranked in a sequence which corresponds to the priorities of the company. In addition, a minimum and maximum requirement is defined for the respective criterion. For example, the purchasing power of a country may be the most important aspect for a company and therefore the minimum and maximum requirement might be set to a sum between  $\in$  40.000 and  $\in$  55.000. Subsequently, it is first checked which countries meet the most important criteria within the fixed limits. Countries which do not meet the defined requirements are immediately excluded from the procedure. This way, the number of countries is gradually reduced until one or a few countries remain. One disadvantage of this method is that due to non-fulfilment of one criterion countries which were mostly above average during the research might be excluded, while countries which mostly met the minimum requirements might remain until the end (cf. Kutschker/Schmid 2011, p. 966)

#### Scoring Method

Compared to checklists and the EBA method, scoring models enable the greatest flexibility possible when it comes to assessing potential markets. In principle, it resembles the structure and construction of the two previously introduced methods. However, neither the focus in the selection of the criteria is laid on KO criteria nor the criteria are placed in a particular sequence. The criteria are subjectively weighted (in percent) according to their importance, and then assessed within a fixed scale. The valuation of a criterion is multiplied by the weighting and results in an overall evaluation for one or more subareas (cf. Gardini 2004, p. 224). In contrast to the EBA model, poorer results in a specific area can to some extent be compensated by other partial results. However, this can at the same time also pose a potential weakness of the scoring process. Both, the weighting and the valuation are subjective and can distort the results. For this reason, it is recommended that the respective assessments are carried out separately by different members of a

project team and then brought to a common denominator within the group. In the case of quantitatively measurable criteria, however, mathematical instruments are available to ensure an objective assessment (cf. Schlegelmilch 2016, p. 26). In addition, there may be overlaps in the content of criteria which may also adversely affect the result. While the outcome is primarily based on whether a market, according to the assessment of all participants, fulfills the desired aspects as best as possible, no attention is given to which extent the recommended market is also the most profitable or economically most meaningful. Nevertheless, the model allows the assessment of complex issues and allows conclusions to be drawn about a wide range of problems within a company (cf. Gardini 2004, p. 226). Figure 15 shows a possible application example of a scoring model in the market selection process.

Dimension	Dimension Weighting	Criteria	Criteria Weighting	Relative Weighting
		GDP per capita	10	0,03
Markot		Price indices Fruit & Vegetable markets	25	0,08
attractiveness	30	Import volume Fruit & Vegetables	20	0,06
alliactiveness		Market growth	15	0,05
		Number of retailers/supermarkets	30	0,09
Composition		Market share of Top 3 competitors	20	0,03
intensity	15	Number of packaging alternatives	30	0,05
intensity		Number of competitors	40	0,06
End	25	Consumption per capita Fruit &	40	0,10
Consumor		Vegetables		
Domand	25	Hofstede's Cultural dimensions	30	0,07
Demanu		Income distribution	30	0,07
Market		Price level of substitutes	20	0,03
barriers	15	Compatibility with packagers	30	0,05
		Transport costs	50	0,08
		Costs of export	40	0,06
Market risks	15	Currency/Exchange risks	40	0,06
		Country risk rating	20	0,03
Sum	100			1,00

Figure 15: Example of scoring model (own presentation)

## 3.3 Multistage approach

If a company has the possibility and the resources to carry out a more comprehensive analysis of future markets, multi-stage market selection models are a suitable option for decision-making. These models usually mix one-step methods and combine them to a model that supports the achievement of a company's specific goals. Basically, a distinction is made between two approaches, the inside-out perspective or the outside-in perspective (cf. Hadwich/Bruhn 2016, p. 116f.).

Procedures that proceed according to the inside-out perspective first consider internal company factors with regard to goals, strategy and existing resources. The advantages of this approach are that ready-made data and key figures within the company can be used in order to save time and resources. Outside-in-perspective approaches evaluate potential countries with regard to attractiveness, size and risks before the company and product-specific factors subsequently refine the process (cf. Hadwich/Bruhn 2016, p. 116f.).

Regardless of which approach is selected, the analysis is usually divided into a two to four-step sequential method. The advantage of a sequential approach to other methods is the continuously decreasing effort caused by the decreasing number of potential countries during the research (cf. Franke 2011, p. 83). Regardless of how many phases are used within the MS model, the investigation usually starts with the preliminary phase. The aim of this stage is to reduce the number of countries to a manageable extent as quickly as possible. For this purpose, easily available macro criteria or an assessment based on experience and expertise of the company are considered most suitable (cf. Bosáková et al. 2013, p. 4). This process is followed by an In-Depth Screening in which company, industry and product-specific criteria generally further restrict the selection and reduce the number of countries to a single-digit level. For this purpose, sufficient secondary data should be available to the company on relevant subject areas. Finally, by collecting important primary data through customer surveys, market and product tests, the most attractive markets are determined (cf. Zentes/Swoboda/Schramm-Klein 2013, p. 141). Figure 16 illustrates an example of a three-staged Market Selection Model.



Figure 16: Market selection process (Neubert 2013, p. 72)

Multi-stage methods allow the mixing of several instruments to increase the efficiency of the selection process. The mixture of compensatory and noncompensatory methods refines the selection with each stage and ensures that only attractive markets are examined more closely (cf. Neubert 2013, p. 31). As explained in Chapter 1, 21 countries are potential targets within the research of this thesis. For this reason, the number of countries must be quickly reduced to an acceptable level in order to examine the remaining countries more intensively. In addition, one of the objectives of this thesis is the development of a selection model that allows both, the investigation of individual countries as well as the analysis of several countries. Accordingly, a two-to-three-staged model is best suited to realize these objectives.

## 3.4 Conclusion and factors for method decision

After theoretically examining the structure and instruments of the MS model in the previous chapters, the theoretical knowledge has to be transformed into a practical construct. Figure 16 in Chapter 3.3 illustrates the essential two influencing factors for the design of a Market Selection Model on both axes. On the one hand, the number of countries, on the other hand the resource consumption and intensity. In the case of this thesis, the number of countries has already been reduced to 21 and the geographic framework has been restricted to Europe.

In the first stage of the Model, the use of knock-out criteria effectively reduces the number of countries while minimizing the need for research in further stages. For this purpose, the methods Checklist and Elimination by Aspects, which were described in chapter 3.2.2, are suitable to reduce the number of countries quickly. Checklists effectively exclude whether or not a country fulfills specific criteria. However, there is always the risk of countries not fulfilling a specific criterion and being excluded even if the suitability as a potential market in the overall assessment might be given. Due to the definition of minimum and maximum requirements this risk is reduced by the EBA method. Furthermore, the research of the first stage can be completed once the reduction of the desired number of countries has been achieved. Because of the high time and resources efficiency, the EBA method is the preferred method for the preselection stage of the developed Market Selection Model.

In the second stage, the remaining countries are examined within a weighted scoring model. The analysis includes quantitative measurable criteria from the fields of market attractiveness, market barriers and market risks. Additionally, in order to save time and resources, only secondary available data is used during this phase. The quality of the analysis strongly depends on the weighting of the respective criteria within the scoring model, which is why the weighting should be carried out by selected experts through primary research (cf. Cancer 2012, p. 45). The goal of this stage is to reduce the number of countries to three in order to allow a more intensive study in the final phase.

The last stage involves the investigation of the remaining three countries to provide detailed recommendations for the internationalization process. The last phase is similar to an extensive country report which does not further evaluate the additional criteria, but gives the company an overall overview of the last three countries. In order to facilitate a better interpretation, a selected reference country is used for comparison in this phase. The additional criteria in phase three include more detailed information on market, competition and country-specific demand. Figure 17 illustrates the theoretical based Market Selection Model. The exact selection of the criteria and the technical structure of the model will be presented in the practical part of this thesis.



Figure 17: First concept of Market Selection Model (own presentation)

# 4 Criteria for market selections

The following chapters describe types of criteria and their application during a Market Selection, as well as procedures for measuring, rating and presenting of results.

## 4.1 Types of selection criteria

The following chapters describe the prerequisites necessary for realizing the objectives of this thesis. In addition, numerous criteria from different areas and their relevance for the assessment of sustainable packaging markets will be analysed.

## 4.1.1 Requirements for selection criteria

The selection of the right criteria is crucial in all stages of the selection process. To determine which markets are suitable for a successful internationalization, it is first necessary to identify the less suitable ones (cf. Neubert 2013, p. 65). According to literature, there are more than 200 applicable criteria in various groups available for use in the market selection process in order to manage a problem independently of complexity and extent. To reduce the number of countries quickly and effectively, assessment methods that are efficient, reliable and easy to use are required (cf. Franke 2011, p. 84).

The following requirements apply for the selection of suitable criteria:

- o Relevant must have a meaning for decision makers
- Timely current and available quickly
- o Flexible available in the form needed (right context)
- o Accurate valid information from trustful sources
- Convenient Access to data must be accomplishable by the company without the use of disproportionate resources (cf. Albaum/Duerr 2008, p. 199)

Due to the high number of countries which are investigated in this thesis, the focus in the selection of criteria lies on efficient, low-cost data from reliable, secondary sources. According to literature, the most common criteria for evaluating markets are macro and micro criteria, which are predominantly used in the initial stages of market selection and the most frequently applied approach of analysing market attractiveness, risks and barriers (cf. Franke 2011, p. 84f.)

#### 4.1.2 Market Attractiveness

The analysis of market attractiveness is one of the main components of any market selection. Two types of criteria are used for the determination, factors of the macroenvironment such as political, economic or social and factors of the microenvironment such as competition intensity and customer preferences (cf. Hanslik 2012, p. 57). Both perspectives contain various criteria that influence the company as a business environment and are thus decisive for the assessment of markets. Figure 18 shows the most important topic areas of both perspectives (cf. Surbhi 2015).



Figure 18: Macro and Micro environment (cf. Surbhi 2015)

#### Macro-environment

The macro-environment describes external factors that influence not only a company, but also all market participants alike. These are often political, social or economic factors which cannot be controlled by the company itself. A common method for analysing these factors is the PESTEL approach, which also reflects the essential aspects of the macro-environment (cf. Surbhi 2015).

The following criteria are analysed within the PESTEL analysis and are equally important for market selection and the determination of market attractiveness:

- o Political factors
- Economic factors
- Social and demographic environment
- Technological development
- Environmental developments
- Legal aspects (cf. Makos 2016)

## Political factors

Governments often use political instruments to control the competition and the product offer in the respective country. This is done either by the quotas (volume restriction of imports), duties (taxes on imports to protect from foreign goods), or non-tariffs (standards, guidelines which increases the effort for foreign producers) (cf. Baines/Fill/Page 2011, p. 273). All of the remaining 21 countries from the preselection are members of the European Economic Area and therefore have signed trade and security regulations (cf. European Commission 2016). Accordingly, it can be assumed that political and legal factors have only little influence on the internationalization of Austrian packaging companies. Nevertheless, potential political barriers such as tariffs and non-tariffs are considered in the following barriers chapter.

## Economic factors

These factors, such as economic growth, purchase power or exchange rate volatility have a great influence on the choice of target markets. Most key figures are publicly available and available free of charge. The OECD offers a comprehensive database, which is updated quarterly (cf. OECD 2016a). Key figures from the following categories are mostly used in the context of market selection (cf. Stengel/Chaffe-Stengel 2012, p. 6). Table 6 illustrates criteria which is interesting for the evaluation of attractiveness of sustainable packaging markets.

Indicator of	Examples
Economic activity	Gross domestic product (GDP)
	GDP per capita
	GDP growth rates
	Product sales
Income	Purchase power
	Distribution of income
Price levels	Producer price indices
	Consumer price indices
International exchange	Import/export statistics
	Exchange rates
Fiscal and monetary policy	Labour market statistics
	Active population by age

Table 6: Examples of Economic Indicators (Based on OECD 2016a)

Furthermore, at first glance, all the above-mentioned economical factors appear to be significantly different within the selected countries which is why in the context of the selection process a more detailed investigation is recommended (cf. Eurostat 2016a).

## Social and demographic environment

At first glance, social aspects have little effect on the packaging market. Nevertheless, there are social developments which allow conclusions to be drawn about the demand for packaging. These factors are as follows:

- o Trend towards smaller households
- Rising health awareness among consumers and increased demand for biological products
- o Increasing awareness of environmental issues
- Ageing of world population
- o Growing requirements for brand enhancement
- Openness to new packaging material developments (cf. World Packaging Organization 2008)

Interesting insights were provided by a study from Nielsen. One finding showed that social responsibility as well as willingness to pay more for sustainable products are rising worldwide. Particularly in Generation X and Y, which include people born between 1977 and 1994, the willingness to pay more for environmentally friendly product alternatives is strongly pronounced. Additionally, it was proven that the

willingness to pay was higher in countries with a high welfare standard (cf. Nielsen 2015). Figure 19 illustrates the most important factors about the willingness to pay for green products.



Figure 19: Factors for willingness to pay for green products (Nielsen 2015)

Further findings were obtained from the Ecological Footprint Atlas study done in 2010. According to the study, it was discovered that higher average income and welfare have a big influence on how high the level of ecologically thinking in each country is. Countries with a high level of wealth also have higher values when examining the ecological footprints in different sectors. Furthermore, it was also examined that countries with a higher Human Development Index also had a pronounced sense of environmental awareness (cf. Global Footprint Network 2010, p. 26)

The Human Development Index is published annually and describes the state of development of a country composed of life expectancy, education and the standard of living (cf. United Nations Development Programme 2016a). Another indicator to calculate the state of development of a country is the Gini coefficient. The coefficient describes the distribution of wealth and income in a country, thus drawing conclusions on the state of development. The value is between 0 and 1, where 0 stands for a uniform asset and income distribution, and 1 is an absolutely uneven distribution (cf. OECD 2016b).

The findings of the cited studies show that educational standard and high welfare influence the willingness to pay for ecological products. Therefore, in comparison to reference country Austria, potential target markets should achieve similar or higher values regarding these factors<del>.</del>

#### Technological Development

Such criteria can be attributed to technical developments and innovations. Due to the lack of technical state of a country the influence can be either negative or with regard to larger technical possibilities and better infrastructure it can also be positive (cf. Makos 2016). According to the featured company and product within this thesis, sustainable packaging solutions usually can be processed on the same machines as alternative products made of plastic or cotton (cf. Meininger 03.10.2016). Therefore, within the framework of market selection no technological criteria are taken into account.

#### Environmental developments

These are factors describing environment-specific developments that may affect certain sectors such as agriculture, tourism or farming. These sectors can for example be climate, weather or geographical and global changes (cf. Makos 2016). Larger natural catastrophes such as tsunamis, earthquakes, droughts and storms are negligible in Europe. A recent study by the FAO (Food and Agriculture Organization of the United Nations), which counts and estimates the effects of natural catastrophes, did not reveal any significant results in Europe thus making these influences negligible in this thesis (cf. Food and Agriculture Organization of the United Nations) (for each of the United Nations).

#### Legal aspects

Differing legislation such as consumer laws, safety standards or labour laws may have a negative impact on the assessment of market attractiveness (cf. Makos 2016). All preselected countries have signed the EU packaging and environment regulations contract and are thus required to reduce the consumption of nonrecyclable substances. In addition, all countries are encouraged to develop and use new, more environment-friendly product alternatives. Since the regulation applies to the entire selection, for the further market selection process legal aspects are not considered within this thesis (cf. EUR-Lex 2014).

#### Micro-environment

Micro-relevant criteria are in direct contact with the company and have a corresponding influence on the company's activities. In contrast to macro factors, they act specifically and individually on the respective market participants and can represent both an advantage and a disadvantage (cf. Surbhi 2015). This includes the following criteria:

- Market dimensions
- o Cultural difference between home and target market
- Competition intensity / Number of competitors
- Customer demand / preferences (cf. Surbhi 2015)

#### Market dimensions

These include market potential, market volume or market growth, so basic criteria that should be part of any market analysis. The market potential describes the amount that could be achieved if all potential customers purchased a product independently from subjective preferences. The market volume defines the sum of all the sales of a product group achieved by all market participants (cf. Michel/Oberholzer 2011, p. 27). However, it is difficult to determine the market for fruit and vegetable packaging since there is no uniform approach to the packaging of fruit and vegetables. For this reason, it is necessary to carry out further investigation concerning market dimensions and to examine the respective markets more closely.

## Cultural difference between home and target market

Although cultural aspects have a greater impact when a company decides to invest directly in a country, these aspects can also have a great impact on export. A study from Mathias Boeing discovered a link between cultural aspects and economies of scale. Thus, cultural similarities lead to less need for adaptation and increase the potential for scale effects (cf. Boeing 2013, p. 32). There are many popular approaches to measure cultural differences. Among the best-known are Geert Hofstede's cultural dimensions, Trompenaar's five-dimensional theory and Halls context and time theory (cf. Luan 2012, p. 1208-1212). All three theories consider cultural differences from different perspectives and provide conclusions about

similarities and differences. Geert Hofstede offers a free and detailed cultural comparison between selected countries on his official website (cf. Geert Hofstede 2017a). Accordingly, the analysis is recommended for the further course of the Market Selection.

There already are a few studies concerning the preference of "green" products in context with Hofstede's Cultural Dimensions. It was discovered that a high degree of uncertainty avoidance indicates a low willingness to use environment-friendly technology. A high degree of long-term orientation, on the other hand, suggests an increased green self-identity. This can also be applied to feminist cultures, which are characterized by a higher awareness of the environment. Additionally, individualistic cultures can also fall into this category since people believe that the influence of the individual is both high and extremely important (cf. Alcántara-Pilar et al. 2015, p. 131).

#### Competition intensity / number of competitors

The competitive environment is one of the most important factors in assessing the attractiveness of a market. While economic and demographic data are available easily and up-to-date, competition analysis is often expensive and difficult to realize. Michael Porter's model of the Five Forces is a well-known method for investigating these factors in a structured manner. In addition to the influence of customers and suppliers, the model primarily provides information about potential existing and indirect competition. Potential competitors are those unaffected by barriers or restrictions and willing to push into the market at any time. Indirect competition offers substitute products which are made from other materials or differ in the way they are used (cf. Harrison/St. John 2010, p. 30). As described in chapter 2.1.3, the packaging market is characterized by a high diversity of materials. The number of potential substitute products is correspondingly high. In the analysis of the competition situation, the differences in preference of individual countries and the affinity for sustainable product solutions must be taken into account.

#### Consumer demand / preferences

Many traditional theories about customer needs have defined price and income as key factors for consumer behaviour. However, when looking closely at specific market segments, it soon becomes clear that customer requirements are made up of a multitude of complex factors. Studies have identified different factors crucial for the food industry and its customer requirements. Thus, there are connections between population growth, income & wealth and the relative price of goods to the actual product demand. Similar results were found for customer attitudes towards the environment and health as well as demographic aspects such as household size, age structure and cultural aspects (cf. Drescher 2007, p. 127). A further approach suiting the problem setting of this thesis is the Theory of Planned Behaviour. In 1988, Ajzen Icek published a theory that explains customer behaviour in a comprehensible manner and allows conclusions about customer demand. The theory is based on three essential core factors: behavioural, normative and control beliefs (cf. Ajzen 1991, p. 182) Figure 20 illustrates the supporting pillars of this theory.



PBC= Perceived Behavioral Control



This theory served as a basis for some studies investigating the effect of attitudes and behaviour on the consumption and demand of environment-friendly products. In 2016, a study on sustainably packaged salad determined that there was a strong correlation between attitudes, normative beliefs and the purchase of sustainable products (cf. Stranieri/Ricci/Banterle 2016, p. 210). A second study also discovered strong connections between the intention to buy environment-friendly products and the normative and actual behaviour of the subjects. In addition, the factors of moral obligation and self-identity were supplemented. For instance, 50% of the subjects stated that they consumed environment-friendly products for moral reasons or because of social recognition and not because of their own needs. (cf. Schielke/Fantapié Altobelli 2012, p. 20-22). In connection with the Theory of Planned Behaviour, Hofstede's Cultural Dimensions were also investigated. In particular, the dimension's Individual vs Collectivism and power distance allow conclusions about behavioural norms of the respective cultures. For example, normative beliefs and social environment play a much greater role in collectivistic cultures whereas individual status and attitudes are more pronounced in individual cultures. The same applies for individuality, where people from high individualistic cultures have a more pronounced feeling to be important and to make a difference. Accordingly, such cultures tend to be more self-actualized and more willing to adopt an environment-friendly lifestyle (cf. Hassan/Shiu/Parry 2015, p.76f.). For the packaging sector, these findings indicate that the determination of the customer demand cannot be generalized on a global basis. Much more, the demand is made up of factors such as income, wealth, demographic factors and the consideration of customer behaviour by means of normative, behavioural and cultural beliefs.

## 4.1.3 Market Barriers

Market entry barriers occur in different forms and represent an additional challenge for companies when entering new markets. In general, a distinction between institutional, economic and company-specific barriers can be made (cf. Büter 2010, p. 70). Table 7 illustrates the different types of barriers.

Institutional Barriers				
Tariffs	Non-Tariffs			
Custom duties Ad valorem duty Specific duty	Trade prohibitions Trade quotas Internal restrictions Administrative trade barriers			
Economi	c Barriers			
Supply related	Demand related			
Structural entry barriers Strategic entry barriers	Customer preferences Switching costs for customers			
Company rel	ated Barriers			
Informational Barriers Behavioural Barriers				
Insufficient Information Misinterpreted Information	Lack of international experience Psychic Barriers (Cultural distance)			

Table 7: Market Entry Barriers (Based on Büter 2010, p. 70)

## Institutional Barriers

Institutional barriers are generally enforced by the state and serve as instruments to protect their own economies. These measures are differentiated in tariffs and non-tariffs and can affect both import and export. Tariff barriers are mainly custom duties, which influence the fairness of competition and, for example, prevent price dumping from abroad (cf. Büter 2010, p. 71).

Non-tariff trade barriers offer policy opportunities to influence trade. The most popular measures include volume restrictions and standards. While quantitative limitations restrict the import of certain goods in order to protect domestic producers, standards such as security or health regulations ensure the quality of the products offered (cf. Lenel 2008, p. 62-64). The European single market policy has prohibited all tariff barriers and encourages free trade. However, even in the European Union many non-tariff barriers remain. High product standards, currency-relevant administrative expenses and technical barriers are among these non-tariff barriers (cf. Chen/Novy 2008). According to experience, Austrian packaging companies are not affected by tariff or non-tariff barriers, which is why this topic is not dealt with in detail within this thesis and is not relevant as a criterion for further market selection.

## Economic Barriers

Economic barriers, unlike institutional barriers, do not affect all companies alike. A distinction is made between supply-side and demand-side influences. Supply-side influences result from disadvantages against already established suppliers on the market. These can have an established position on the customer level as well as on the supplier level and have corresponding differentiation and cost advantages. Demand-side influences arise from the routine preferences of customers and associated obstacles to try new products (cf. Büter 2010, p. 71).

These types of barriers are only partially applicable to the packaging industry. The packaging market is highly cost-oriented, which is why higher costs for transport and logistics can automatically turn into a competitive disadvantage. However, the packaging networks for fruit and vegetables only are of very small volume and weight, which is why the company has not experienced a significant disadvantage in logistics and transport so far. On the demand side, the product depends on the consumer's willingness to pay (WTP). Accordingly, markets with a low-price level present a major obstacle for premium packaging producers.

Although customers around the world are more willing to pay for sustainable packaging, price is still the most important factor when purchasing comparable products. Nevertheless, according to a study by McKinsey, the packaging industry has the highest willingness to pay more for environmentally friendly product alternatives. 80% of the participating subjects stated they are willing to pay at least

5% more. 20% of customers would be willing to accept a 25% surcharge if the product was more environment-friendly than comparable products (cf. McKinsey 2012). Figure 21 illustrates the WTP of different products.



Figure 21: Willingness to pay for sustainable product alternatives (McKinsey 2012)

#### **Company-related Barriers**

Further barriers can also be caused within the company itself. Thus, information deficits, misinterpretations, but also the lack of experience and knowledge of decision-makers can lead to incorrect decisions (cf. Büter 2010, p. 72). This aspect and other influencing factors which may arise inside a company have already been explained in more detail in Chapter 2.3.

#### 4.1.4 Market Risks

The assessment of risks influencing the success of internationalization is the third major issue when defining market selection criteria. The aim of risk assessment is to quantify potential risks in order to make them comparable for further analysis. Especially nowadays, where geographical tensions and financial crises influence the business environment of many countries, it is important to deal with these risks in more detail (cf. Ramady 2014, p. 9)

Basically, a distinction is made between general, economic and political risks. Table 8 shows the different types of risks and their specific subject areas (cf. Hollensen 2008, p. 49)

General Risks	Economic Risks	Political Risks	
Comparative market distance	Exchange rate fluctuations	Foreign government restrictions	
Global competition Failure of export customers to pay		National export policy	
Differences in product usage	Delays and/or damage in the export distribution process	Civil strife, revolution and wars disrupting foreign markets	
Language and cultural differences	Difficulties in obtaining export financing	High value of the domestic currency to those in export markets	
Differences in product specifications		Confusing foreign import regulations	

Table 8: Market Entry Barriers (based on Hollensen 2008, p.49)

#### General Risks

General risks are neither economic nor political. The competitive structure or the customer demand often changes. Thus, the possible entry of a large corporation could significantly influence the market opportunities, and the risk of product substitutes might be triggered considerably by new market entries. Another factor can also be changing customer requirements, which either change naturally or are accelerated by new product innovations (cf. Lehmann/Hauser/Baldegger 2013). Moreover, product use on other markets can differ significantly from the domestic market. This risk occurs more frequently if the product has specific characteristics in terms of material and processing and should be minimized as soon as negotiations with potential partners begin (cf. Grath 2008, p. 15f.)

## Economic risks

The most common economic risk in international trade is the fluctuation of different currencies. Out of the 21 preselected countries within the Market Selection within this thesis, seven have a different currency than EURO (cf. European Union 2016). Accordingly, an important criterion will be the extent to which currency differences lead to disadvantages in exports. A distinction is made between transaction risk and operational risk. If the value difference between two currencies is very high, as a result of currency fluctuations a possible loss or profit is directly visible. Operational risks arise only in the case of long-term transactions. For example, a fixed delivery

volume, carried out within a few months can lead to a high discrepancy between planned and actually realized profit (cf. Stocker 2006, p. 26f.). A further common risk is the buyer's possible insolvency. At first glance, this type of risk may be difficult to predict, but there are in-depth assessments of organizations such as the OECD (Organization for Economic Co-operation and Development) or credit reports to obtain information about the solvency of potential partners. In addition, there are risks within the transportation process (loss or damage to the goods), which can be minimized in advance by concluding a suitable insurance (cf. Grath 2008, p. 18).

## Political Risks

In the course of internationalization, commercial and political risks are difficult to separate. New tax laws, regulations and import duties often also have a direct impact on currency and export costs. In order to better assess the political risks, a distinction between political stability, social stability and factors that directly influence the economy should be drawn. Political stability includes the likelihood that a country will be affected by war, terror or sanctions by other countries. Social stability describes the danger that society is being disquieted by polarizing issues affecting the economic performance of a country such as uneven income distribution, ethnicity and religion antagonism (cf. Grath 2008, p. 22f.).

#### Assessment of Market Risks

There are countless providers of risk analyses on the market. In some cases, the very extensive analyses include the assessment of hundreds of economic indicators, both quantitatively and qualitatively, to better estimate the economic, political and financial risk (cf. Ramady 2014, p. 15-22). Table 9 shows a selection of known providers of risk analyses and the characteristics of the respective offers. The selection is limited to those granting the most comprehensive offer for analysing the European Market.

Provider of Risk Analysis	Characteristics of offer
Rating Sovereigns Moody`s, Standard & Poor´s, Fitch	Ratings from agencies like Moody's are a first good indicator to check the stability of a country. Although these agencies primarily assess the creditworthiness of a country, they can make conclusions about the economic development of a country. The assessment is based primarily on economic structure, growth prospects, fiscal performance, monetary flexibility, liquidity and political risks.
Business Environment Risk Intelligence (BERI Index)	The BERI Index is published three times a year and offers one of the most comprehensive packages for risk analysis. The analysis is composed of quantitative and qualitative analyses and, in addition to the classical key figures for the economy, offers above all detailed insight into different countries. These include analyses of political fractionalization, linguistic/ethnic/religious tension, nationalism, corruption, radical left-wing, social conflicts, regime instability and many more.
Economist Intelligence Unit (EIU)	The EIU publishes, in particular, very detailed country reports, which examine comprehensive analyses on the areas of politics/institutions, economic policy, economic structure, macroeconomic / cyclical, finance and liquidity.
Bloomberg	Bloomberg is one of the leading analytical software providers and offers a comprehensive database of analyses on topics such as business, finance, risk assessment and forecasts.

Table 9: Risk analysis providers (Based on Ramady 2010, p. 15-22)

Most extensive risk analyzes are chargeable and are not eligible for this thesis due to the high costs. A free, comprehensive analysis is offered by Euler Hermes. It includes all relevant countries, which are examined in the context of the market selection, and functions as a suitable examination instrument within the scope of this thesis (cf. Euler Hermes 2016a). Figure 22 shows an example of a Euler Hermes risk analysis.



Figure 22: Example of Risk analysis by Euler Hermes (cf. Euler Hermes 2016a)

## 4.2 Structure of the criteria catalogue

In this chapter, the theoretically obtained criteria are summarized and illustrated within a criteria catalogue. The summary of criteria serves as the basis for the structure of the MS model in the further course of the thesis. In addition, a method is presented to structure criteria.

## 4.2.1 Criteria Catalogue

		Maara aritaria	
		Critoria	
	Economic	GDP per capita/GDP per capita growth Price Indices Fruit & Vegetables	
SS	Social	Environmental awareness Willingness to pay for green products Gini-Index HDI Index	
tivene	Demographic	Household size Age distribution	
rac		Micro-criteria	
Att	Type of Criteria	Criteria	
ket /	Market dimensions	Market growth (organic market) Market size (organic market)	
lar	Psychological distance	Hofstede's cultural dimensions	
2	Competition intensity	Number of substitutes Number of local competitors Retailer density	
	End consumer demand	Consumption of suitable fruit vegetables sorts Fruit & Vegetables consumption per capita Number of retailers Number of supermarkets	
		Economic Barriers	
	Type of Criteria	Criteria	
ers	Strategic barrier	Transport costs	
rrie	Price level	Price level of substitutes	
et Ba	Structural barrier	Number of packagers Market power of packagers	
arke		Company related Parriers	
Ž	Type of Criteria	Company related Barriers	
		Availability of information	

Figure 23 shows the list of criteria that results from the findings of the fourth chapter.

t Risks	Global competition	Threat of global competition (barriers for competitors outside of EU)		
	Product usage	Packaging preferences for potential fruit and vegetables		
	Overall Risk	BERI-Index, PRSCOL, Bloomberg		
e e				
Y N	Economic Risk			
Ĕ	Type of Criteria	Criteria		
	Financial risk	Insolvency/payment morale Currency/Exchange rate		
	Export process	Costs of export		

Type of Criteria

**General Risk** 

Criteria

Figure 23: Criteria catalogue MS model (own presentation)

## 4.2.2 Structure of criteria

When presented with a larger number of criteria, it makes sense to arrange them within a hierarchy. This allows the separate evaluation of over- and sub-categories and at the same time increases the transparency of the decision-making process (cf. Triantaphyllou et al. 1998, p. 2).

On the one hand, the hierarchy approach offers the advantage of the goal fulfillment being transparent, while on the other hand, it divides all the components relevant for making a decision into smaller sets thus simplifying the decision-making process. Another advantage is that qualitative as well as quantitative criteria can be visualized within a framework (cf. Zardari et al. 2015, p.18). Figure 24 illustrates an example of a criteria hierarchy.



Figure 24: Analytical Hierarchy Process (AHP) (Based on Hortacsu/Tektas 2009, p. 1567)

# 4.3 Weighting and Rating of Criteria

In the previous chapters, a number of topics were described which formed the basis for various criteria important for market selection. In order to carry out a comprehensible analysis of these criteria, methods for weighting and rating must be specified.

Once criteria for decision-making have been defined and structured, the next step is to weight and rate these in detail. In the past, numerous methods have been described in the literature to evaluate and weight criteria (cf. Zardari et al. 2015, p. 25). The choice of the method depends on the type and availability of the data, as well as the available resources. A major drawback of all weighting procedures is the fact that they have to be redesigned if the goals and requirements of the company change. In addition, the respective models are only applicable to specific questions (cf. Hahn 2011, p. 129).

Before criteria can be weighted or evaluated, the scale level of the values must first be defined. Scales are used to represent both qualitative and quantitative information in a unified form and give conclusions on the differences in the evaluation. In general, a distinction is made between:

#### • Nominal scale

Quantifies a criteria, no real information content, e.g. Man = 1 Woman = 2

#### • Ordinal scale

Brings the data into an order without determining the distance between the scores (e.g. grades)

#### • Interval scale

Can provide statements about the quantitative difference between criteria through fixed intervals (e.g., temperature measurement)

#### • Ratio scale

Represents the highest measurement level, and allows accurate calculation of differences between results (e.g. weighing scales) (cf. Riesenhuber 2007, p. 10)

Once the scale level has been defined, different assessment methods are available. The following are recommended in this thesis.

#### Constant Sum Scales

In the constant-sum method, the respondent distributes a total number of points arbitrarily to a preselected number of properties. As the number of choices increases, the complexity for respondents also rises. The method can be used to carry out a weighting of criteria as well as an assessment or a ranking method (cf. Zikmund et al. 2013, p. 320). The choice of points to be distributed has a very strong effect on the result. Especially in the case of a high number of criteria, the differences in results using low scales are getting smaller and less significant. Correspondingly, it is recommended to use an extensive scale such as 100 points. Usually, the assessment is carried out within a group discussion or through other qualitative survey methods (cf. Kühnapfel 2014, p. 12). Figure 25 illustrates an example of a constant sum scale.

Alternatives	Points
BMW	60
Cadillac	25
Lexus	15
Sum	100

Figure 25: Example of Constant Sum Scale (Based on Zikmund et al. 2013, p. 320)

## Magnitude Scales

Magnitude scaling is a direct measurement method, which has its origins in psychophysics. The method makes use of the humans' preference to orient themselves to certain subjective anchor points. Thus, an anchor point is defined or chosen by the subject himself/herself and further characteristics are assessed in relation to the anchor. While there are tendencies to either the extreme and to the average on classical rating scales, differences between criteria can be more easily highlighted by magnitude scales. In addition, Magnitude scaling can provide results at high scalar levels and additionally enables a more precise evaluation (cf. Kroeber-Riel/Gröppel-Klein 2013, p. 270). Figure 26 illustrates an example of a Magnitude Scale rating.

Weighting of Criteria	Market size (Anchor)	Market volume	Market growth	Physic distance
Market attractiveness	100	80	120	150

Figure 26: Example of a classic Magnitude Scale (Based on Borg/Staufenbiel 2007, p. 63f.) A variation of the magnitude scaling is the hollistic magnitude scale. The holistic magnitude scale complements the method by simplifying the handling through the application of graphical sliders. In contrast to pair comparisons and ratings, several criteria can be analysed simultaneously. Thus, an empirical study shows that subjects not only assess the relation between anchor and other criteria, but also the characteristics among the criteria at the same time. This way, several criteria comparisons can be carried out at the same time, while the cognitive and temporal demands on the subject decrease (cf. Ilzer/Mairhofer 2015, p. 1f.). Figure 27 shows the use of a holistic magnitude scaling with the use of sliders.



Figure 27: Example of holistic magnitude scaling (Ilzer/Mairhofer 2015, p. 2)

#### Pairwise comparison

In pair comparison, as the name implies, two criteria are compared and their difference in importance is assessed. On the one hand, this reduces the complexity of the decision with only two variables to be evaluated, on the other hand, the process takes a correspondingly long time if the analysis consists of a large number of different criteria. The result is usually a list of pairwise preferences, which can be derived from a subsequent ranking or weighting (cf. Beinat 1997, p. 67). In order to evaluate the pairs, simple ordinal rating scales are applied, which decide whether a criterion is equal or better than the comparative one. Although a conclusion showing the preferences between criteria can be obtained, the use of a rather simple scale makes a qualitative statement on the extent of the difference impossible. Even if the cognitive effort for the evaluator is higher, the application of a higher scaling is recommended in order to increase the meaningfulness of the results (cf. Figueira/Greco 2005, p. 410).

Although the pair comparison enables cognitively easy decisions by comparing two criteria at the same time, this method is not suitable because of the large number of potential criteria. Even if only half of the criteria in Chapter 4.2.1 are applied, the number of necessary pair comparisons would exceed 100 comparisons. The constant sum and the magnitude scale method are both easy to handle and can be used to easily determine the weighting within a criteria hierarchy. Both can also be used for the assessment of criteria, whereby the visual magnitude scale has proven to have valid results. In addition, the use of a reference value can facilitate the traceability of the results.

## 4.4 Interpretation of Results

This chapter contains presentation methods for the visualization of results in the context of market selection.

For the presentation of results, there are countless forms of diagrams used for the visualization of statistical frequencies and contexts. The most popular ones are bar charts, which can occur in different forms. In principle, a distinction is made between bar charts, representing values separately from each other in order to make a hierarchy visible and between stacked bar graphs, illustrating the relationships within a category (cf. Sandberg 2017, p. 107). A further possibility to present comparative results is the network diagram. This chart type is best suited for displaying a performance profile or benchmark comparisons. A further advantage of network diagrams is the visual comparison of two objects based on up to seven different criteria (cf. Waniczek/Übl 2012, p. 66) Figure 28 illustrates an example of a network diagram.



Figure 28: Example of a network diagram (own presentation)

Frequently, models for decision making are suffering from complex, large data volume and the information overflow for decision-makers. Our brain can process information in two ways. The binary processing of data in which an information is mainly understood and the pattern recognition where the decision-maker starts to interpret data, draws conclusions and eventually forms strategic decisions. The visual representation of data encourages pattern recognition and enables easier understanding of complex data (cf. Haight 2014). Due to the amount of data within this thesis, the visual presentation of the results will become an important part of the developed market selection model.

# **5** Summary and Theoretical Findings

Over the course of the theoretical part of this thesis, the individual subject areas influencing the development of a market selection model were theoretically investigated and analysed with regard to the sustainable packaging sector. Since packaging networks for fruit and vegetables are a very specific product, it was necessary to filter out the characteristics and criteria defining the attractiveness of potential markets for this particular product type.

While on the one hand, these criteria derived from the nature of the product, they also stem from the internationalization motives and objectives of the company. In addition, a detailed study of potential criteria, resulted from a recommendation from specialist literature, was carried out. In addition to classical market attractiveness, risk and barrier criteria, interesting connections between demographic, cultural and social aspects regarding customer requirements were identified.

The second major area of the thesis was the structure and potential instruments of the market selection model. Based on the initial situation and the available resources, a selection model, which will be created and applied in the further course of the thesis, was theoretically developed. Open questions remain regarding the weighting, selection and measurement of the criteria. These questions will be answered within the following research design and the practical part of the thesis. Figure 29 illustrates the most important topics of the theoretical part as well as the transition to the practical investigation and application of the model during the practical part of the thesis.



Figure 29: Summary theoretical findings (own presentation)

# 6 Research and Development of a Market Selection Model for Sustainable Packaging Markets

Within the scope of this thesis, several methods of market research are used to close information gaps that have already occurred in the theoretical part. Within the development of the Market Selection Model, information requirements primarily arise in the field of weighting and rating of criteria. In the following chapters the examination methods are presented, which are supposed to close the information gaps.

## 6.1 Development of the MS Model

In all three phases of the model presented in chapter 5, the right criteria must be selected and weighted according to the chosen instruments. The weighting of criteria is carried out by decision-makers and experts from the packaging industry who are competent enough in order to make a decision. In order to qualify an expert for the weighting of criteria, experts must fulfill the following requirements:

- Leading position/Manager of an international company that produces packaging for fruit and vegetables
- Marketing Manager/Export Manager of a company which produces biogenic packaging for fruit and vegetables
- More than 10 years of experience in the industry of sustainable packaging markets
- Experts in the field of innovative, sustainable packaging solutions

## Research sample - Weighting of criteria

As described above, potential experts must meet certain requirements. The selection of the experts as well as the description of the respective competence is described below. Table 10 summarizes the participating experts who will carry out the weighting of the criteria.

Name	Position	Company	Expertise
Helmut Meininger	Founder of VPZ	VPZ GmbH	Experience on biogenic packaging markets since 40 years
Markus Export and Product Kainer Management		VPZ GmbH	15+ years of experience in international packaging markets
Günter Oswald	CEO	Oswald GmbH	CEO since 1985, experienced in European Markets
Brigitte Dörner	Leader Purchase Fruit and Vegetables	Spar Austria	10+ years of experience in international fruit and vegetable markets
Anonymous	Leader Purchase Fruit and Vegetables	Metro Group Austria	15+ years' experience in international fruit and vegetable markets
Anonymous	Packaging Purchase Fruit and Vegetables	REWE	10+ years' experience in packaging markets
Jennifer Buchs	Project leader Sustainability Europe	Migros Switzerland	10+ years' experience with sustainable packaging for fruit and vegetables

Table 10: Participants of Experts Interview (own presentation)

## Research method - Weighting of criteria

Within the scope of this research part, the following questions have to be answered:

- What is the weighting of categories and individual criteria?
- What additional information is suitable for evaluating packaging markets?
- How is the handling and design of the model?
- Do the experts agree with the choice of criteria?

The assessment of the weighting is carried out by means of a telephone, personal or web-assisted interview in order to avoid any confusion during the evaluation.

## Step 1 – Weighting of the criteria

The first part of the study includes the weighting of the individual criteria as well as the four main categories. The four main categories are market attractiveness, barriers and risks, customer potential and environmental awareness. Each of the main categories contain four sub criteria which together represent the importance of this category. For this purpose, a weighting method was created in Microsoft Excel which allows the weighting of all criteria using a visual scale. Figure 30 illustrates the weighting method within the Market Selection Model.



Figure 30: Weighting Tool MS Model (own presentation)

## Step 2 - Verify the ranking order

In the second step, the criteria ranking used as a basis for the first and second stage of the model is presented to the subjects. As a result of the previous weighting, the order of the individual criteria is determined. The subjects now have the possibility to review the ranking again and carry out any repositioning. Figure 31 illustrates the ranking order within the Preselection stage.

CNr.	Criteria Name	Glob. Weight
1	Fruit & Vegetables consumption per capita	10,97%
2	Number of Competitors	10,17%
3	Consumer spending	8,06%
4	Market Share Top 3 Competitors	7,96%
5	GDP per capita	7,83%
6	Country sustainability Index	7,81%
7	Import Volume Fruit & Vegetables	6,74%

Figure 31: Example of Ranking Order within the Market Selection Tool (own presentation)

After setting the order for the elimination by Aspects method, the tolerance settings are defined in the second step. These indicate how much deviation from the respective benchmark value is allowed. The objective is to establish values which gradually reduce the number of countries but at the same time prevent an exclusion of a potentially attractive target market.

## Step 3 – Evaluation of the Model

After setting the parameters for the first two phases and explaining additional features of the selection model, the experts are asked about their impressions of handling, layout and structure.

#### Step 4 – Open discussion and proposals

In the final step of the survey, the experts are questioned on whether the selection of the criteria corresponds to their expectations. In addition, the experts are asked to specify further criteria which should be examined in the course of the investigation.

## 6.2 Execution of the Market Selection Process

The selection process will consist of 3 stages as described in chapter 3.5. Different research methods are used within these stages. In the following chapters the selection of the methods as well as the procedure are explained in more detail.

## Stage 1 - Preselection

The preselection phase starts with 21 countries and aims to reduce the number of potential target markets to 8 using the Elimination by Aspects method. The order of the criteria results from the weighting of the criteria for the Market Selection Model as described in Chapter 6.1. Microsoft Excel is used as research medium in order to enable the automated assessment of countries. In order to ensure the plausibility of results, Austria is used as a reference market, which is also the domestic market of the VPZ.

## Stage 2 – In-Depth Screening

The remaining eight countries are examined within a scoring model. The results from stage 1, which are supplemented by further criteria from the criteria catalogue in chapter 4.2.1, serve as a basis for further research. In this phase, Microsoft Excel also serve as the medium for the investigation. The aim of this phase is both the reduction of potential countries from eight to three as well as the presentation of results within one or several graphical representations.

## Stage 3 – Interpretation of Results

The remaining three countries are the recommendation of markets for the internationalization of the VPZ. In order to obtain more detailed information on these, a country report will be created in which the countries are compared with one another and with a selected reference market. In contrast to previous analysis phases, this stage includes the consideration of competition and deeper customer behaviour, as well as forecasts of economic development.

# 7 Development of a MS Model for Sustainable Packaging Markets

This chapter describes the development of the market selection model. This includes, in addition to the technical basis, the selection of the criteria as well as the instrument selection in the respective phases of the examination.

# 7.1 Design of the Model

As described in chapter 1.5, the model is intended to meet certain requirements. In order to perform the analysis in an efficient way both the selection of the technical tools as well as the scope of functions are of great importance. These components are described in detail in the following chapters.

## Selection of Methods

As described in chapter 3.4, a three-stage model is best suited for the selection of requirements. The model is intended to examine a large number of countries within a time-efficient and resource-efficient process. To achieve this, the methods Elimination by Aspects and a Scoring Model were chosen. The linking of both allows a comprehensive investigation that can be automated and extended in the course of the process. The investigation ends with a comprehensible assessment of countries enabling a complex interpretation and making the decision-making criteria comprehensible.

## Technical specifications of the Selection Model

The Microsoft Excel program was chosen as the technical basis for the Market Selection Model. It offers a comprehensive range of functions and has a very high compatibility with most workstations. According to a study, more than 75% of the marketing agencies use Excel for planning purposes. For 30 years, Microsoft's Excel has been an integral part of almost every company (cf. Edwards 2013). Due to its high popularity, availability and familiarity with users, the Market Selection Tool is created using Microsoft Excel.
## Features of the Selection Model

In chapter 1.2 - 1.5, the initial situation of the company as well as the requirements for the market selection model were described. The most important aspects are as follows:

- The model should be able to analyse a high number of countries in an efficient way
- The structure of the model is intended to enable a standardized and largely automated assessment of potential markets
- The model must be capable of assessing individual and multiple markets
- The model should be easy to handle and allow specific settings at any time

In order to meet these requirements, the model is divided into different phases and allows different analysis approaches within the individual phases. Figure 32 illustrates they key features within the different phases of the Model.



Figure 32: Features of the Market Selection Model (own presentation)

The detailed description of the respective phases, as well as the scope of functions, are described in more detail in the following chapters.

# 7.2 Selection of Criteria

Chapter 4.2.1 described criteria, important for the assessment of the attractiveness of packaging markets identified on the basis of literature. In the next chapters, these criteria are classified and their selection for the market selection model are explained

#### 7.2.1 Classification of Criteria

In order to ensure a comprehensible assessment of markets, the selected criteria are divided into four categories. The choice of these categories consists of literary researched barometers such as market attractiveness, risks and barriers, but also specific consideration of customer potential in packaging markets and environmental awareness, crucial for the success of organic products. The contents of the respective categories are as follows. Table 11 shows the clustering of criteria within the Market Selection Model.

Dimension	Description	Criteria
	This category represents the general	GDP per capita PPS
Market	attractiveness of the market. The aim is to	Retail Sales Organic Products
attractiveness	present at a glance the most relevant	Number of Producers, Processors
	criteria in terms of economic strength,	and Importers
	market size and competitive situation	Import Volume Fruit & Vegetables
Barriers and risks can occur in different forms. Immediate financial risks such as currency fluctuations or in the form of hurdles which directly affect the success opportunities of the product, such as transport costs or price level	Barriers and risks can occur in different	Costs of Export
	Price Indices Fruit & Vegetables	
	hurdles which directly affect the success opportunities of the product, such as - transport costs or price level	Real effective Exchange Rate
		Country Risk Rating
	In addition to the number of product	Retailer density
Customer	providers, customer potential also	Market Share Organic Products
Potential	country itself as well as for individual	Market Growth Organic Sales
	customer groups	Consumption per Capita in gram
	Environmental awareness is an important	Cultural Aspects
	success factor for the demand and the	Expenditure per capita organic fruit
Environmental	willingness to pay for biological products.	and vegetables
Awareness	of cultural influences, as well as social	Environmental Awareness Index
	and society indicators.	Human Development Index

Table 11: Classification of Criteria (own presentation)

#### 7.2.2 Criteria for Market attractiveness

The criteria of the market attractiveness dimension were defined as follows.

#### GDP per capita PPS

The Gross Domestic Product (GDP) represents all goods and services produced by a country minus the goods and services used for their creation. The GDP per capita in PPS (Purchasing Power Standards) divides the total size of the GDP by the number of the population and considers the different price levels which may vary due to economic strength and currency in countries. This enables an objective comparison between countries and is a common indicator of the purchasing power of countries. The index average of Austria is taken as a benchmark and is rated 100. In relation to this score, the individual countries are valued. The higher the value, the further the country is above the Austrian average (cf. Eurostat 2016a). Table 12 illustrates the GDP per capita rating.

Country	GDP PPS
EU 28	100
Austria	128

Table 12: Example GDP per capita rating (based on Eurostat 2016a)

#### Retail Sales Organic Products

This indicator determines the size of the market and provides an insight of the total sales volume that has been realized through organic products (cf. IFOAM 2015). Since packaging companies cover a wide range of product groups, the concentration of the results on certain product groups is not effective. The more money is spent on organic products on a market, the higher is the potential of the market for organic packaging is. Table 13 illustrates the Retail Sales assessment.

Retail Sales Organic Products	In billion €	Score
Austria	1,064	100
Sweden	1,402	132

Table 13: Example Retail Sales Organic Products (based on IFOAM 2015)

#### Number of Producers, Processors and Importers

Almost 15% of the world's organic food production is located in Europe. Over the past 10 years, the number of producers has grown by 81% to 340,000 and is evidence of the trend towards organic products within Europe. The number of processors and importers provides information about the potential of the fruit and vegetable market and therefore the demand for packaging. In Europe, there are over 50,000 processors for organic products as well as more than 1900 importers. The number of both rose between 17% and 19% in the EU average (cf. IFOAM 2015). Those countries with a high number of producers, processors and importers offer a corresponding high potential for long-term cooperation.

#### Import Volume Fruit & Vegetables

The import volume is one of the most common indicators of market attractiveness. The indicator can be measured by the number of products imported or their total value in a certain quantity. It provides information about the extent to which a target market depends on imports from other countries in order to cover the demand of its own country (cf. Traill/Pitts 1998, p. 10). For the purposes of the valuation within the Market Selection Model, the import volume is limited to fruit and vegetables and is valued on the basis of the weight to compensate for differences in currency.

#### 7.2.3 Criteria for Barriers & Risks

The criteria of the barriers and risks dimension were defined as follows.

#### Costs of Export

In order to present the export costs objectively, the World Bank's "cost to export" index is used. The index evaluates the costs in US Dollars on the basis of a 20-foot container, taking into account the costs for documents, administrative fees, customs clearance and technical control while also focusing on customs broker fees, terminal handling charges and inland transport. Not included are special tariffs or customs, as well as specific costs which require special storage of the product (cf. World Bank 2014). Since all countries within the research are within the European Zone, there is no need for further consideration of taxes, tariffs and customs. However, for future investigations, extending to other parts of the world, these factors should very well be taken into account and thus a different index should be used. Here, the author of

this thesis recommends the World Bank's "doing business in" index accessible free of charge on doingbusiness.org.

## Price Indices Fruit & Vegetables Market

The price index for fruits and vegetables is calculated with consideration to the currency as well as the purchasing power of the respective country. In Europe, expenditure on fruit and vegetables accounts for about 20% of the total expenditure on food (cf. Eurostat 2016b). A high price level for food is an indicator of higher acceptance for prices and accordingly also for higher-quality packaging.

## Real Effective Exchange Rate (REER)

The REER (or the "relative price and cost indicators") is intended to show the competitiveness of the prices and costs of a country (or currency area) against the most important competitors on international markets. In addition to exchange rate movements, prices, costs and labour costs are also considered and compared to other industrialized countries such as Australia, Canada, United States, Japan and other large economies. As a result, the indicator measures the competitive strength between different export markets. An increase in the index therefore reduces the competitive strength of a country (cf. Eurostat 2016c).

#### Country Risk Rating

As described in chapter 4.1.4, different methods from different providers can be used when assessing country risks. Within the scope of this thesis the risk analysis of Bloomberg will be applied. Bloomberg's country risk analysis evaluates risk factors from different perspectives and includes criteria from the financial, political and economic view as follows:

- Fitch's, S&P and Moody's Sovereign Rating
- Big Mac Index
- EIU Country Risk Score
- Days to election
- Net Migration Rate
- Unemployment Rate
- Credit Risk
- Equity and Bank Sector Risk (cf. Lippincott Datapoints 2013)

The sum of the mentioned factors is evaluated within a scale of 1-100, where 100 represents the lowest risk and the most favourable conditions. This score also forms the basis of the valuation within the market selection model.

## 7.2.4 Criteria for Customer Potential

The criteria of the customer potential dimension were defined as follows.

#### **Density of Retailers**

This criterion describes the branch density of fruit and vegetable retailers in a country. It is measured by the number of branches per one million inhabitants. A high number also means a high number of retailers and a corresponding number of sales rooms. The result represents the potential for trade partners in the respective country and, besides the volume of fruit and vegetables, it also is a decisive indicator of the attractiveness of a market.

# Market Share Organic Products

The market share describes the share of organic products in the total sale of food (cf. IFOAM 2015). This illustrates the value of biological goods within the market and provides information about the demand for premium products and corresponding packaging on this market.

# Market Growth Organic Sales

The European market for organic products continues to show strong growth trends and has grown by 7.4% on average (cf. IFOAM 2015). Market growth is signaling a growing demand and high future potential on the respective market. Figure 33 illustrates the IFOAM database for organic products.



Figure 33: Example of IFOAM database (IFOAM 2016)

#### Consumption per Capita in Gram

In contrast to the expenditures per capita in money, the consumption per capita in gram reflects the consumption behaviour for fruit and vegetables objectively. Regardless of whether the fruit and vegetables are organic or normal, the demand for fruit and vegetables can be estimated as well as the related packaging demand. A high regular per capita consumption of fruit and vegetables suggests a high awareness of a healthy and conscious lifestyle (cf. EUFIC 2012).

#### 7.2.5 Criteria for Environmental Awareness

The criteria of the environmental awareness dimension were defined as follows.

#### Cultural Aspects

In Chapter 4.1.2, Hofstede's method for evaluating cultural characteristics was presented. Cultures with a higher willingness to purchase sustainable products showed a high value in the categories of individuality, a high value in long term orientation and a low value in the field of masculinity. In the example below (Fig. 37), the score of individuality is 74 and the score for long term orientation is 35. The score for the third criterion, masculinity, is 16 (cf. Hofstede 2017b). The score of masculinity will be reversed to show the feminism instead. The reverse value is 84 (100-16) and, with the individual value of 74 and the long-term orientation of 35, the total sum of cultural fitness for green products is 196. The total value is ultimately used for valuation in the context of the market selection. Figure 34 illustrates Hofstede's cultural dimensions.



Figure 34: Example of Hofstede's Cultural Dimensions (Hofstede 2017b)

#### Expenditure per capita organic fruit and vegetables

Expenditures per capita for organic products have doubled in Europe over the past 10 years and are a good indicator for the willingness to pay for the mentioned product groups (cf. IFOAM 2015). Although the sum is also heavily dependent on the welfare, purchasing power and price level of the respective country, it is nevertheless desirable from the viewpoint of a packaging manufacturer due to the expenditures of the customers being correspondingly high and comparatively expensive packaging is not being too important for the decision to purchase.

## Environmental Awareness Index

The Environmental Awareness Index (EAI) covers the social norms of countries and evaluates them according to the attitude towards environmentally friendly products and lifestyle. In this study, the knowledge about the environment and the readiness to use a more environmentally friendly way of life were examined. The result shows how the knowledge and awareness of the environment is anchored in society (cf. Harju-Autti/Kokkinen 2014, p. 187-189).

## Human Development Index

The Human Development Index (HDI) consists of three different pillars and describes the state of development of a country. The three main components of the index are the standard of living, the level of education as well as the status of health, sustainability and safety (cf. United Nations Development Programme 2016a). A high HDI signals a high level of awareness of the environment and long-term orientation. Additionally, it promotes interest in sustainable products and is therefore used as an indicator of the environmental awareness of a country in the context of the development of the Market Selection Model. Figure 35 illustrates the components of the Human Development Index.



Figure 35: Components of the Human Development Index (United Nations Development Programme 2016b)

# 7.3 Criteria Weighting Tool

The first comprehensive function of the Market Selection Model, which is developed within this thesis, is the Criteria Weighting Tool. It has numerous functions, which are presented in the following chapters.

## Weighting of categories and single criteria

In order to adjust the Market Selection Model correctly, the criteria presented in chapter 7.2.1 must be weighted accordingly. The instrument provides a description of all criteria to avoid misleading assessments. In addition, the evaluator can access the appropriate database for each criterion, used as the basis for the evaluation. With a corresponding understanding of the criteria assessed, the weighting is then made for the four categories. This is done by means of a constant sum scale, in which 100 points are divided up into the four categories. In order to prevent arithmetical errors, a plausibility check is installed, which ensures the correct execution of the weighting by means of a green and red warning signal.

Subsequently, the individual criteria within the categories have to be evaluated. This is done by means of a visual scale and can be set arbitrarily at the discretion of the evaluator. It is advisable to set the value for the most important criterion within the category to maximum value and to evaluate the remaining three criteria in relation to the criteria valued the highest. Figure 36 illustrates the criteria weighting tool.



Figure 36: Criteria Weighting Tool (own presentation)

## Settings Before the Examination and Interpretation of Results

After the completion of the weighting settings, the tool provides different results for further selection. Now, the before set values as well as the local weighting within the category and the global weighting across all categories can be read quantitatively. By looking at the values, however, the results can be questioned and the evaluation can be re-adjusted. In addition, it is necessary to establish whether the evaluation of a criterion is better if the value is higher or lower. The global weights are also automatically transferred to the next phase of the selection and serve as the basis for the processing sequence of the next step. In addition, all sources can be accessed for the respective criteria and can be used as an information database for further investigation as well as for other company purposes. Figure 37 illustrates the results of the Criteria Weighting Tool.

Category	Weighting	Local weight	glob. Weight	Source	Setting	
Market Attractiveness	19,21%	148		Click		
GDP per capita in PPS	48	32,43%	6,230%		rising	T
Retail Sales Organic Products	47	31,76%	6,100%		rising	T
Number of Producers and Importers/Processors	23	15,54%	2,985%		rising	T
Import Volume Fruit & Vegetables	30	20,27%	3,894%		rising	Ŧ

Figure 37: Results of the Criteria Weighting Tool (own presentation)

# 7.4 Stage 1: Preselection

The preselection phase represents the first stage of the selection process. The following chapters describe how a large number of countries can be evaluated during this phase.

#### Evaluation method

The evaluation method within the scope of this selection phase is the Elimination by Aspects method, described in chapter 3.2. The aim of this phase is the reduction of many countries within a short time span through the effective exclusion of certain criteria. The criteria that were assessed using the weighting tool are automatically aggregated into a ranking and are provided with the benchmark values of the compared country. In addition, the model establishes whether the desired value of the criterion is very high or rather low. Figure 38 illustrates the ranking of criteria within the preselection stage.

				Reference value
CNr.	Criteria Name	Glob. Weight	Measured in	Austria
1	Consumption per capita fruit and vegetables	10,63%	Gram per day	522
2	Market Share Organic Food	9,25%	Percent	6,50%
3	Market Growth Organic Food	8,42%	Percent	8,33%
4	Cultural Aspects	8,30%	Index	196
5	Bio F&V expenditure/capita	8,00%	Index	127
6	Environmental Awareness Index	7,53%	Index	73,1

Figure 38: Preselection Stage Ranking (own presentation)

To prevent countries that are weaker in one particular criteria from being terminated automatically, the setting of tolerances is available within this stage. The height of the deviation from the reference country can be controlled as desired and allows to control the degree of exclusion and thus the speed of the examination. Figure 39 illustrates the setting of tolerances procedure.

		Min Value	Tolerance
1	Market Growth Organic Sales	10,61%	▲ 22,00% <del>▼</del>
2	Number of Retailers	3638,88	▲ 28,00% <del>▼</del>
3	Country Risk Rating	632,00	▲ 21,00% <del>▼</del>
4	Costs of export	200,00	<b>60,00% ▼</b>
5	Price Indices Fruit & Vegetable Market	90,94	▲ 11,00% ▼

Figure 39: Setting of Tolerances (own presentation)

#### Procedure and Interpretation of Results

After the settings of the deviation have been made, the actual examination process begins. First, all countries under investigation are examined by the most important criteria. Countries that exceed tolerance are marked in red, positively evaluated countries are marked in green. After evaluating the first criterion, all countries which have concluded the investigation are ranked. The process continues with the evaluation of the remaining countries and other criteria until the desired number of countries has been reached. Figure 40 illustrates the procedure of the preselection stage.

Reference value	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7
Austria	Italy	Switzerland	Germany	France	Belgium	Netherlands	Denmark
522	595,27	534	371,1	398,88	655,78	358,83	485,51
6,50%	2,50%	7,70%	4,80%	2,90%	2,70%	4,30%	8,40%
8,33%	15,00%	5,20%	11,10%	14,60%	18,00%	11,50%	12,00%
196	228	246	267	254	285	300	228
127	38,11	262,19	105,9	83,32	45,65	63,41	190,65

Figure 40: Preselection examination procedure (own presentation)

As soon as the desired number of remaining countries has been reached, these countries are evaluated based on the remaining criteria. The data is then automatically transferred to the next phase, the In-Depth Screening. The collected data can be updated regularly. Additionally, by adjusting the tolerances, the colour highlighting can also be used for monitoring purposes in order to be alerted early when unwanted changes on the markets appear.

# 7.5 Stage 2: In-Depth Screening

After the number of countries has been reduced to a single-digit level, the remaining countries are further evaluated within the In-Depth Screening. The following chapters this process in more detail.

#### Evaluation method

The instrument used for the investigation within this stage is the scoring method described in chapter 3.2. The remaining countries are assessed on the basis of all the criteria described in chapter 7.2.1. The evaluation is based on a comparison to the predefined reference country. Within the scope of this thesis the benchmark country is Austria, which represents the home market of the Verpackungszentrum GmbH. In addition, the weighting carried out in the context of the weighting tool is also taken into account. For better understanding, the results were sum normalized and an index value was calculated. This allows a direct comparison within the categories and allows conclusions to be drawn about the percentage differences in the value benefit. Figure 41 illustrates the Scoring Model template which is used within the In-Depth Screening stage.

		Austria			tria	Italy		
SSS	Weighting Category	Criteria	Weighting Criteria	Relative Weighting	Score	Weighted Score	Score	Weighted Score
ene		GDP per capita in PPS	32,43%	6,23%	100,00	0,72	75,29	0,54
.≧		Values	in l	JSD	\$49 4	29,00	\$37 217,00	
ract		Retail Sales Organic Products	31,76%	6,10%	100,00	0,33	176,60	0,58
Ē	19,21%	Values	in Mio EUR		1 312€		2 317 €	
t A	15,21/0	Number of Producers and Importers/Processors	15,54%	2,99%	100,00	0,39	227,02	0,88
ě		Values	Amount		23 174		52 609	
larl		Import Volume Fruit & Vegetables	20,27%	3,89%	100,00	0,12	210,63	0,25
2		Values in 100 KG		0 KG	10	00	2 10	07
			Total	Score	400,00	1,56	689,54	2,26
			Index	Score	3	4	49	)

Figure 41: Example of Scoring Model Results (own presentation)

At the end of the investigation, not only the score that has been reached by a country in a specific subarea can be observed but also how this score can be interpreted in relation to the benchmark country. Figure 42 illustrates the total score of the In-Depth Screening.

CRITERIA	Austria	Italy
Market Attractiveness	400,00	689,54
Index Score	34	49
Barriers & Risks	400,00	352,63
Index Score	85	73
Customer Potential	400,00	385,74
Index Score	88	75
Environmental Awareness	400,00	308,73
Index Score	75	55
TOTAL SCORE	1600,00	1736,63
Index Score	82,3	74,3

Figure 42: Example Total Score Sheet In-Depth Screening (own presentation)

In this example, the market attractiveness of Italy is 15 % higher while at the same carrying a 12 % higher market risk. Austria is 8% more attractive across all categories.

#### Presentation of Results

The results of the investigation are illustrated in different forms. The first visual representation after the evaluation immediately illustrates the top 3 of the investigated countries. The second graphical evaluation is presented within a diagram, visualizing the respective scores in the individual categories. Figure 43 illustrates the graphical representation of results within the In-Depth Screening.



RECOMMENDED MARKETS

Figure 43: Graphical Representation of Results (own presentation)

The third graphical illustration of the results is shown by means of network diagrams. A separate diagram is available for each country, outlining the differences to the benchmark country in individual sections. This way, it becomes clear at first glance in which subareas the respective country performs better or worse. Figure 44 illustrates an example of a network diagram.



Figure 44: Example of Network Diagram (own presentation)

The last graphical representation is an automatically generated green countries map, which illustrates the results and is suitable for presentation purposes. This is presented in the final results of this thesis.

# 7.6 Stage 3: Interpretation of Results

The last phase of the investigation is devoted to the top three countries, resulting from the two previous investigations. The top 3 are presented on the basis of the researched data and directly compared with each other in the individual categories. The aim is to gain an overview of the three chosen countries and to make a decision on the suitability for future business activities, regardless of the previous score obtained.

In addition to the results of the previous criteria, the country report will also provide further information on the current situation in the country, namely information on the political situation, economic development and demographic and social data. Finally, the analysis is completed with industry-specific data. These include the competition structure, market shares of retailers and up-to-date information on the fruit and vegetable market. The components, which are additionally researched within the third phase, are as follows.

#### General Information

General information can consist of economic data and demographic data as well as information about the current government, the date of an upcoming election and the strengths and weaknesses of the country. This data is collected from the Euler Hermes Country Report as well as from the database of the World Bank. The Euler Hermes Country Report is, as already mentioned in chapter 4.1.4, accessible free of charge and provides a clear overview of business, strengths and weaknesses as well as trade structure and forecasts for the coming years (cf. Euler Hermes 2017a). In addition, the database of the World Bank provides data on business, country-specific topics and forecasts that is attractively prepared graphically (cf. World Bank 2017a).

## Market Structure Packaging Market

The market analysis provides an overview of the largest retailers on the market and basic information about company size and market shares. The content of these data should be selected specifically and contain detailed information on the targeted markets. In this thesis, the market in question is the packaging market for fruit and vegetables, which is why the focus lies on information about market shares of the respective supermarket chains and the organic market itself.

# Demand patterns

The analysis is rounded off by a more detailed analysis of the fruit and vegetable market. This includes, among other things, the investigation of specific fruit and vegetable preferences.

#### Cultural Aspects

The relationship between cultural aspects and the consumption behaviour of organic products has been explained in more detail in chapter 4.1.2. The report includes an extract from Hofstede's cultural analysis as well as a reference to a comprehensive report. Figure 45 illustrates the final stage of the selection.



Figure 45: Example of Final Selection Country Comparison (own presentation)

# 7.7 Conclusion and Evaluation of the Model

After its completion, the model was introduced to the experts presented in chapter 6.1 for the first time. In the course of the weighting procedure, the experts had the opportunity to test the model and to describe their impressions. During the interviews, the layout, handling and criteria were evaluated. All three categories were evaluated very positively and the experts were very satisfied with the selection model. In particular, the layout as well as the simplified assessment of the individual criteria pleased the participants. The model was rated on a 6 scale, on which 1 was the lowest and 6 the highest grade. Figure 46 illustrates the evaluation of the Selection Model.



Figure 46: Rating of the Selection Model (own presentation)

The experts agreed with the selection of the criteria and could not name supplementary criteria for the evaluation of packaging markets. The experts were unanimous in assessing the focus on organic products. Two out of seven experts stated that sustainable packaging could also be used for bulk goods as long as the price difference remains within an acceptable framework. Screenshots from the model can be viewed in the Appendix from page A-7 onwards.

# 8 Application of the MS Model for Europe

The application of the model developed in chapter 7 is documented in the following chapters. The model was used to evaluate 21 European countries with the aim of identifying the best three markets for the VPZ.

# 8.1 Starting Point of the Evaluation

For the first time, the developed model is now practically applied. For a better understanding of the research procedure, the most important factors for the investigation are summarized as follows.

## The Expanding Company

The contracting company, which commissioned the development of the model, is the Verpackungszentrum GmbH in Graz, presented in chapter 1.1. It is a small packaging company from Austria specialized in the development of biogenic packaging. The developed model serves as a decision-making tool for the company in order to make a decision about upcoming export markets as well as a source of monitoring and information for further strategic decisions.

# The Markets to be Examined

The starting point for the investigation are 21 European countries, previously identified as potential target markets by the company. Subsequently, the countries are objectively evaluated within the Market Selection Model with the aim of making it obvious which countries have a higher suitability for the company's objectives described in chapter 1.3. The following countries are analysed in the course of the investigation (Tab. 14)

Selection of countries for the research						
Italy	Switzerland	Germany				
France	Belgium	Netherlands				
Denmark	Sweden	Luxembourg				
Poland	Portugal	Slovakia				
Slovenia	Croatia	Hungary				
Spain	Norway	United Kingdom				
Ireland	Czech Republic	Finland				

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Table 14: Selection of countries for the research (own presentation)

# 8.2 Results of Weighting Assessment

The weighting of criteria is important for the evaluation of the markets within the Market Selection Model. The Criteria Weighting Tool has already been presented in detail in Chapter 7.3 and has been adjusted to the forthcoming investigation by the experts presented in chapter 6.1. In order to ensure an objective assessment, the experts were accompanied by the author of the present thesis work within the context of personal interviews. This was necessary in order to both avoid possible misunderstandings and misjudgement caused by misinterpretation of criteria. The weighting done by the experts was determined as follows.

#### Weighting of Market Attractiveness

The market attractiveness was measured using the GDP per capita criteria in PPS, Retail Sales Organic Products, number of producers, processors and importers and import volume of fruit and vegetables. Although the assessment of the experts differed in some cases, it soon became apparent that GDP per capita in PPS and retail sales organic products were the two most important criteria in this category. According to the experts, a high GDP per capita has a particularly positive effect on the buying behaviour of more expensive products. Additionally, a high GDP per capita results in a lower price sensibility and higher willingness to pay for premium products and more expensive packaging.

The experts rated the retail sales of organic products as an important indicator of both size and potential of the market and indicated that this is also serves as an important parameter when choosing markets for their companies. The number of producers, processors and importers was considered less important. The reason for this was that in times of free trade and large retail chains, the production of a country has little influence on the choice of product and packaging. Similarly, the volume of imports was not regarded as an indicator of a country's higher demand. On average, the importance of the category was estimated at 19.21%. The average values are applied to the Criteria Weighting Tool in the Market Selection Model as shown in Figure 47.

	Oswald	Migros	VPZ	VPZ	Spar	Metro		
Category	G. Oswald	Buchs	Kainer	Meininger	Dörner	Gruppe	REWE	Total
Market attractiveness	15,00%	22,00%	20,00%	25,00%	17,50%	20,00%	15,00%	19,21%
GDP per capita in PPS	38	92	71	58	30	20	25	48
Retail Sales Organic Products	31	74	94	56	37	16	18	47
Number of Producers and Importers/Processors	29	81	16	11	8	2	12	23
Import Volume Fruit & Vegetables	75	65	15	9	12	14	20	30

Figure 47: Weighting of Market Attractiveness (own presentation)

#### Weighting of Barriers and Risks

The category of risks and barriers is made up of the cost-to-export, price indices of fruit and vegetables, the real effective exchange rate and the country risk rating. Overall, the importance of the category was rated at 16.16%, making it the lowest rated category in the selection process. Especially the costs-to-export and the real effective exchange rate were considered unimportant by the experts. The frequently used reason for this was the fact that on the one hand, export within Europe is very simple and cost-effective, while on the other hand it is not a major factor in the selection of target markets.

Currency fluctuations were also not considered to be an important factor due to the low value of the goods. In the context of an interview with a Swiss company, due the domestic offer being substantially more expensive than the offer from the European providers, the strong currency difference was even considered an advantage (cf. Buchs 31.03.2017). Although the country risk is not estimated to be very high in Europe, the country risk rating criterion was considered important, as the experts from the companies classify the financial trustworthiness of the business partners as very important. Especially in the fruit and vegetable sector and the related packaging, experts state that a good basis of trust is decisive, since in the case of a complaint or payment obligation a reliable processing must be ensured. Figure 48 illustrates the weighting of the barriers and risks category.

	Oswald	Migros	VPZ	VPZ	Spar	Metro		
Category	G. Oswald	Buchs	Kainer	Meininger	Dörner	Gruppe	REWE	Total
Barriers & Risks	20,00%	23,00%	10,00%	10,00%	20,00%	15,00%	15,00%	16,14%
Costs of export	10	49	24	14	71	5	15	27
Price Indices Fruit & Vegetable Market	92	79	77	49	53	94	74	74
Real effective Exchange Rate	93	16	23	7	16	22	27	29
Country Risk Rating	100	50	53	0	59	16	42	46

Figure 48: Weighting of Barriers and Risks (own presentation)

#### Weighting of Customer Potential

The Customer Potential category includes the store density of supermarkets, the market share of organic products, the market growth of organic products and the consumption per capita in grams. To five out of seven experts, this category was the most important and was valued on average at 34.36%. Throughout the study, the consumption per capita was the highest valued criterion. The experts justified the decision with the strong link between the consumption per capita and the demand for fruit and vegetables. According to experts, consumers who consume large quantities of fruit and vegetables, have a high awareness of health and the environment. Market growth and the market share of organic markets were also considered very important. For the experts, both are classical indicators for the attractiveness of a market and are also used in the respective companies. In particular, the market share provides information on the importance of bio-products in a country. The store density was regarded as less important in this category, although a dense branch network is positive for the distribution since the packaging of fruit and vegetables is usually organized centrally for all branches (cf. Dörner 28.03.2017). Figure 49 illustrates the weighting of the customer potential category.

Category	Oswald G. Oswald	Migros Buchs	VPZ Kainer	VPZ Meininger	Spar Dörner	Metro Gruppe	REWE	Gesamt
<b>Customer Potential</b>	50,00%	20,00%	40,00%	35,00%	27,50%	33,00%	35,00%	34,36%
Density of retail branches	80	7	74	30	17	35	62	44
Market Share Organic products	17	58	98	59	64	93	79	67
Market Growth Organic Sales	90	57	97	63	37	52	34	61
Consumption per capita in g	88	70	80	56	78	88	81	77

Figure 49: Weighting of Customer Potential (own presentation)

#### Weighting of Environmental Awareness

The Environmental Awareness category includes the cultural aspects, the HDI, the environmental awareness index and the expenditures per capita for organic fruit and vegetables. The environmental awareness was classified as the second-most important area and valued at 30.29%. All four criteria were valued similarly high and in general, the experts emphasized that the customers' attitude towards the product was one of the most important factors for market selection. In particular, the culture of the country and the expenditure per capita for organic fruit and vegetables are, according to expert opinion, important features when assessing the awareness of sustainable products. Two experts emphasized the importance of sustainability throughout the sales process. Thus, not only the environmental friendliness of the product and the packaging is investigated in these companies, but also the production, transport and disposal of the same are examined. The experts rated the general attitude towards the environment, the level of education and thus the knowledge about environmentally relevant aspects as important criteria in order to assess the environmental awareness of a country. Figure 50 shows the weighting results of the environmental awareness category.

Category	Oswald G. Oswald	Migros Buchs	VPZ Kainer	VPZ Meininger	Spar Dörner	Metro Gruppe	REWE	Gesamt
Environmental Awareness	15,00%	35,00%	30,00%	30,00%	35,00%	32,00%	35,00%	30,29%
Cultural Aspects	6	90	79	60	65	24	53	54
Bio F&V Expenditures per capita	17	70	95	43	61	43	35	52
Environmental Awareness Index	19	91	73	28	28	58	45	49
HDI Index	8	56	84	25	62	17	45	42

Figure 50: Weighting of Environmental Awareness (own presentation)

#### Conclusion of weighting procedure

The weighting procedure worked perfectly with all experts and was successfully completed. Based on the recommendation of the experts, individual criteria were adjusted in order to improve the model for the following examination. At the advice of the experts, the number of retailers, among other things, was replaced by the store density in order to allow a more objective comparison. The unit of measurement has also been changed from money to weight of import volume. The experts have rated the model positively and are satisfied with the selection of criteria. In the previous paragraphs the weighting of the individual categories was described and resulted in the following overall result (Fig. 51).



Figure 51: Result of the weighting procedure (own presentation)

The importance of the categories Customer Potential and Environmental Awareness can be emphasized. For this reason, individual criteria from these categories will function as KO criteria in the first phase of the selection, the preselection.

# 8.3 Stage 1: Preselection

In the first phase of market selection, the 21 countries listed in Chapter 8.1 will be analysed for the first time in more detail. The aim of the first phase is the fast and efficient reduction of the number of countries to eight.

# 8.3.1 Relevant Criteria and Examination Method

In accordance with the weighting results from Chapter 8.2, the Selection Tool creates a ranking of the criteria based on the evaluation of the experts. Within the framework of this stage, the countries are first examined with the aid of the best assessed criterion. Subsequently, if the desired number of countries has not been reached, the second, third, and the remaining criteria will be applied. In order to ensure the plausibility of the results, the values for the home market of VPZ, Austria, have already been recorded in the model. These serve as a benchmark to better interpret the results of the respective countries. Figure 52 illustrates the ranking table in the Preselection Stage.

CNr.	Criteria Name	Glob. Weight	Measured in
1	Consumption per capita fruit and vegetables	10,63%	Gram per day
2	Market Share Organic Food	9,25%	Percent
3	Market Growth Organic Food	8,42%	Percent
4	Cultural Aspects	8,30%	Index
5	Bio F&V expenditure/capita	8,00%	Index
6	Environmental Awareness Index	7,53%	Index
7	Price Indices Fruit & Vegetable Market	6,79%	Index
8	HDI Index	6,46%	Index
9	GDP per capita in PPS	6,23%	in USD
10	Retail Sales Organic Products	6,10%	Mio Euro
11	Retailer density	6,07%	Number of
12	Country Risk Rating	4,22%	Score
13	Import Volume Fruit & Vegetables	3,89%	in 100 KG
14	Number of Producers and Importers/Processors	2,99%	Number of
15	Real effective Exchange Rate	2,66%	Index
16	Costs of export	2,48%	USD per Container

Figure 52: Ranking of Criteria in Preselection Stage (own presentation)

On the basis of the weighting of the categories and the individual weighting of the criteria, the consumption per capita of fruit and vegetables has become the most important criterion followed by the market share and market growth of organic markets. The aim is to examine as few of these criteria as possible for each country in order to reduce the number of countries efficiently. For this reason, in addition to the weighting, a tolerance limit is also applied to the respective criteria. In each case, this relates to the comparison to the reference market Austria and was defined by Mr. Meininger (CEO) and Mr. Kainer (Marketing Manager) from the VPZ. Since the investigation is intended to reflect the interests of the company, only the company's internal experts were interviewed about tolerance settings. Figure 53 illustrates the setting of tolerance values for the first stage of the Market selection.

		Min Value	Tolerance
1	Consumption per capita fruit and vegetables	302,76	42,00%
2	Market Share Organic Food	2,15%	<b>67,00% ▲</b>
3	Market Growth Organic Food	4,17%	50,00%
4	Cultural Aspects	98,00	<b>50,00%</b>
5	Bio F&V expenditure/capita	101,60	20,00%
6	Environmental Awareness Index	51,17	30,00%
7	Price Indices Fruit & Vegetable Market	0,00%	100,00%
8	HDI Index	0,63	30,00%
9	GDP per capita in PPS	39543,20	20,00%
10	Retail Sales Organic Products	656,00	50,00%
11	Retailer density	221,00	<b>50,00%</b>
12	Country Risk Rating	70,78	20,00%
13	Import Volume Fruit & Vegetables	0,00%	100,00%
14	Number of Producers and Importers/Processors	0,00%	100,00%
15	Real effective Exchange Rate	72,93	30,00%
16	Costs of export	1288,00	-12,00%

Figure 53: Setting of tolerances for Preselection (own creation)

When adjusting the tolerances, it was taken into consideration that depending on the criterion, they were not supposed to be set too restrictively. Otherwise, a country showing great potential for further investigation could possibly have been dismissed. Nevertheless, according to the two mentioned experts from the VPZ, there were minimum requirements which would not tolerate a subtraction of around 40-60% compared to the reference market.

#### 8.3.2 Assessment and scoring of criteria

The investigation of the countries within the scope of the Preselection Stage was carried out as follows.

#### Consumption per capita in grams

According to Freshfel, the European Fresh Produce Association, an Austrian consumes 522 grams of fruit and vegetables per day (cf. Freshfel 2012, p. 26). This is clearly above the minimum quantity of 400 grams, defined by the World Health Organization (cf. World Health Organization 2016). A minimum quantity of 302 grams was defined for the investigation corresponding to a deviation of 42% from the Austrian value. 19 out of 21 investigated countries were able to show the

minimum consumption of fruit and vegetables. Only the Czech Republic with 294 grams' consumption per day as well as Finland with 293 grams, fell short of the required minimum quantities and were excluded from further investigation. The highest value was Belgium with a daily fruit and vegetable consumption of 655 grams per day (cf. Freshfel 2012, p. 26)

#### Market Share Organic Products

The remaining 19 countries were examined using the next criterion, the market share in organic products. With 6,5%, Austria has one of the highest market shares in organic products (cf. IFOAM 2015). In this case, the minimum requirement was set at 1,95%, which corresponds to a deviation of 65% from the Austrian value. At 8.4%, Denmark achieved the highest value of market share in this study. A total of nine countries did not meet the minimum requirement of 1,95% market share and were excluded from further investigation (cf. IFOAM 2015). Thus, 10 countries remained after reviewing the second criterion.

#### Market Growth Organic products

The last 10 remaining countries were examined with regard to the level of market growth for organic products. Austria recently showed an annual growth of 8.33% and the tolerance limit was set to 50% deviation, which resulted in a minimum growth of 4.17%. 8 out of 10 countries were able to meet the requirement. Only Luxembourg with a 4% growth and Croatia with a negative growth of -1.50% could not fulfill the minimum requirement and were excluded from the further course of investigation (cf. IFOAM 2015).

#### 8.3.3 Results and interpretation of preselection

By applying the 3 most important criteria, the desired number of 8 remaining countries could be reached after a short investigation. The course of the investigation and the corresponding results are illustrated in Table 15.

	PRESELECTION												
Criterion	Consumption per capita in g		Criterion	Market Share Organic Products		Criterion	Market Growth Organic Products						
Min. req.	302		Min. req.	1,95 %		Min. req.	4,17 %						
Countries	Result		Countries	Result		Countries	Result						
Austria	522		Austria	6,5 %		Austria	8,33 %						
Italy	595,27		Italy	2,50 %		Italy	15,00 %						
Switzerland	534		Switzerland	7,70 %		Switzerland	5,20 %						
Germany	371,1		Germany	4,80 %	'	Germany	11,10 %						
France	398,88		France	2,90 %	1	France	14,60 %						
Belgium	655,78		Belgium	2,70 %		Belgium	18,00 %						
Netherlands	358,83		Netherlands	4,30 %		Netherlands	11,50 %						
Denmark	485,51		Denmark	8,40 %		Denmark	12,00 %						
Sweden	353,9		Sweden	7,30 %		Sweden	20,30 %						
Luxembourg	427,88		Luxembourg	7,50 %		Luxembourg	4,00 %						
Croatia	380		Croatia	2,20 %		Croatia	-1,50 %						
Poland	577		Poland	0,20 %									
Portugal	531,18		Portugal	0,20 %									
Slovakia	336,46		Slovakia	0,25 %									
Slovenia	421,54		Slovenia	1,80 %									
Hungary	479,90		Hungary	0,35 %									
Spain	544,72		Spain	1,50 %									
Norway	448		Norway	1,50 %									
UK	343,12	•	United Kingdom	1,40 %									
Ireland	355,11		Ireland	0,70 %									
Czech Rep.	294,45												
Finland	293.16												

Table 15: Procedure and Results of Preselection Stage (own presentation)

# 8.4 Stage 2: In-Depth screening

The remaining eight countries are then further examined on the basis of the 16 criteria set out in Chapter 7.2.1 in the course of selection. The course of investigation as well as the results are explained in the following chapters.

# 8.4.1 Approach and assessment of the countries

As described in chapter 7.5, the results of the countries within the respective criteria are scored in the context of a scoring model to enable an objective comparison between the countries. Throughout the course of the study, Austria, as in preselection, serves as a benchmark and a reference point for the assessment of scores. The values of Austria are always counted with a score of 100. The Market

Selection Tool then automatically calculates the score and compares it to Austria, depending on the country's value within a respective criterion. Finally, the scores are adjusted according to the specific global weighting. It is therefore ensured that the number of points of important criteria will have a much greater impact on the overall result than those of less important criteria. For better interpretation of the results, an indexing for the respective categories was calculated by a sum norming calculation procedure. This allows a statement about the difference of the value benefit in percentage regardless of the measurement units and values of the individual criteria.

#### 8.4.2 Examination Market Attractiveness Dimension

The first category investigated in the context of In-Depth Screening is the dimension of market attractiveness. The weighting for this category, as described in chapter 8.2, was 19.21%. The course of the investigation as well as the results of the individual subcategories were as follows.

#### GDP per capita in PPS

The first criterion that was examined was the GDP per capita in PPS as an indicator of purchasing power. With a weighting of 6.23%, the criterion was the most important within this category. The GDP per capita of Austria is \$ 49.429, which is one of the highest in the world and the fifth highest in Europe. With the exception of Italy, which has a GDP per capita of \$ 37.217, all the other seven investigated countries had an above-average GDP per capita. The highest value within the research was recorded by Switzerland with \$ 62.557, which is the third highest in Europe after Ireland with \$ 68.514 and Luxembourg with \$ 103.837 (cf. World Bank 2015). Table 16 illustrates the results of the GDP per capita in PPS assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
GDP per capita in PPS	6,23%	0,72	0,54	0,91	0,70	0,60	0,66	0,72	0,70	0,69
				м	easured Val	ues				
	In USD	49429	37217	62557	48041	41016	45727	49587	48009	47855

Table 16: Results GDP per capita in PPS (own presentation)

#### Retail Sales Organic Products in €

The second most important criterion in the Market Attractiveness category was the total turnover of organic products with a weighting of 6.10%. The total turnover generated by organic products was strongly dependent on the size of the country. Consequentially, Germany, the most populous country within the selection, was the largest market for organic products with a total turnover of  $\in$  8.6 billion. The smallest market for organic products was Belgium with only 514 million euros in total turnover (cf. IFOAM 2015). Although Belgium is significantly smaller than Germany with a population of 11.30 million, the Belgian market for organic products was also half the size of the compared market Austria, which is also considerably smaller with 8.8 million inhabitants (cf. Deutsche Stiftung Weltbevölkerung 2016c). Table 17 shows the results of the retail sales of organic products assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
Retail Sales Organic Products	6,10%	0,33	0,58	0,54	2,16	1,39	0,13	0,27	0,27	0,43
Measured Values										
	In Mio €	1312	2317	2175	8620	5534	514	1072	1079	1726

 Table 17: Results Retail Sales Organic Products (own presentation)

#### Number of Producers, Processors and Importers of Fruit and Vegetables

With 2.99% local weighting within the category, the number of producers, processors and importers (PPI) of fruits and vegetables was the least important criterion within this category. For a comparatively small country, the benchmark Austria, with 23174, showed a very high number of producers, processors and importers. Comparably large countries such as Switzerland, Belgium, the Netherlands, Denmark and Sweden ranked at the bottom with 2-7 thousand PPI. With 52609 PPI Italy led this category clearly (cf. IFOAM 2015). With 19.5% of all vegetable products produced in Europe, Italy is also the largest vegetable producer in Europe and, with 17.3% of total fruit production, the second largest fruit producer in Europe after Spain (cf. EUROSTAT 2016d). Table 18 shows the results of the number of producers, processors and importers assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Rel. Weight	Weighted Score								
Number of Producers, Processors, Importers	2,99%	0,39	0,88	0,10	0,66	0,68	0,05	0,04	0,07	0,11
Measured Values										
Absolute Number		23174	52609	6244	39358	40726	2747	2462	3899	6564

Table 18: Results of Number of Producers, Importers and Processors Assessment (own presentation)

#### Import Volume Fruit and Vegetables in 100 KG

The import volume of fruit and vegetables was valued at a relative weighting of 3.89%. With an import volume of 100 tons, Austria was far below the average of the countries under investigation. Germany, with 878 tons of imports, was the largest importer of fruit and vegetables in Europe (cf. Eurostat 2017). The number of imports in Switzerland was comparatively high. At 583 tons, these were higher than those from France with 538 tons. 62% of all fruit imports and 86% of all vegetable imports of Switzerland were obtained from the European Union (cf. Swiss Cofel 2014, p. 15). In the context of the expert interviews, the expert from Migros also confirmed the strong preference of Switzerland for European products in terms of quality, geographical proximity and the currency advantage (cf. Buchs 31.03.2017). Table 19 shows the results of import volume assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE	
Criteria	Relative Weight	Weighted Score									
Import Volume Fruit & Vegetables	3,89%	0,12	0,25	0,70	1,06	0,66	0,46	0,42	0,09	0,13	
Measured Values											
In	100 KG	1000	2106	5834	8789	5385	3831	3463	783	1093	

Table 19: Results of Import Volume Fruit and Vegetables Assessment (own presentation)

#### Total Results of the Market Attractiveness Dimension

As can be seen from the partial results, many results in the market attractiveness dimension were strongly dependent on the size of a country. Accordingly, the ranking is led by Germany and France. Both countries were particularly successful in the areas of total turnover and import volume. With the highest score, Germany represents the maximum index value of 100 in this category. Over the entire category, Germany had a 66% higher value benefit than Austria. The second highest value was achieved by France with an index score of 72 and was thus 28% behind the value of Germany. Overall, four out of eight countries assessed showed a higher market attractiveness compared to benchmark country Austria. Denmark and Belgium ranked at the bottom of the list. However, with a population of 5.7 million inhabitants, Denmark is also the smallest country in this study by far (cf. Deutsche Stiftung Weltbevölkerung 2016a). Table 20 illustrates the total results of the Market Attractiveness dimension.

	MARKET ATTRACTIVENESS											
CATEGORY WEIGHTING 19,21 %												
AUT ITA SUI GER FRA BEL NED DEN SW										SWE		
Criteria	Rel. WT	WT Score										
GDP per capita in PPS	6,23%	0,72	0,54	0,91	0,70	0,60	0,66	0,72	0,70	0,69		
Retail Sales Organic Products	6,10%	0,33	0,58	0,54	2,16	1,39	0,13	0,27	0,27	0,43		
Number of Producers Importers Processors	2,99%	0,39	0,88	0,10	0,66	0,68	0,05	0,04	0,07	0,11		
Import Volume Fruit & Vegetables		0,12	0,25	0,70	1,06	0,65	0,46	0,42	0,09	0,13		
TOTAL SCO	RE	1,56	2,26	2,26	4,58	3,31	1,30	1,45	1,13	1,37		
INDEX SCO	34	49	49	100	72	28	32	25	30			

Table 20: Total Results Market Attractiveness Dimension (own presentation)

# 8.4.3 Examination Barriers and Risks Dimension

The second category investigated in the context of the In-Depth Screening is the dimension of barriers and risks. The weighting for this category, as described in chapter 8.2, was 16.14% and was thus the least important category in the selection

process according to the experts which assessed the weighting. The course of the investigation as well as the results of the individual subcategories were as follows.

## Costs to Export

The cost to export was least appreciated by the experts and with a relative weighting of 2.48%, the effect on the overall result was comparatively low. The experts justified this by naming the free trade in Europe as well as the low value and the low weight of packaging products. According to the World Bank database, export costs for a container load are between 700 and 1700 US dollars. The most expensive export destination is Switzerland with 1660 US dollars per container, making the export on average 50-120% more expensive than exports within the European Union. The cheapest container prices were found in the Scandinavian countries and those in the vicinity of the coast (cf. World Bank 2014). Table 21 illustrates the cost to export assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE	
Criteria	Relative Weight	Weighted Score									
Costs to Export	2,48%	0,25	0,24	0,17	0,28	0,22	0,23	0,32	0,36	0,40	
Measured Values											
In USD per Container		1150	1195	1660	1015	1335	1240	915	795	725	

Table 21: Results of Cost to Export Assessment (own presentation)

# Price Indices Fruit & Vegetables Market

The price level for fruit and vegetables was the most important criterion within the barriers and risk category and was valued at a relative weight of 6.79%. As in the case of GDP per capita in PPS, Switzerland is also a leader in this area. With a score of 167, the fruit and vegetables in Switzerland are significantly more expensive than the EU-28 average, representing the 100 points within this index. Five years ago, the Swiss price level was at 124 and at a similar level to the leading EU countries. Due to the strong development of the currency and the purchasing power, the price level has risen by more than 30% over the last five years. Austria is at a level similar to the two Scandivan countries Denmark (132.9) and Sweden (136.2), with a score of 124.4, thus it is located in the anterior third of the EU. The

only country within this study, below the EU-28 average is Belgium with a score of 99 (cf. Eurostat 2016b). According to media reports, the sharp drop in prices in Belgium is due to the pressure of German supermarket chains on the Belgian market. Lidl in particular strongly influences the market which resulted in price wars with local retailers and consequent price reductions (cf. Boyle 2017). Table 22 shows the results of the price indices assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
Price Indices Fruit & Vegetables	6,79%	0,77	0,65	1,03	0,71	0,72	0,61	0,64	0,82	0,84
				N	leasured Val	ues				
	Index	124,4	105	167	114,4	116	99	103,8	132,9	136,2

Table 22: Results of Price Indices Assessment (own presentation)

#### Real Effective Exchange Rate (REER)

As the study is primarily related to Europe, the relative weight of 2,66 % of the REER criterion was comparatively low and is therefore considered to be of little relevance. Since all countries under investigation have a similar price and cost structure and five of eight countries have the euro as currency, the results were as close as expected. Austria was rated with an index value of 103.82, similar to the values of the other EU countries which were between 96 and 105. Only Switzerland was able to achieve a much higher value due to the currency advantage and has the highest competitive strength with an index value of 133.92 (cf. Eurostat 2016c). Table 23 shows the results of the real effective exchange rate assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE	
Criteria	Relative Weight	Weighted Score									
Real effective exchange rate	2,66%	0,29	0,28	0,38	0,27	0,28	0,29	0,28	0,30	0,29	
Measured Values											
	Index	103,82	100,18	133,92	96,30	99,76	102,41	99,48	105,10	102,93	

Table 23: Results of the Real Effective Exchange Rate Assessment (own presentation)

#### Country Risk Rating

The country risk rating was rated by the experts with a relative weight of 4.22%. Almost all countries within the framework of the investigation showed a very low overall risk and were classified among the safest countries on a global scale. Switzerland showed the lowest risk potential in the investigation. In each of the areas investigated (political, business, financial and perspectival risk), the country was rated with high scores and, with a score of 95,85 out of 100, ranked second behind Norway in the "Bloomberg Country Risk Analysis". In comparison with the other countries, only Italy with 67.10 points and France with 74.56 points fell. The main reason for the poor performance of Italy is the high political (Rank 44) and economic risk (rank 40) (cf. Bloomberg 2017). The resignation of Italian Prime Minister Renzi as well as the unclear political direction of the country in the next election have a strong negative effect on the risk assessment (cf. Market Watch 2017). Table 24 illustrates the results of the Country Risk assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
Country Risk Rating	4,22%	0,48	0,37	0,53	0,51	0,41	0,45	0,46	0,50	0,52
Measured Values										
Scor (100=low)	e 1-100 est risk)	88,48	67,10	95,85	92,28	74,56	81,52	84,55	91,60	94,12

Table 24: Results of the Country Risk Assessment (own presentation)

#### Total Results of the Barriers and Risks Dimension

The results of the risks and barriers analysis were significantly closer to those of the Market Attractiveness category. Overall, all countries within the selection process had a low risk and few barriers to market entry. Due to the high price level for fruit and vegetables, as well as the very low country risk, Switzerland was able to top the ranking in before the two Scandinavian countries. Table 25 illustrates the results of the Barriers and Risks category. Italy has the lowest score with 27% less value benefit compared to Switzerland. In addition to a significantly lower price level than reference country Austria, Italy also has the highest risk rating from all countries under investigation. Table 25 shows the results of the barriers and risks category assessment.

BARRIERS AND RISKS												
CATEGORY WEIGHTING 16,14 %												
		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE		
Criteria	Rel. WT	WT Score										
Costs to Export	2,48%	0,25	0,24	0,17	0,28	0,22	0,23	0,32	0,36	0,40		
Price Indices Fruit & Vegetables	6,79%	0,77	0,65	1,03	0,71	0,72	0,61	0,64	0,82	0,84		
Real effective exchange rate	2,66%	0,29	0,28	0,38	0,27	0,28	0,29	0,28	0,30	0,29		
Country Risk Rating	4,22%	0,48	0,37	0,53	0,51	0,41	0,45	0,46	0,50	0,52		
TOTAL SCORE		1,80	1,54	2,11	1,77	1,62	1,58	1,70	1,98	2,04		
INDEX SCORE		85	73	100	84	77	75	81	94	97		

Table 25: Total Results of Barriers and Risks Category (own presentation)

# 8.4.4 Examination Customer Potential Dimension

The third category investigated in the context of In-Depth Screening is the dimension of customer potential. The weighting for this category, as described in chapter 8.2, was 34,36 % and was thus the most important category in the selection process according to the experts which assessed the weighting. The results of the individual subcategories were as follows.

# Retailer Density

The criterion specifies the degree of density of food retailers per one million inhabitants and has been judged by the experts as less important with a relative weighting of 6.07%. As expected, the retailer density is above average for all countries studied. In particular, the benchmark country Austria has a very high store density with 442 supermarkets per one million inhabitants. In the context of the investigation, this value is only topped by Denmark with a density of 453 shops per one million inhabitants, which, as mentioned above, is also the country with the least number of inhabitants (cf. Statista 2014a). Measured by the high population of Germany with 82,60 million inhabitants (cf. Deutsche Stiftung Weltbevölkerung 2016b), the store density of 342 stores per one million inhabitants is comparatively high. Table 26 shows the results of the retailer density assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
Retailer density	6,07%	1,03	0,55	0,46	0,79	0,45	0,55	0,64	1,05	0,55
Measured Values										
Shops per 1 Mio inhabitants		442	235	200	342	196	239	274	453	237

Table 26: Results of Retailer Density Assessment (own presentation)

#### Market Share Organic Food

The market share of organic products is the second most important criterion of this study and was rated by the experts with a relative weight of 9.25%. The country with the highest market share is Denmark with 8.40%, ahead of Switzerland with 7.70% and Sweden with 7.30% (cf. IFOAM 2015). According to studies, Denmark has the most pro-organic consumers in the world and the most developed market for organic products. The market share almost tripled within 10 years from almost 3% in 2005 to 8,40% in 2015. The market share of organic fruit and vegetables accounts for 26% of the total turnover of organic products (cf. Kaad-Hansen 2016). Table 27 shows the results of the Market Share organic products assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE	
Criteria	Relative Weight	Weighted Score									
Market Share Organic Food	9,25%	1,28	0,49	1,51	0,94	0,57	0,53	0,84	1,65	1,43	
	Measured Values										
	In %	6,50	2,50	7,70	4,80	2,90	2,70	4,30	8,40	7,30	

Table 27: Results of the Market Share Organic Food Assessment (own presentation)

#### Market Growth Organic Food

Similar to the market share, the market growth of organic food was also rated by the experts with a high relative weighting of 9.25%. In almost all countries under investigation, the organic food market is growing at a double-digit percentage. Only the benchmark country Austria with 8.33% and Switzerland with 5.20% show less growth. However, the respective market share in both countries is one of the highest and both markets have already seen the greatest growth in the past years. Sweden

has the highest growth rate of more than 20% and is therefore at the top of the ranking (cf. IFOAM 2015). Sales of organic food in Sweden are literally exploding and almost all major suppliers report immense growth rates, such as ICA (+ 55%), Coop (+ 40%) and Axfood (+ 40%). Swedish customers have named animal welfare and environmental protection as the main purchase motifs. According to experts, similar growth rates are projected for the coming years. By 2025, experts expect a doubling of market volume if product availability can be guaranteed (cf. Organic-Market Info 2015). Table 28 shows the results of the market growth organic food assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE	
Criteria	Relative Weight	Weighted Score									
Market Growth Organic Food	8,42%	0,60	1,09	0,38	0,81	1,06	1,31	0,83	0,87	1,47	
	Measured Values										
	In %	8,33	15,00	5,20	11,10	14,60	18,00	11,50	12,00	20,30	

Table 28: Results of the Market Growth Organic Food Assessment (own presentation)

#### Consumption Per Capita in Gram

The consumption per capita in gram of fruit and vegetables was the most important criterion for the experts and was given a relative weight of 10.63%. The consumption per capita is an immediate indicator of fruit and vegetables demand in the respective country. The average consumption of all EU-28 countries is 457.64 grams per day. Only half of all eight countries surveyed were above this average, and only three exceeded the benchmark country Austria with 522 grams per day. The countries with the highest per capita consumption of fruit and vegetables within the investigation are Belgium with 655.78 g, Italy with 595.27 g and Switzerland with 534 g per day (cf. Freshfel 2012, p. 26). According to current Eurostat figures, 71.3% of all Belgians 15 years and older, consume 1-4 portions of fruit and vegetables daily, making it the highest value in Europe in this category and thus clearly exceeding the European Union average of 51.4% (cf. Eurostat 2017b). Table 29 shows the results of the consumption per capita of fruit and vegetables assessment in detail.
		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
Consumpti on per capita	10,6%	1,30	1,48	1,33	0,92	0,99	1,63	0,89	1,21	0,88
Measured Values										
In grams/day		522	595,27	534	371,10	398,88	655,78	358,83	485,51	353,90

Table 29: Results of Consumption Per Capita Fruit and Vegetables Assessment (own presentation)

### Total Results of the Customer Potential Dimension

In the Customer Potential category, Denmark reached the highest scores and therefore represents the maximum index value of 100. This is mainly due to the highest market share and the high market growth in organic food. The second Scandinavian country, Sweden, also scored high in this category and ranked second with 9 % less value benefit. Overall, only these two countries had a higher customer potential than the benchmark country Austria. France scored the worst with 36 % less customer potential compared to ranking leader Denmark. Therefore, it showed the least customer potential for organic products. Table 30 shows the results of the customer potential category.

			CUSTO	OMER	ροτεν	ITIAL						
	CATEGORY WEIGHTING 34,36 %											
		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE		
Criteria	Rel. WT	WT Score										
Retailer density	6,07%	1,03	0,55	0,46	0,79	0,45	0,55	0,64	1,05	0,55		
Market Share Organic Food	9,25%	1,28	0,49	1,51	0,94	0,57	0,53	0,84	1,65	1,43		
Market Growth Organic Food	8,42%	0,60	1,09	0,38	0,81	1,06	1,31	0,83	0,87	1,47		
Consumption per Capita Fruit and Vegetables	10,6%	1,30	1,48	1,33	0,92	0,99	1,63	0,89	1,21	0,88		
TOTAL SCO	RE	4,20	3,60	3,68	3,46	3,07	4,02	3,21	4,78	4,33		
INDEX SCO	88	75	77	72	64	84	67	100	91			

Table 30: Results of the Customer Potential Category (own presentation)

#### 8.4.5 Examination Environmental Awareness Dimension

The last category investigated in the context of the In-Depth Screening is the dimension of environmental awareness. The weighting for this category, as described in chapter 8.2, was 30,29 % and was thus the second most important category in the selection process. The results of the individual subcategories were as follows.

#### **Cultural Aspects**

The criteria for the cultural suitability and the evaluation of these have been explained in more detail in 4.1.2 and 7.2.5. According to the experts surveyed, cultural suitability is one of the most important factors for the success of a product and was thus given a relative weight of 8.42%. With a very high degree of individualism and an extremely feminine culture focusing on family, social aspects and health, the Netherlands were measured as the country with the most desirable cultural characteristics. Another aspect important for the cultural desire of the Netherlands is long-term orientation as it is a common feature of cultures thinking in a sustainable, educational and future-oriented way. Similar to the neighbouring country Netherlands, Belgium also has a strongly individualistic, more feminine and strongly long-termed culture. The most significant difference to benchmark country Austria is much lower masculinity. The Austrian culture leans more towards material possessions, success and career (cf. Hofstede 2017e) Figure 54 illustrates the cultural differences between the three countries.



Figure 54: Cultural Comparison between Austria, Netherlands and Belgium (based on Hofstede 2017e)

Table 31 shows the other results in the cultural aspects assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
Cultural Aspects	8,30%	0,72	0,83	0,90	0,97	0,93	1,04	1,09	0,83	0,99
				N	leasured Val	ues				
Score of Hofstede Dimension 2,3 & 5		196	228	246	267	254	285	300	228	272

Table 31: Results of the Cultural Aspects Assessment (own presentation)

### Bio Fruit & Vegetables Expenditures Per Capita

As the consumption per capita in grams, expenditures for organic fruit and vegetables per capita in euros were also considered very important and were valued at a high relative weighting of 8.00%. In contrast to the quantitative consumption, the expenditure in euro is much more dependent on the purchasing power of the respective country. As expected, Switzerland has the highest per capita expenditure of  $\notin$  262 per year. However, there were greater differences between the other countries with similar GDP per capita. For example, people in Scandinavian countries like Denmark and Sweden spend much more on organic fruit and vegetables than those from the Netherlands, Belgium and Italy. Scandinavian countries have been pushing the expansion of organic food for years. Lastly, in Denmark 53 million euros were invested for the expansion of the bio-cultivation areas in order to double the cultivation area by 2020. The Danish state has taken measures to increase the share of organic food in barracks, hospitals, schools and nursing homes (cf. Eco international 2016). Table 32 shows the results of the Bio Fruit & Vegetables expenditure per capita assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
Bio Fruit & Vegetables expenditure per capita	8,00%	0,93	0,28	1,92	0,77	0,61	0,33	0,46	1,39	1,30
Measured Values										
	In €	127	38,11	262,19	105,9	83,32	45,65	63,41	190,65	177,10



### Environmental Awareness Index

The Environmental Awareness Index (EAI) was valued at a relative weighting of 8.00%. According to the study, benchmark country Austria was the most environmentally aware country in the world with a score of 73.10. Overall, five out of the eight countries surveyed are among the top ten in the study for the most environmentally aware countries, with Sweden ranking second (71.4) and Germany ranking fourth with 69.8 points (cf. Harju-Autti/Kokkinen 2014, p. 189). Only Italy, with a score of 46.10, falls sharply, due to the comparatively low HDI, the lower purchasing power and the low market share for organic food. Table 33 shows the results of the environmental awareness index assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
EAI Index	7,53%	0,97	0,61	0,87	0,93	0,71	0,76	0,86	0,88	0,95
Measured Values										
Score 1-100		73,10	46,10	65,40	69,80	53,40	57,40	64,70	66,30	71,40

Table 33: Results of the Environmental Awareness Index Assessment (own presentation)

### HDI Index

The Human Development Index (HDI) was valued at a relative weighting of 6,46%. According to the experts surveyed, the level of education and the development of the country is an important aspect when it comes to sustainable, biological products. Switzerland showed the highest HDI within the scope of the study with an index value of 0.939. With a high level of education, pronounced environmental sustainability and excellent financial opportunities, Switzerland ranks second among the most developed countries on the planet right behind Norway. With Germany (# 4) and the Netherlands (# 7), two other countries from the research are in the top 10 of the HDI index (cf. United Nations Development Reports 2017c). Table 34 shows the results of the HDI Index assessment.

		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE
Criteria	Relative Weight	Weighted Score								
HDI Index	6,46%	0,70	0,70	0,74	0,73	0,71	0,71	0,73	0,73	0,72
Measured Values										
Index (0-1		0,893	0,887	0,939	0,926	0,897	0,896	0,924	0,925	0,913

Table 34: Results of HDI Index Assessment (own presentation)

### Total results of the Environmental Awareness dimension

In the Environmental Awareness category, Switzerland scored the most points and therefore represents the maximum amount of 100 on the value index. The second and third place were occupied by the two Scandinavian countries Sweden (11% less value) and Denmark (13% less value). All three countries have a high cultural suitability for green products, are highly developed and are also the countries with the highest expenditure per capita for organic fruit and vegetables. Switzerland has long been regarded as one of the most sustainable countries in the world, which is underlined by a recent study by the World Economic Forum. According to the study, Switzerland is the country with the highest energy efficiency and the lowest carbon dioxide emissions from energy production (cf. World Economic Forum 2017, p. 9-11). Switzerland is also the first country to implement the Paris climate deal pledge. The goal is to reduce the greenhouse gas load by a further 50% by 2030 (cf. King 2015). All these measures underline the Switzerland' commitment to sustainability. Among the countries surveyed, Italy is the country with the least environmental awareness. Nearly all indexes and studies used within the investigation attest Italy a sub performance compared to the other countries surveyed. Table 35 illustrates the results of the environmental awareness category.

		ENV	<b>IRONI</b>	MENT	AL AW	ARENI	ESS						
	CATEGORY WEIGHTING 30,29 %												
		AUT	ITA	SUI	GER	FRA	BEL	NED	DEN	SWE			
Criteria	Rel. WT	WT Score	WT Score	WT Score	WT Score	WT Score	WT Score	WT Score	WT Score	WT Score			
Cultural Aspects	8,30%	0,72	0,83	0,90	0,97	0,93	1,04	1,09	0,83	0,99			
Bio Fruit & Vegetables expenditure per capita	8,00%	0,93	0,28	1,92	0,77	0,61	0,33	0,46	1,39	1,30			
EAI Index	7,53%	0,97	0,61	0,87	0,93	0,71	0,76	0,86	0,88	0,95			
HDI Index	6,46%	0,70	0,70	0,74	0,73	0,71	0,71	0,73	0,73	0,72			
TOTAL SCO	RE	3,32	2,42	4,42	3,40	2,95	2,84	3,14	3,83	3,95			
INDEX SCO	75	55	100	77	67	64	71	87	89				

Table 35: Results of the Environmental Awareness Category (own presentation)

### 8.4.6 Final Results and Interpretation of In-Depth Screening

After all four categories and the corresponding 16 criteria have been assessed and compared with reference country Austria, the result of the In-Depth Screening is determined. The top 3 countries, further investigated for the final selection, are Germany, Switzerland and Denmark. While Germany, as the most populous country in Europe, naturally has a high market potential, Switzerland convinced with very high environmental awareness combined with strong economic conditions and the lowest risk rating. Overall, five out of eight countries were able to score a higher score than the reference market Austria. Due to the bad scores in risk assessment, as well as in the environmental awareness category, Italy, one of the most populous countries in Europe, showed 25,7 % less total value benefit than Germany. Behind the top 3, Sweden finished the research in 4<sup>th</sup> position with good values in all categories and just 0,1 % less value than Denmark, which ranked in on the 3<sup>rd</sup> place. In particular, the strong environmental awareness, the well-developed market for organic products and the very good economic conditions make Sweden and Denmark an attractive target market for sustainable products. Table 36 shows the best values for each category.





 Table 36: Best Value for Each Category within the Selection (own presentation)

Figure 55 illustrates a map with the best markets for sustainable packaging in Europe.



Figure 55: Best markets for sustainable packaging in Europe (own presentation)

## 8.5 Stage 3: Interpretation of Results

The final step in the market selection process is the interpretation of the results and the related recommendations. The results of the In-Depth Screening were the result of quantitative data and mathematical formulas. In order to better interpret the results, these are supplemented by additional fields of investigation, as described in chapter 7.6. The exact country reports of the top 3 are described in the following chapters.

### 8.5.1 Country Report Denmark

Although Denmark is the least populous country among the eight countries under investigation (cf. Euler Hermes 2017c), the country has a very high potential for organic products. With an overall value benefit of 88.7%, the potential was only 11.3% lower than the result of top-placed Germany. Compared to Austria, Denmark achieved better results in three out of four categories. Figure 56 illustrates the results.



Figure 56: Comparison Austria vs Denmark (own presentation)

Denmark is the world's 34th largest economy with a GDP of USD 1.95 billion, and the world's 112th largest country with 5.64 million inhabitants (cf. Euler Hermes 2016c). With almost 30% of people under the age of 24, Denmark was the country with the youngest population within the top 3 rated countries (cf. Index Mundi 2014a). The GDP per capita is \$ 48.009, which is slightly below that of Austria with \$ 49.429 (cf. World Bank 2015). Although the GDP per capita is lower, the price level for fruit and vegetables in Denmark is 8.5% higher than in Austria (cf. Eurostat 2016b). In terms of risks and barriers, Denmark was able to show very positive results. The overall risk rating of Bloomberg is valued at 91.6, which is the 7th best value in risk analysis globally (cf. Euler Hermes 2016c).

Although Denmark is a comparatively small market for organic products with a total turnover of 1.079 billion euros, at 8.40% the market share of organic products is the highest in Europe. The market continues to grow in double-digit range and grew by 12% in 2015 (cf. IFOAM 2015). With 453 stores per million inhabitants, Denmark has the largest store density of food retailers in Europe (cf. Statista 2014a). The largest food retailer in Denmark is the Coop Denmark Group with total sales of 5.2 billion euros (cf. Statista 2016b) and a market share of 37.4%. Ranking in after Coop are Dansk Supermarked with 32.2%, Dagrofa with 13.2% and Retain with 10.6% (cf. Olesen 2015). With a consumption of 485.51 grams of fruit and vegetables per

day, Denmark is in the upper third in the EU comparison (cf. Freshfel 2012, p. 26). The per capita expenditure for organic fruit and vegetables is  $\in$  190.65, which is the second highest value in Europe behind Switzerland (cf. Organic World 2015). The most popular fruit varieties in Denmark are apples with a per capita consumption of 49 kg, as well as pears (6.9 kg/capita) and strawberries (2.8 kg/capita). The most popular vegetables are tomatoes (30.7 kg / capita), carrots (12.3 kg / capita) and onions (10.6 kg / capita) (cf. Fogh-Hansen 2017).

The cultural comparison shows that both countries, Austria and Denmark, have a strong characteristic of individualism and indulgence. Through healthy food and its promotion of health and wellbeing, both indicators convey a high ego-consciousness and a corresponding interest. Rather than on material values, Denmark is a strongly feminine culture, lying its focus on appreciating the quality of life and mutual care. Likewise, strict rules and standards are not so important in Denmark. For example, academic titles and ranks are not as prestigious and socially prominent as in Austria (cf. Hofstede 2017b). Figure 57 illustrates the cultural comparison between Austria and Denmark.



Figure 57: Cultural comparison Austria vs Denmark (based on Hofstede 2017b) According to the country sustainability rating of Robeco Sam, Denmark is ranked 7th among the most environmentally friendly countries on the planet. The emphasis is on high energy efficiency and government spending on environmental measures (cf. Robeco Sam 2016). According to the Human Development Index, Denmark is one of the most highly developed countries in the world. With rank 5 and high ratings in education, health and infrastructure, Denmark is a highly-developed market (cf. United Nations Development Programme 2017d).

### 8.5.2 Country Report Switzerland

With an index value of 94,4, Switzerland landed on the second place among the most attractive markets for organic products. Despite the immense difference in size, the performance is only 5.6% worse than that of top-ranked Germany. Despite comparable country sizes, compared to benchmark country Austria, the index value was 12.1% higher. Figure 58 illustrates the results of the market selection of both countries.



Figure 58: Comparison Austria vs Switzerland (own presentation)

With a GDP of 665 billion USD, Switzerland is the 19th largest economy in the world and with 8.29 million inhabitants, the population is slightly lower than in Austria (8.6 million inhabitants) (cf. Euler Hermes 2016d). With a median age of 42.20, Swiss are on average as young as Danes, and thus much younger than the German or Austrian population (cf. Index Mundi 2016). Nevertheless, the GDP per capita with \$ 62.557 is 26.5% compared to Austria (cf. World Bank 2016a). Besides the stable political situation, the large current account surpluses and the low public debt, one of the reasons for the economic strength is the very high rate of the national currency, the Swiss franc (cf. Euler Hermes 2016d). Three years ago, the conversion rate between Euro and CHF was above 1.20 and so far, has fallen to 1.07 (cf. Finanzen.at 2017). Switzerland has excellent economic conditions and, according to the interviewed expert of Migros Switzerland, due to its own strong currency, it is even more interested in foreign suppliers. At the Bloomberg Country Risk Rating, Switzerland ranks second behind Norway and has a low assessed political, economic and financial risk (cf. Bloomberg 2017).

The total retail sales of the organic food market are 2.17 billion euros, which is almost twice as high as that of benchmark country Austria. The market share of organic food of 7.70% is comparatively high, and behind Denmark with 8,40 % the second highest in Europe. Lastly, the growth was comparatively low at 5.20%, nevertheless the market volume has tripled in the past 10 years (cf. IFOAM 2015). The Swiss fruit and vegetable market is dominated by two local food retail chains: Migros and Coop. Migros with a market share of 35.84% and Coop with a market share of 33.67% dominate almost 70% of the market and also have recently shown strong growth in their online offerings (cf. Statista 2013). Both the Migros online subsidiary LeShop and the online branch of Coop have seen increasing sales in recent years. With the relaunch of both online shops, sales rose to a new record high of 182 million CHF (LeShop) and 129 million CHF (Coop Home) (cf. Gysin 2017). One reason for the high turnover is the generally high price level of fruit and vegetables in Switzerland, which is 67% higher than the EU-28 average (cf. Eurostat 2015). With € 262 per year, Swiss also invests the most money per capita in organic fruit and vegetables (cf. Organic World 2015). The most consumed fruit varieties of the Swiss are citrus fruits with a per capita consumption of 17.27 kg per year. Following the highly consumed citrus fruits are Apples (15.34 kg / capita), bananas (10.64 kg / capita) and pears (2.89 kg / capita) (cf. Statista 2014a). Carrots (8.68 kg / capita), tomatoes (7.13 kg / capita), peppers (4.43 kg / capita) and salads (4.32 kg / capita) are the most popular vegetable varieties (cf. Statista 2015b).

Culturally, Switzerland and Austria show similarities in many categories. However, this applies primarily to the German-speaking part of Switzerland (cf. Hofstede 2017c). Switzerland has a total of four official languages and a cultural diversity, which is rarely found in a country. In Switzerland, 60% of the population speaks German, 20% French, 6.5% Italian and the rest is distributed among languages like Serbo-Croatian (1.4%), English (1%) or Romansh (0.5%) (cf. Switzerland.org 2017).

Accordingly, the cultural characteristics of Hofstede are evenly distributed among the individual categories. Nevertheless, parallels can be drawn to Austria such as the high degree of Individualism, Masculinity, Uncertainty Avoidance and Indulgence (cf. Hofstede 2017c). Figure 59 illustrates the cultural differences.



Figure 59: Cultural comparison between Austria and Switzerland (Hofstede 2017c)

According to the Human Development Index, Switzerland is the second most developed country on the planet. With a globally respected education system, a good income distribution and stable, sustainable development, Switzerland is one of the most progressive countries in the world (cf. United Nations Development Programme 2017c). As described in the Environmental Awareness category assessment, Switzerland is the most environmentally friendly country on the planet, and for the third time in a row it has been ranked first in the Global Energy Performance Index Report of the World Economic Forum (cf. World Economic Forum 2017, p. 11)

#### 8.5.3 Country Report Germany

Germany was convincing in all categories and is, as a result, the country with the greatest potential for distributors of organic products. Overall, the result of Germany across all categories was 17.7% better than benchmark country Austria. Figure 60 illustrates the results of both countries.



Figure 60: Comparison Austria vs Germany (own presentation)

With a GDP of 3.853 billion US dollars, Germany is the fourth largest economy in the world and with 80.9 million inhabitants, it is the largest country within the market selection. Lastly, economic growth was comparatively strong at 1.70% and the GDP per capita is with \$ 48.041 at a similar level to Austria (\$ 49.429) and Denmark (\$ 48.009) (cf. World Bank 2016a). The country is characterized by a low systemic political risk, good international relations and healthy public finances. Due to the strongly developed manufacturing base (25% of GDP) and the production and export of high end products, current account surpluses have been achieved continuously since 2002. Likewise, the weakness lies within the strong dependence on exports, the low investment to GDP ratio of 20%, the exposure to Eurozone growth and the comparatively old population (cf. Euler Hermes 2016e). With a median age of 46.8, the German population is one of the oldest in Europe. More than 35% of the population is older than 55 years (cf. Index Mundi 2014b) and in comparison to the birth rates worldwide, Germany only occupies rank 217 out of 224 countries (cf. Länderdaten.de 2015).

In the Bloomberg risk analysis, Germany occupies a very good fifth place and has a particularly low economic (10th place) and financial (2nd place) risk. Only the political risk (place 20) could be an inhibiting factor for further economic development (cf. Bloomberg 2017). The strong and close relationship with the United States of America might be altered by the election of Donald Trump and his critical attitude towards Angela Merkel. With the elections in France and Germany, the two largest countries in Europe will elect new heads of the country, especially with an unpredictable outcome in France where strong right-wing tendencies can be observed (cf. ING 2017).

The total retail sales of organic food in Germany are 8.62 billion euros, which is by far the largest market within this study. With a market share of 4.80% and growth of 11.10%, the market is still in the upturn and is in the front third of the EU comparison (cf. IFOAM 2015). The German food market is highly competitive and has a very high store density of 342 stores per million inhabitants. Market leader is the Edeka Group with 25.3% market share, followed by REWE with 15%, Schwarz Group with 14.7% and Aldi with 11.9% (cf. Statista 2015b). Figure 61 illustrates the competition intensity in the German market.



Figure 61: Number of supermarkets in Germany according to provider (based on Statista 2016a) On average, the per capita expenditure for organic fruit and vegetables is  $\in$  105,90 per year, which is below the value of Austria ( $\in$  127.00), Switzerland ( $\in$  262.19) and Denmark ( $\in$  190.65) (cf. Organic World 2015). The most consumed fruits are apples (25,1 kg / capita), bananas (11 kg / capita), grapes (5,3 kg / capita) and peaches (3,6 kg / capita) (cf. Statista 2015c). The most consumed vegetables are Tomatoes (11,4 kg / capita), Carrots (8,3 kg / capita), Onions (7,5 kg / capita) and Cucumbers (7,4 kg / capita) (cf. Statista 2015d). As expected, due to the same language and geographic proximity, Austria and Germany are culturally very similar. Both are highly masculine, success-oriented countries, which attach great importance to the prevention of risks and focus on long-term orientation. The cultural analysis reflects traditional German values such as reliability, precision, caution and pessimism (cf. Hofstede 2017d). Figure 62 illustrates the cultural differences.



Figure 62: Cultural Comparison Austria vs Germany (Hofstede 2017)

Both the Environmental Awareness Index (Rank 4) (cf. Harju-Autti/Kokkinen 2014, p. 189) and the Sustainability Rating (13th place) attest a high affinity for sustainability and environmental awareness to Germany (cf. Robeco Sam 2016). According to the Human Development Index, Germany is the 6th-most developed country on the planet and has a particularly high level of education, as well as a strong infrastructure and economic strength (cf. United Nations Development Programme 2017e). Due to the size of the market and strong demand for organic products as well as excellent economic conditions, Germany is the most attractive market for organic products.

### 8.6 Recommendations for the Verpackungszentrum Graz

As emerged from the Country Reports, three very attractive, albeit very different markets could be identified as potential new target markets for the VPZ. Germany is the best-rated country and clearly is the largest market, therefore making it suitable for a long-term development. Due to the high competitive density of food

retailers, the market offers many potential customers for the packaging solutions of the VPZ. The linguistic, cultural and economic proximity to Germany allows a barrier-free market entry and the possibility of rapid success. As described in chapter 1.3, the goal of Verpackungszentrum GmbH is to triple the sales figures by 2019, while at the same time exploiting the production capacity. This could be achieved entirely by entering the German market. The acquisition of a customer like market leader Edeka should be the goal of the company. Many of the company's existing partners are already active in Germany and have also positioned themselves among the market leaders there. Even if the company's efforts have failed so far, due to the high potential of the market, contact should be intensified.

The same applies to Switzerland, which also has some similarities to Austria. Due to the similar size and geographic proximity, a structured and well-planned development of the market is relatively easy to manage. As stated by the expert from market leader Migros, due to the actual currency situation, providers from Austria are preferred partners of Swiss companies. In contrast to Germany, Switzerland has the necessary purchasing power, a high price level and a highly developed organic market in order to be able to easily offer the more expensive packaging solutions of the VPZ. Correspondingly, even with a smaller distribution volume, a bigger increase in sales can be expected. Nevertheless, it should not be underestimated that not all of Switzerland is German-speaking and the needs vary in the different parts of the country. The favourable currency situation can also change negatively if stabilization of the political situation in the European Union continues.

Denmark is the biggest challenge for a market entry due to the different currency, culture, language and higher geographical distance. Denmark still has the highest market share of organic products in Europe. As emerged from the Environmental Awareness Index and other analyses, Denmark is still investing heavily in the development of the organic market and is still recording high double-digit growth rates. The high per capita expenditure and the comparatively high purchasing power provide excellent conditions for the packaging solutions of the VPZ. In addition, Denmark is very well suited as an entry portal to other Scandinavian markets. Additionally, Market leader Coop (37.4% market share) is strongly represented in

other Scandinavian countries. The market share of Coop in Sweden is 19%, in Finland 50% and in Norway 23% (cf. Ranninger 2014, p. 8).

First and foremost, the author of this work recommends the focus on the German market, which, due to the same language, cultural and geographic proximity, offers the greatest potential with the easiest market entry. The variety and size of potential partners promises the company high sales and growth potential. Subsequently, the company should target the Swiss market. The challenge is to acquire one of the two major suppliers Migros or Coop. This is most likely possible with a strong market position in Austria and Germany. After the German-speaking area is covered, it is recommended to focus on the Scandinavian market. Many of the current and potential sales partners in Austria, Germany and Switzerland are also active in Scandinavia and could ease the difficult market entry. With the three recommended markets and the development of these in the order recommended, the achievement of the objectives of the Verpackungszentrum GmbH should be realized.

In order to verify the results, further analysis and steps are necessary to gather more information about the targeted countries. The author of this thesis recommends the research on following topics:

- It was not possible to determine which materials and types of packaging are preferred for fruit and vegetables in the recommended countries. The VPZ should research the demand for the packaging networks in more detail
- The technical compatibility of the product and the infrastructure of the packers must also be determined. In Austria, the company cooperates with a single packaging company for all retail partners. The infrastructure of the packers in the recommended countries should be investigated
- Also recommended is a customer analysis to better understand the needs, the cultural differences and the attitude of the target group. This can also serve as an argumentation aid for future negotiations with potential partners

 Analysis of potential retail partners in the recommended markets. Within the scope of the evaluation some potential sales partners were introduced. These should be explored for a better understanding of company culture, corporate structure, active markets and current product use

# 9 Final Resume

At the end of this thesis, the author of the work gives insights on the further use of the model and expresses personal thoughts about the creation of the work as well as personal outcomes.

## 9.1 Further use of the Model

Regardless of the objectives of the company and the thesis, formulated in chapter 1, it was a personal goal to create a model that would bring great benefit to the company, both from the marketing and controlling perspective. In addition to the mathematical formulas for evaluating the alternatives, great attention was also given to design, handling and flexibility. The created model is intended to enable the company to carry out statistical assessments as easily as possible, but also functions as a source of information for all relevant areas of the markets the company is active on. It offers the possibility to monitor markets from different perspectives. In addition, great importance was put on the visual evaluation in order to be prepared for any meetings, presentations and trade fairs. The results provide an optimal basis for further research and discussions on further measures.

The criteria for the thesis, as well as their sources, were carefully selected and described in detail in this thesis. Many of the mentioned sources, linked in the source catalogue of the model, provide further information on the respective topics. In addition, the selected websites offer free statistics and supplementary analyses on the areas of packaging, fruit and vegetables markets and country data. These can be used as a basis for changing the criteria and further investigations within the framework of the model.

## 9.2 Personal Summary

The author of this thesis has consciously decided - in retrospect rightly so - on the field of market selection. It was a great challenge to create a model that easily assesses different markets from a variety of perspectives and which is able to highlight the particular characteristics of the individual countries. The specific context of organic packaging for fruit and vegetables required a deeper analysis of the markets and produced very interesting findings. Thus, the author of this work was not aware of the differences between the different cultures, the economic conditions and the development of the European countries in this specific context. The fact of how many statistics, databases, information portals and studies were available for the creation of the work was especially fascinating. Special thanks also goes out to the cooperating company Verpackungszentrum Graz, which was available and very supporting at all times. Additionally, the mentor of this work, Dipl.-Ing. Ernst Mairhofer, who helped the author of this thesis through his expertise and motivational skills to obtain personal high achievements should be specifically mentioned.

It was a special challenge that sharpened the author's skills in the areas of analysis, strategic and conceptual thinking, as well as in holistic, market-oriented approaches, not to mention the countless tutorials that brought the Excel Skills to an unprecedented level. The accumulated experiences during the writing of the thesis as well as the five-year course of study accompanying the profession will be remembered as a special time in the author's life.

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# 1. Project Plan

		ACTUAL	ACTUAL	ACTUAL A	DURATION	
	AKTIVITÄT	START	CW	FINISH CV	DAYS	PROGRESS
1	Phase 1 - Research & Preperation	01.09.16	35	27.10.16	57	100%
2	Literature Research	01.09.16	35	27.10.16	57	100%
3	Coach assigned (Dr. Wünschl)	09.09.16	36	09.09.16	1	100%
4	Create first draft of style template	12.09.16	37	12.09.16	1	100%
5	Write first draft of Introduction & Goals	14.09.16	37	15.09.16	2	100%
6	Create first draft of Table of Contents	17.09.16	37	17.09.16	1	100%
7	Create first draft of Reference Framework	17.09.16	37	18.09.16	2	100%
8	Upload First Meeting Documents on Moodle	19.09.16	38	19.09.16	1	100%
9	First Mentor meeting	22.09.16	38	22.09.16	1	100%
10	Consult client (VPZ/Kainer) regarding adaptations	24.09.16	38	24.09.16	1	100%
11	Adapt Introduction & Goals	25.09.16	39	28.09.16	4	100%
12	Create first draft of project plan	28.09.16	39	29.09.16	2	100%
13	Create preselection sheet for client (VPZ)	30.09.16	39	30.09.16	1	100%
14	Complement introduction with data from client	04.10.16	40	05.10.16	2	100%
15	Contact new mentor (Wünschl -> Mairhofer)	07.10.16	40	07.10.16	1	100%
16	Finish Introduction chapter	10.10.16	41	12.10.16	3	100%
17	Finish Goals chapter	12.10.16	41	12.10.16	1	100%
18	Finish Table of contents	13.10.16	41	13.10.16	1	100%
19	Finish project plan	15.10.16	41	15.10.16	1	100%
20	Send documents to new mentor Ing. Mairhofer	15.10.16	41	15.10.16	1	100%
21	Kick-off company meeting	18.10.16	42	18.10.16	1	100%
22	Finish DS 1 Documents	19.10.16	42	19.10.16	1	100%
23	Finish DS 1 Presentation	16.10.16	42	19.10.16	4	100%
24	Upload DS 1 Documents	20.10.16	42	20.10.16	1	100%
25	Literature research and plan Chapter 2.1-2.4	21.10.16	44	27.10.16	7	0%
26	DS1	27.10.16	43	27.10.16	1	0%



		ACTUAL	A	ACTUAL	ACTUAL	URATIO	DURATION		
	AKTIVITÄT	START		CW	FINISH	CW	DAYS	PROGRESS	STATUS
2	Phase 2 - Theoretical part	27.10.16	5	43	24.01.17	12	90	0%	$\otimes$
27	7 Revision of DS1 Feedback	27.10.16	5	43	01.11.16	2	6	0%	8
28	3 Final adaptation of Chapter 1	28.10.16	5	44	28.10.16	1	1	0%	8
29	Write Chapter 2.1-2.3	28.10.16	5	44	29.10.16	1	2	0%	8
30	D Literature research and plan Chapter 3	28.10.16	5	45	08.11.16	3	12	0%	8
31	Write Chapter 3.1 and 3.2	05.11.16	5	45	06.11.16	2	2	0%	8
32	2 Write Chapter 3.3	09.11.16	5	46	10.11.16	1	2	0%	8
33	Write Chapter 3.4 and 3.5	12.11.16	5	46	14.11.16	1	3	0%	8
34	Literature research and plan Chapter 4	14.11.16	5	46	21.11.16	2	8	0%	8
35	5 Write Chapter 4.1	16.11.16	5	46	17.11.16	1	2	0%	8
36	5 Write Chapter 4.2	19.11.16	5	46	20.11.16	1	2	0%	8
37	7 Write Chapter 4.3	20.11.16	5	46	20.11.16	1	1	0%	8
38	3 Write Chapter 4.4	22.11.16	5	47	23.11.16	1	2	0%	8
39	D Literature research and plan Chapter 5	24.11.16	5	47	30.11.16	2	7	0%	8
40	) Monthly report Mentor	23.11.16	5	47	23.11.16	1	1	0%	8
41	Revise Chapter 2-4 acc. to Feedback	30.11.16	5	47	03.12.16	1	4	0%	8
42	2 Literature Research Chapter 5	28.11.16	5	47	30.11.16	1	3	0%	8
43	3 Write Chapter 5	30.11.16	5	48	02.12.16	1	3	0%	8
44	1 Write Conclusion	04.12.16	5	48	04.12.16	1	1	0%	8
45	5 Finish Theoretical Part	05.12.16	5	48	06.12.16	1	2	0%	8
46	5 Send Documents to Mentor	06.12.16	5 ACTUAL	49 ACTUA	06.12.16	1 UURATIO	1	0%	$\otimes$
	ΑΚΤΙVΙΤÄΤ	START	CW	FINISH	CW	DAYS	PROGRES	S STATUS	
3	Phase 3 - Development MS model VPZ	05.12.16	49	23.12.1	.6 3	19	0%	8	
47	Write Chapter 7.1 - 7.3	05.12.16	49	09.12.1	.6 1	5	0%	8	
48	Meeting with mentor	09.12.16	50	09.12.1	l <b>6 1</b>	1	0%	8	
49	Revise Theoretical Part acc. Mentors feedback	12.12.16	50	14.12.1	.6 2	3	0%	$\otimes$	
50	Write Chapter 7.4	13.12.16	50	15.12.1	l6 1	3	0%	$\otimes$	
51	Write Chapter 7.5	15.12.16	50	17.12.1	16	3	0%	8	
52	Write Chapter 7.6	17.12.16	51	18.12.1	16 1	2	0%	8	
53	Write Chapter 7.7	18.12.16	51	19.12.1	1.6	2	0%	8	
54	Research Design quantitative survey	18.12.16	51	22.12.1	10 1	5	0%	×	
55	Research partners for quantitative survey	18.12.16	51	02.01.1	2	16	0%	× ×	
50	Mosting with montor	02 01 17	1	02.01.1	7 1	10	0%		
58	Revise Phase 2 acc. Mentors feedback	03 01 17	1	05 01 1	7 1	3	0%		
59	Company meeting regarding MS model	05.01.17	1	05.01.1	7 1	1	0%		
60	Revise Phase 3 acc. Mentors feedback	07.01.17	1	08.01.1	- 1	2	0%	×	
61	Create graphical conclusion MS model	09.01.17	2	10.01.1	7 1	2	0%	x	
62	Finish Phase 3 and send Documents to mentor	10.01.17	2	10.01.1	7 1	1	0%	8	
63	Create DS 2 Presentation	15.01.17	3	16.01.1	7 1	2	0%	8	
64	Revise Ds2 Documents after mentor feedback	17.01.17	3	18.01.1	17	2	0%	$\otimes$	
65	Upload DS2 Documents	19.01.17	3	19.01.1	7 1	1	0%	8	
66	DS 2	24.01.17	4	24.01.1	7 1	1	0%		





A-3
		ACTUAL	ACTUAL	ACTUAL	URATIO	DURATION			January February March April
	AKTIVITAT	START	CW	FINISH	CW	DAYS	PROGRESS	STATUS	52 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
4	Phase 4 - Practical Part	25.01.17	4	25.04.17	13	91	0%	$\otimes$	
67	Revise DS2 Documents	25.01.17	4	28.01.17	1	4	0%	$\otimes$	
68	Meeting with mentor before Stage 1 starts	28.01.17	5	28.01.17	1	1	0%	8	
69	Finish Phase 2	28.01.17	5	29.01.17	1	2	0%	8	
70	Stage 1 - Preselection	29.01.17	5	12.02.17	3	15	0%	8	
71	Secondary research relevant criteria	29.01.17	5	05.02.17	2	8	0%	8	
72	Assesment and scoring of data	05.02.17	6	10.02.17	2	6	0%	8	
73	Interpretation and preparing Stage 2	10.02.17	6	12.02.17	1	3	0%	$\otimes$	
74	Finish Stage 1 - Preselection	12.12.17	6	12.12.17	1	1			
75	Send results to mentor	12.02.17	6	12.02.17	1	1	0%	8	
76	Prepare start of Stage 2	13.02.17	7	14.02.17	1	2	0%	8	
77	Stage 2 - In-depth screening	14.02.17	7	26.02.17	2	13	0%		
78	Secondary research of relevant criteria	14.02.17	7	24.02.17	2	11	0%	8	
79	Revise Stage 2 after Feedback	17.02.17	7	18.02.17	1	2	0%	×.	
80	Assessment and scoring of criteria	24.02.17	8	26.02.17	1	3	0%	×.	
81	Interpretation and preparing Stage 3	26.02.17	8	28.02.17	1	3	0%	×.	
82	Finish Stage 2 - In-depth Screening	28.02.17	8	28.02.17	1	1		-	
83	Send results to mentor	28.02.17	8	28.02.17	1	1	0%		
84	Meething with mentor before Stage 3 starts	01.03.17	9	01.03.17	1	1	0%	ă	
85	Stage 3 - Fine selection	01.03.17	9	30.03.17	4	30	0%	× ×	
86	Unlock quantitative online survey	01.03.17	9	27.03.17	4	27	0%	×	
87	Research partners for qualitative interviews	01.03.17	9	07.03.17	1	7	0%	×	
88	Concact interview partner	03.03.17	9	07.03.17	1	5	0%	ă	
89	Qualitative interviews	08.03.17	10	27.03.17	3	20	0%	x	
90	Results and interpretation of Fine selection	27.03.17	13	30.03.17	1	4	0%	× ×	
91	Finish Stage 3 - Fine Selection	30.03.17	13	30.03.17	1	1	0%		
92	Send documents to mentor	01.04.17	13	01.04.17	1	1	0%		
93	Start with Chapter 8 - Final results	01.04.17	13	05.04.17	1	5	0%	ă	
94	Implement Feedback of mentor	06.04.17	14	08.04.17	1	3	0%	ă	
95	Finish Chapter 8	08.04.17	14	10.04.17	1	3	0%	ă	
96	Finish Chapter 9 - Conclusion	11.04.17	14	12.04.17	1	2	0%	× ×	
97	Preparing of DS3 Documents	12.04.17	14	14.04.17	1	3	0%	ă	
98	Send Documents to mentor	14.04.17	15	14.04.17	1	1	0%	ă	
99	Revise DS3 Documents	17.04.17	15	19.04.17	1	3	0%	ă	
100	Hand in DS3 Documents on Moodle	19.04.17	15	19.04.17	1	1	0%	ă	
101	DS 3	25.04.17	16	25.04.17	1	1	0%		
		A CT     A	A.CT. 1.A.I	ACTUAL	UDATIO	DUDATION			Quarter 2
		ACTUAL	ACTUAL	ACTUAL	UKATIOI	DUKATION			April May June
	AKTIVITAT	START	CW	FINISH	CW	DAYS	PROGRESS	STATUS	14 15 16 17 18 19 20 21 22 23 24 25 26
5	Phase 5 - Finalization	25.04.17	16	30.06.17	3	67	0%	8	
102	Final meeting with mentor	26.04.17	16	26.04.17	1	1	0%	8	
103	Revision of DS3 and mentor feedback	26.04.17	16	30.04.17	1	5	0%	8	
104	Write abstract	01.05.17	17	01.05.17	1	1	0%	$\otimes$	
105	Write Zusammenfassung	02.05.17	17	02.05.17	1	1	0%	8	
106	Final improvements	02.05.17	17	12.05.17	2	11	0%	8	
107	Submission unbound master thesis and upload on Moodle	12.05.17	19	12.05.17	1	1	0%	8	
108	Preperation of final colloquim	13.05.17	20	15.05.17	1		0%	8	
109	Submission final bound master thesis and upload on Moodle	30.06.17	26	30.06.17	1	1	0%	8	
110	Final Colloquim	30.06.17	26	30.06.17	1	1	0%		

## 2. Project Plan - Research



Nr.	Vorgangsname	Dauer	Anfang	Ende	Mārz 2017 April 2017 27 02 05 08 11 14 17 20 23 26 29 01 04 07 10 13 16 10 22 25
27	Step 2 - Market Selection Stage 1 - Elimination by Aspects	6 Tage	Die 28.02.17	Die 707.03.17	
28	Research criteria for Stage 1	3 Tage	Die 28.02.17	Don 702.03.17	
29	Interpret results of Stage 1	2 Tage	Fre 03.03.17	Mon 706.03.17	
30	Write Chapter 7.1 - Stage 1	2 Tage	Mon 06.03.17	Die 707.03.17	
31	Send Documents to Thesis Mentor	1 Tag	Die 07 03 17	Die 07 03 17	U T
32	Apply Feedback of Thesis Mentor	1 Tag	Mit 08 03 17	Mit 08 03 17	ă
33	Finish Stage 1 of	0 Tago	Mit	Mit	15.03
34	Sten 3 - Market	q	15.05.17 Mit	13.03.17 Sam	
	Selection Stage 2 - Scoring Model	J Tage	15.03.17	25.03.17	
35	Transfer results of Stage 1 to Scoring model	1 Tag	Mit 15.03.17	Mit 15.03.17	THE REPORT OF A DECEMBER OF A
36	Research Data for Scoring Model	5 Tage	Don 16.03.17	Mit 22.03.17	
37	Insert results of research into Scoring	1 Tag	Die 21.03.17	Die 21.03.17	2 <b>&gt;</b> 07
38	Interpret Results of Stage 2	1 Tag	Mit 22.03.17	Mit 22.03.17	ŭ
39	Research for interview partners in Top 3 countries	2 Tage	Don 23.03.17	Fre 24.03.17	
40	Contact interview partners of Top 3 countries	1 Tag	Don 23.03.17	Don 23.03.17	
41	Write Chapter 7.2 - Stage 2 of Selection	3 Tage	Mit 22.03.17	Fre 24.03.17	
42	Send Documents to Thesis Mentor	1 Tag	Fre 24.03.17	Fre 24.03.17	U <sup>*</sup>
43	Apply Feedback of Thesis Mentor	2 Tage	Mon 27.03.17	Die 28.03.17	Ten 1
44	Finish Stage 2 of Market Selection	0 Tage	Mit 29.03.17	Mit 29.03.17	29.03
45	Step 4 - Market Selection Stage 3	8 Tage	Die 28.03 17	Don 06.04 17	·
46	Conduct expert interviews	3 Tage	Mon 27.03.17	Mit 29.03.17	
47	Transcript interview	2 Tage	Don 30.0	Fre 31.03.1	L <b>L</b>
48	Interpret results of interviews	2 Tage	Mon 03.04.17	Die 04.04.17	
49	Write conclusion of results	2 Tage	Mit 05.04.17	Don 706.04.17	▶
50	Create result portfo	1 Tag	Mit 05.0	Mit 05.04.1	1
51	Finish Research Practical Part	0 Tage	Don 06.04.17	Don 706.04.17	• 06.04
52	Send documents to Thesis Mentor	1 Tag	Fre 07.04.17	Fre 07.04.17	
53	Apply Feedback of Thesis Mentor	3 Tage	Mon 10.04.17	Mit 12.04.17	
54	Revise Thesis	3 Tage	Don 13.0	Mon 17.04	<b>, , , , , , , , , , , , , , , , , , , </b>
55	Create MS3 Presentation	2 Tage	Die 18.04.17	Mit 19.04.17	• • • • • • • • • • • • • • • • • • •
56	Finish MS3 Docume	2 Tage	Don 20.0	Fre 21.04.1	
57	Upload MS3	0 Tage	Mon	Mon	2
	Documents	_	24.04.17	24.04.17	

### 3. Market Selection Model

#### 3.1 Weighting of Criteria



-> PRESELECTION

Instructions

#### Step 1:

Below the evaluation model are explanations for the individual criteria. Read this in advance to ensure an understanding of the used criteria.

#### Step 2:

Set the importance of the upper categories by entering a percentage. The sum of the entered values must finally be 100%. Sum is displayed in green if value is correct and red if its not 100 %.

#### TOTAL 100,00%

#### Step 3:

In each category, set a criterion to the **maximum** setting and adjust the remaining three criteria within the category accordingly.

#### Step 4:

Press the Preselection button upper right to check the order of the individual criteria. If further settings are necessary, reopen the "Weighting" mask again.

-> PRESELECTION

Figure A1: Weighting of Criteria Tool (own presentation)

## 3.2 Weighting of Criteria – Results and Settings

Category	Weighting	Local weight	glob. Weight	Source	Setting	
Market Attractiveness	19,21%	148		Click		
GDP per capita in PPS	48	32,43%	6,230%		rising	•
Retail Sales Organic Products	47	31,76%	6,100%		rising	•
Number of Producers and Importers/Processors	23	15,54%	2,985%		rising	•
Import Volume Fruit & Vegetables	30	20,27%	3,894%		rising	•

Category	Weighting	Local weight	glob. Weight	Source		
Barriers & Risks	16,14%	176		click		
Costs of export	27	15,34%	2,476%		falling	•
Price Indices Fruit & Vegetable Market	74	42,05%	6,786%		rising	•
Real effective Exchange Rate	29	16,48%	2,659%		rising	•
Country Risk Rating	46	26,14%	4,218%		rising	•

Category	Weighting	Local weight	glob. Weight	Source		
Customer Potential	34,36%	249		click		
Retailer density	44	17,67%	6,072%		rising	•
Market Share Organic Food	67	26,91%	9,245%		rising	•
Market Growth Organic Food	61	24,50%	8,418%		rising	•
Consumption per capita fruit and vegetables	77	30,92%	10,625%		rising	•

Category	Weighting	Local weight	glob. Weight	Source		
Environmental Awareness	30,29%	197		click		
Cultural Aspects	54	27,41%	8,303%		rising	•
Bio F&V expenditure/capita	52	26,40%	7,995%		rising	•
Environmental Awareness Index	49	24,87%	7,534%		rising	•
HDI Index	42	21,32%	6,458%		rising	•

Figure A2: Settings and Results of Weighting Procedure (own presentation)

## 3.3 Preselection Template

				Reference value	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8
CNr.	Criteria Name	Glob. Weight	Measured in	Austria	Italy	Switzerland	Germany	France	Belgium	Netherlands	Denmark	Sweden
1	Consumption per capita fruit and vegetables	10,63%	Gram per day	522	595,27	534	371,1	398,88	655,78	358,83	485,51	353,9
2	Market Share Organic Food	9,25%	Percent	6,50%	2,50%	7,70%	4,80%	2,90%	2,70%	4,30%	8,40%	7,30%
3	Market Growth Organic Food	8,42%	Percent	8,33%	15,00%	5,20%	11,10%	14,60%	18,00%	11,50%	12,00%	20,30%
4	Cultural Aspects	8,30%	Index	196	228	246	267	254	285	300	228	272
5	Bio F&V expenditure/capita	8,00%	Index	127	38,11	262,19	105,9	83,32	45,65	63,41	190,65	177,1
6	Environmental Awareness Index	7,53%	Index	73,1	46,1	65,4	69,8	53,4	57,4	64,7	66,3	71,4
7	Price Indices Fruit & Vegetable Market	6,79%	Index	124,4	105	167	114,4	116	99	103,8	132,9	136,2
8	HDI Index	6,46%	Index	0,893	0,887	0,939	0,926	0,897	0,896	0,924	0,925	0,913
9	GDP per capita in PPS	6,23%	in USD	49429	37217	62557	48041	41016	45727	49587	48009	47855
10	Retail Sales Organic Products	6,10%	Mio Euro	1312	2317	2175	8620	5534	514	1072	1079	1726
11	Retailer density	6,07%	Number of	442	235	200	342	196	239	274	453	237
12	Country Risk Rating	4,22%	Score	88,48	67,1	95,85	92,28	74,56	81,52	84,55	91,6	94,12
13	Import Volume Fruit & Vegetables	3,89%	in 100 KG	1000,13	2106,53	5834	8789	5385	3831	3463	783	1093
14	Number of Producers and Importers/Processors	2,99%	Number of	23174	52609	6244	39358	40726	2747	2462	3899	6564
15	Real effective Exchange Rate	2,66%	Index	104,19	100,18	133,92	96,3	99,76	102,41	99,48	105,1	102,93
16	Costs of export	2,48%	USD per Container	1150	1195	1660	1015	1335	1240	915	795	725

## PRESELECTION

Figure A3: Preselection Stage (own presentation)

## 3.4 Setting of Tolerances

		Min Value	Tolerance
1	Consumption per capita fruit and vegetables	302,76	42,00%
2	Market Share Organic Food	2,15%	<b>67,00% →</b>
3	Market Growth Organic Food	4,17%	<b>50,00% ▼</b>
4	Cultural Aspects	98,00	50,00%
5	Bio F&V expenditure/capita	101,60	20,00%
6	Environmental Awareness Index	51,17	30,00%
7	Price Indices Fruit & Vegetable Market	0,00%	▲ 100,00% <del>▼</del>
8	HDI Index	0,63	<b>30,00%</b>
9	GDP per capita in PPS	39543,20	20,00%
10	Retail Sales Organic Products	656,00	<b>▲</b> 50,00% <b>▼</b>
11	Retailer density	221,00	50,00%
12	Country Risk Rating	70,78	20,00%
13	Import Volume Fruit & Vegetables	0,00%	▲ 100,00% ▼
14	Number of Producers and Importers/Processors	0,00%	▲ 100,00% ▼
15	Real effective Exchange Rate	72,93	▲ 30,00% ▼
16	Costs of export	1288,00	-12,00%

Figure A4: Setting of Tolerances (own presentation)

## 3.5 In-Depth Screening

					Aus	tria	It	aly	Switz	erland	Ger	many	Fra	nce	Belį	gium	Nethe	erlands	Den	mark	Swe	den
SSS	Weighting Category	Criteria	Weighting Criteria	Relative Weighting	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
ene		GDP per capita in PPS	32,43%	6,23%	100,00	0,72	75,29	0,54	126,56	0,91	97,19	0,70	82,98	0,60	92,51	0,66	100,32	0,72	97,13	0,70	96,82	0,69
E:		Values	in l	JSD	\$49 4	29,00	\$37 2	217,00	\$62 5	57,00	\$48 (	041,00	\$41 0	16,00	\$45 7	27,00	\$49 5	587,00	\$48 (	009,00	\$47 8	\$55,00
ract		Retail Sales Organic Products	31,76%	6,10%	100,00	0,33	176,60	0,58	165,78	0,54	657,01	2,16	421,80	1,39	39,18	0,13	81,71	0,27	82,24	0,27	131,55	0,43
t Attra	19 21%	Values	in Mic	o EUR	13	12€	2 3	17€	2 1	75€	86	20€	5 5	34€	51	.4€	10	72€	10	79€	172	26€
	10,2170	Number of Producers and Importers/Processors	15,54%	2,99%	100,00	0,39	227,02	0,88	26,94	0,10	169,84	0,66	175,74	0,68	11,85	0,05	10,62	0,04	16,82	0,07	28,32	0,11
ě.		Values	Amo	ount	23	174	52	609	62	244	39	358	40	726	2	747	24	462	3 :	899	6 5	64
larl		Import Volume Fruit & Vegetables	20,27%	3,89%	100,00	0,12	210,63	0,25	583,32	0,70	878,79	1,06	538,43	0,65	383,05	0,46	346,25	0,42	78,29	0,09	109,29	0,13
2		Values	in 10	00 KG	10	00	2	107	5 8	334	8	789	53	385	3 8	831	34	463	7	83	10	)93
			Total	Score	400,00	1,56	689,54	2,26	902,60	2,26	1802,83	4,58	1218,95	3,31	526,59	1,30	538,91	1,45	274,48	1,13	365,98	1,37
			Index	Score	3	4	4	19	4	9	1	00	7	2	2	.8	з	32	2	25	3	0

					Aus	tria	It	aly	Switz	erland	Gerr	many	Fra	nce	Belį	gium	Nethe	erlands	Den	mark	Swe	den
	Weighting Category	Criteria	Weighting Criteria	Relative Weighting	Score	Weighted Score																
Ś		Costs of export	15,34%	2,48%	100,00	0,25	96,23	0,24	69,28	0,17	113,30	0,28	86,14	0,22	92,74	0,23	125,68	0,32	144,65	0,36	158,62	0,40
<b>R</b> is		Values	in l	JSD	\$1	150	\$1	195	\$1	660	\$1	015	\$1	335	\$1	240	\$9	915	\$7	'95	\$7	25
8		Price Indices Fruit & Vegetable Market	42,05%	6,79%	100,00	0,77	84,41	0,65	134,24	1,03	91,96	0,71	93,25	0,72	79,58	0,61	83,44	0,64	106,83	0,82	109,49	0,84
rriers {	16 14%	Values	In	dex	124	1,40	10	5,00	16	7,00	114	4,40	116	5,00	99	,00	10	3,80	132	2,90	136	5 <mark>,20</mark>
	10,14%	Real effective Exchange Rate	16,48%	2,66%	100,00	0,29	96,15	0,28	128,53	0,38	92,43	0,27	95,75	0,28	98,29	0,29	95,48	0,28	100,87	0,30	98,79	0,29
a		Values	In	dex	104	4,19	10	0,18	13	3,92	96	,30	99	,76	10	2,41	99	,48	105	5,10	102	2,93
		Country Risk Rating	26,14%	4,22%	100,00	0,48	75,84	0,37	108,33	0,53	104,29	0,51	84,27	0,41	92,13	0,45	95,56	0,46	103,53	0,50	106,37	0,52
		Values	Sc	ore	88	,48	67	,10	95	,85	92	,28	74	,56	81	.,52	84	,55	91	,60	94	,12
			Total	Score	400,00	1,80	352,63	1,54	440,39	2,11	401,98	1,77	359,41	1,62	362,75	1,58	400,16	1,70	455,89	1,98	473,27	2,04
			Index	Score	8	5	7	'3	1	00	8	4	7	7	7	′5	8	1	9	4	9	7

Figure A5: In-Depth Screening part 1 (own presentation)

				Au	stria	lta	aly	Switz	erland	Gerr	many	Fra	nce	Belg	ium	Nethe	rlands	Den	mark	Swe	den
	Weighting Category	Criteria	Weighting Relative Criteria Weighting	Score	Weighted Score																
ntia		Retailer density	17,67% 6,07%	100,00	1,03	53,17	0,55	45,25	0,46	77,38	0,79	44,34	0,45	54,07	0,55	61,99	0,64	102,49	1,05	53,62	0,55
te		Values	Number	4	42	2	35	20	00	3	42	19	96	23	39	2	74	4	53	23	57
Poi		Market Share Organic Food	26,91% 9,25%	100,00	1,28	38,46	0,49	118,46	1,51	73,85	0,94	44,62	0,57	41,54	0,53	66,15	0,84	129,23	1,65	112,31	1,43
omer l	24 26%	Values	in Percent	6,5	50%	2,5	50%	7,7	70%	4,8	30%	2,9	0%	2,7	0%	4,3	0%	8,4	40%	7,3	۵%
	34,30%	Market Growth Organic Food	24,50% 8,42%	100,00	0,60	180,07	1,09	62,42	0,38	133,25	0,81	175,27	1,06	216,09	1,31	138,06	0,83	144,06	0,87	243,70	1,47
sto		Values	in Percent	8,3	33%	15,	00%	5,2	20%	11,	10%	14,6	50%	18,0	00%	11,	50%	12,0	00%	20,3	JO%
Cu		Consumption per capita fruit and vegetables	30,92% 10,63%	100,00	1,30	114,04	1,48	102,30	1,33	71,09	0,92	76,41	0,99	125,63	1,63	68,74	0,89	93,01	1,21	67,80	0,88
		Values	in grams	52	2,00	595	5,27	534	4,00	37:	1,10	398	3,88	655	,78	35	3,83	485	5,51	353	,90
			Total Score	400,00	4,20	385,74	3,60	328,43	3,68	355,57	3,46	340,64	3,07	437,33	4,02	334,94	3,21	468,79	4,78	477,42	4,33
			Index Score	8	8	7	'5	7	7	7	2	6	4	8	4	6	7	1	00	9	1

Ň				Au	stria	It	aly	Switz	erland	Ger	many	Fra	nce	Belg	;ium	Nethe	erlands	Den	mark	Swe	den
nes	Weighting Category	Criteria	Weighting Relative Criteria Weighting	Score	Weighted Score																
are		Cultural Aspects	27,41% 8,30%	100,00	0,72	116,33	0,83	125,51	0,90	136,22	0,97	129,59	0,93	145,41	1,04	153,06	1,09	116,33	0,83	138,78	0,99
Ň		Values	Score	1	96	2	28	2	46	2	67	25	54	2	35	3	00	22	28	27	/2
A le		Bio F&V expenditure/capita	26,40% 8,00%	100,00	0,93	30,01	0,28	206,45	1,92	83,39	0,77	65,61	0,61	35,94	0,33	49,93	0,46	150,12	1,39	139,45	1,30
menta	20 20%	Values	in EUR	12	7,00	38	,11	262	2,19	10	5,90	83	,32	45	,65	63	3,41	190	),65	177	,10
	30,23%	Environmental Awareness Index	24,87% 7,53%	100,00	0,97	63,06	0,61	89,47	0,87	95,49	0,93	73,05	0,71	78,52	0,76	88,51	0,86	90,70	0,88	97,67	0,95
nr		Values	Score	73	,10	46	,10	65	,40	69	9,80	53	,40	57	,40	64	l,70	66	,30	71,	,40
/iro		HDI Index	21,32% 6,46%	100,00	0,70	99,33	0,70	105,15	0,74	103,70	0,73	100,45	0,71	100,34	0,71	103,47	0,73	103,58	0,73	102,24	0,72
۱N		Values	Index	0,8	393	0,8	387	0,9	939	0,9	926	0,8	897	0,8	396	0,9	924	0,9	925	0,9	13
ш			Total Score	400,00	3,32	308,73	2,42	526,58	4,42	418,79	3,40	368,70	2,95	360,21	2,84	394,97	3,14	460,73	3,83	478,14	3,95
			Index Score	7	'5	5	5	10	00	7	7	6	7	6	4	7	1	8	7	8	9

	Score	10,87	9,82	:	12,47	13,2	1	10,96	9,74	9,50	11,72	11,70
IOTAL SCORES	Index	82	74		94	100		83	74	72	89	89

Figure A6: In-Depth Screening part 2 (own presentation)

#### 3.6 Country Reports



**Country Reports** 

Figure A7: Country Report part 1 (own presentation)

	Age Structure	Age Structure	Age Structure	Age Structure	Age Structure		
aphic Data		Age 0 - 14 14,02%	Age 0 - 14 12,83%	Age 0 - 14 15,10%	Age 0 - 14 16,58%		
		Age 15 - 24 11,33%	Age 15 - 24 10,22%	Age 15 - 24 11,11%	Age 15 - 24 13,12%		
		Age 25 - 54 42,71%	Age 25 - 54 40,96%	Age 25 - 54 43,46%	Age 25 - 54 38,88%		
		Age 55 - 64 12,85%	Age 55 - 64 14,23%	Age 55 - 64 12,37%	Age 55 - 64 12,45%		
mog		Age 65 + 19,09%	Age 65 + 21,76%	Age 65 + 17,96%	Age 65 + 18,96%		
Jel	Link to Age structure stats				<b>a</b>		
	Age 0 - 14	14,02%	12,83%	15,10%	16,58%		
	Age 15 - 24	11,33%	10,22%	11,11%	13,12%		
	Age 25 - 54	42,71%	40,96%	43,46%	38,88%		
	Age 55 - 64	12,85%	14,23%	12,37%	12,45%		
	Age 65 +	19,09%	21,76%	17,96%	18,96%		
	Median age	43,80	46,80	42,20	42,00		
	GDP per capita in PPS	\$49 429,00	\$48 041,00	\$62 557,00	\$48 009,00		
	Retail Sales Organic Products	1312	8620	2175	1079		
	Number of Producers and Importers/Processors	23174	39358	6244	3899		
ness	Import Volume Fruit & Vegetables 1000,13		8789	5834	783		
ket Attractive	Top selling fruit varietities	Apples (19,6 kg/capita) Bananas (11,7 kg/capita) Orange (6 kg/capita) Pears (4,7 kg/capita) Clementines (4,2 kg/capita)	Apples (25,1 kg/capita) Bananas (11 kg/capita) Grapes (5,3 kg/capita) Peaches (3,6 kg/capita) Strawberries (3,5 kg/capita)	Citrus fruits (17,27 kg/capita) Apples (15,34 kg/capita) Bananas (10,64 kg/capita) Pears (2,89 kg/capita) Strawberries (2,61 kg/capita)	Apples (49,1 kg/capita) Pears (6,9 kg/capita) Strawberries (2,8 kg/capita) Cherries (1,9 kg/capita)		
Mar	Top selling vegetables varietities	Tomatoes (28 kg/capita) Carrots (9,3 kg/capita) Onions (9,1 kg/capita) Cabbage (6,8 kg/capita) Paprika (5,6 kg/capita)	Tomatoes (24,1 kg/capita) Carrots (8,6 kg/capita) Onions (8,3 kg/capita) Cucumbers (6,8 kg/capita) Paprika (5,9 kg/capita)	Carrots (8,68 kg/capita) Tomatoes (7,13 kg/capita) Peperoni (4,43 kg/capita) Salad (4,32 kg/capita) Cucumbers (3,58 kg/capita)	Tomatoes (30,7 kg/capita) Carrots (12,3 kg/capita) Onions (10,6 kg/capita) Salad (8,5 kg/capita)		

Figure A8: Country report part 2 (own presentation)

	Costs of export	1150	1015	1660	795		
S	Price Indices Fruit & Vegetable Market 124,4		114,4	167	132,9		
-Х К	Real effective Exchange Rate	104,19	96,3	133,92	105,1		
Ri	Currency	EUR	EUR	CHF	EUR		
ø	Conversion Rate 1,00   Country Risk Rating 88,48   Political Risk 81,41 (Rank 22)		1,00	0,94	7,44		
S			92,28	95,85	91,6		
<u> </u>			84,26 (Rank 20)	88,58 (Rank 14)	92,74 (Rank 5)		
ar	Financial Risk	95,09 (Rank 1)	92,95 (Rank 2)	86,84 (Rank 9)	81,87 (Rank 17)		
8	Economic Risk	73,04 (Rank 24)	88,93 (Rank 10)	98,24 (Rank 1)	87,55 (Rank 12)		
	Country Rating	AA1	AA1	AA1	AA1		
	Retailer density	442	342	200	453		
er Potential	Spar (22,7 %) Hofer (19,9 %) Market Shares largest retailers Billa (16,8 %) Lidl (6,2 %) Penny (4,3 %)		Edeka-Group (25,3 %) Rewe-Group (15,0 %) Schwarz-Group (14,7 %) Aldi-Group (11,9 %) Metro-Group (5,4 %)	Migros (35,84 %) Coop (33,67 %) Denner Discount (7,11 %) Cash & Carry (5,65 %) Aldi (5,27 %)	Coop Danmark (37,4 %) Dansk Supermarked (32,2 %) Dagrofa (13,2 %) Retain (10,6 %) Aldi (3,2 %)		
ш	Revenue of largest Retailer	SPAR AUSTIRA € 13 18 MRD	EDEKA GOUP € 48.4 MRD	Migros (CHE 27.4 MRD)			
stc	Market Share Organic Food	6.50%	4.80%	7.70%	8.40%		
n l	Market Growth Organic Food	Arket Growth Organic Food 833%		5.20%	12.00%		
$\cup$	Consumption per capita fruit and vegetables	522	371.1	534	485 51		
consumption per capita mait and vegetables		J JLL	5,1,1	554	405,51		
	Cultural Aspects	196	267	246	228		
mental Awareness	Culture according to Hofstede	Power Individualism Masculinity Uncertainty Long Term Distance	35 67 66 65 65   Pewer Individualism Masculinity Uncertainty Long Term Avoidance	34 Power Individualism Masculinity Uncertainty Long Term Distance	74 18 16 16 16 16 16 16 16 16 16 16		
U O	Link to cultural analysis	al analysis		<u> </u>			
	Bio F&V expenditure/capita	127,00 €	105,90 €	262,19€	190,65 €		
Ē.	Environmental Awareness Index	73,1	69,8	65,4	66,3		
	HDI Index	0,893	0,926	0,939	0,925		

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Figure A9: Country Report part 3 (own presentation)

# 4. Questionnaire for practical research

1	Introduction						
	Introduction of the topic.						
	Interviewer: Armin Skelic						
	Evaluator: Helmut Meininger						
	Job: Founder VPZ – Research and Design						
		Experience	:				
#	V	Task	Notes				
1.1		Tell what the goals of the research are					
1.2	Ask for participant's approval to record the conversation						
1.3	Introduction of the participant						
2		Weig	hting				
#		Procedure	Notes				
2.1	Introduction of MS Model						
2.2	Explanation of weighting procedure						
2.3	Weighting of criteria						
2.4	Explanation of Preselection Sheet						
2.5	Crosscheck Weighting - Preselection						
2.6	Completion of weighting						

Figure A10: Questionnaire for research part 1 (own presentation)

3	Further 0	Questions
#	Question	Notes
3.1	How do you assess the handling of the weighting procedure?	
	Very bad     Bad     Neutral     Good     Very good	
3.2	What would you change within the weighting procedure?	
3.3	Which criteria have you missed within the assessment?	
3.4	What other areas do you consider important for the evaluation of packaging markets?	
	Buying Center	
3.5		
3.6		
3.7		

Thank you for your time and interest! Your participation is greatly appreciated!

Figure A11: Questionnaire for research part 2 (own presentation)