Minor thesis report

Understanding the influencing factors on the pet food sector: industry structure, dynamics and business strategies

Wageningen, 14 April 2014

Student	Theresa Weiss
Registration number	890505937100
Department	Social Sciences - Management Studies Group (MST)

WAGENINGEN UNIVERSITY
WAGENINGEN UR

Minor thesis report

Understanding the influencing factors on the pet food sector: industry structure, dynamics and business strategies

Wageningen, 14 April 2014

Keywords: Pet food, industry structure, industry dynamics, business strategy, pets

Student	Theresa Weiss
Registration number	890505937100
Study program	MSc Animal Sciences
Specialization	Animal Nutrition
Email	theresa.weiss@wur.nl, t.weiss05@gmail.com
Department	Social Sciences - Management Studies Group (MST)
University Supervisor	Dr E.F.M. Wubben
Co-reader	Dr J. Bijman
Subject code	MST-80424
ECTS credits	24

WAGENINGEN UNIVERSITY
WAGENINGEN UR

Preface and Acknowledgements

This minor thesis report is part of the completion of my minor 'Business and Management' at the Management Studies Group (MST). I am attending the master study program Animal Sciences and have chosen the specialization Animal Nutrition. I am interested in the pet food sector, which resulted in the topic of this minor thesis.

I would like to express my gratitude to all the people who contributed to this report.
First, I would like to thank my supervisor Dr Emiel Wubben for his support, guidance and critical comments, which helped to increase the quality of my work and this report. Furthermore, I would like to thank the second reader Dr Jos Bijman for his remarks.
Second, I would like to thank all respondents, who spend their time to support the empirical part of this research by sharing their knowledge with me. Their knowledge provided me with a lot of new information and deeper insight into the pet food sector.
Last, I would like to thank my family and my friends for their support. Especially, I am thankful to my mother for her strong support.

Wageningen, April 2014

Theresa Weiss

Executive summary

The objective of this minor thesis was to answer the following research question: Which factors impact the industrial structure and dynamics of the international pet food sector, and how do these factors affect the business strategy of the pet food companies in the regions North America, Western Europe and Eastern Europe? The scanning of the scientific literature revealed that the scientific research on the pet food sector is limited concerning the social sciences. The influencing factors from the business environment on the pet food sector and their impact level are still barely investigated and published. For pet food companies, the knowledge of the influencing factors is important, since they influence future development of the sector, and affect the success of chosen business strategies therein. The research area was limited to the regions North America, Western Europe and Eastern Europe. North America and Western Europe were selected on the basis of their large annual sales, and are assumed to be developed markets. Eastern Europe was selected on the basis of its high annual growth rates on top of low current sales levels, leaving the potential for future growth.

The literature review was conducted to develop a deeper understanding into which tools and concepts can be used to assess the influencing factors concerning the industry structure, dynamics and business strategies. First, the PEST framework was elaborated, since it helps to assess the influencing factors of the macro-environment during roughly the last 5 years. This resulted in the following four prime categories political/legal, economic, socio-cultural and technological, which were investigated in the empirical part of the research. Second, the Five Forces model was detailed as it measures the competitive forces and their influences on the competitive industry structure. This assessment should result in placing each geographical region on the industry life cycle. Third, the value disciplines of Treacy & Wiersema (1993; 1995) were detailed, since it assesses the business strategies of the related pet food companies. Fourth and final, the types of innovation (Process- and Product innovation) and the bases of innovation (Technology push and Market pull) were discussed, to prepare for the assessment of the influence of innovation.

For the empirical part of this research, 10 respondents (2 experts, 4 associations, 2 pet food companies and 2 media) were interviewed (either face-to-face, by Skype, or in written form) and one additional respondent send a personal comment. The interviews were qualitative semi-structured to receive detailed and rich answers. For additional, factual information, documents (recent annual report, half year report, Form- K 10) and websites of four diverse pet food companies were analysed.

The empirical research concluded that systematic differences exist between the prime influencing factors in the three geographical regions North America, Western Europe and Eastern Europe. In the regions North America and Western Europe the three prime macro-environmental categories were economic (high influence), socio-cultural (medium influence) and technological (medium influence). In Eastern Europe, only the economic category was considered to have a high influence during the last 5 years. The most frequently mentioned economic factor was the economic crisis. The most frequently mentioned factors for the socio-cultural category were pet humanization and strengthening of human-

animal relationship. Concerning the category technological the development of new packaging was stated by several respondents.

Concerning the five forces, a high impact of the Bargaining Power of Buyers and Competitive Rivalry was found for all three regions. The Bargaining Power of Suppliers was medium for all three regions. The other forces Threat of Substitutes and Threat of New Entrants were scored as medium for the region Eastern Europe. Interestingly, based on the medium to high levels scores for all competitive forces, the geographical region Eastern Europe is the least attractive. Nevertheless, Eastern Europe should be placed in the growth phase of the industry life cycle. The other two regions are in the maturity phase, because they have a low Threat of New Entrants and Substitutes, but high Competitive Rivalry. When we turn to the influence of innovations it is concluded that it is the highest in North America, followed by Western Europe. For Eastern Europe, the importance of innovation is low. Innovations are mainly used to influence the competitive position of a pet food company, thus influencing the Competitive Rivalry. For all three regions, product innovations are considered to be more important than process innovations. In the regions North America and Western Europe, technology push and market pull are at par as important sources for innovations in the sector, while market pull dominates in Eastern Europe.

Concerning the business strategy, the combined assessment of the strengths of the Five Forces and the ranking of the respondents showed that pet food companies should apply the business strategy operational excellence in each of the three geographical regions. Innovations for maintaining, strengthening and growing market shares are important in particular in North America and Western Europe. Nevertheless, the related business strategy called product leadership was the least appropriate business strategy, based on the respondents' answers.

It can be concluded that there are a couple of differences in the influencing factors between these three geographical regions. Similar results were found for North America and Western Europe, which can be related to the same industry development phase of these two regions. However, the same business strategy for pet food companies, namely operational excellence, is the most appropriate for all three investigated geographical regions based on the empirical results.

Table of Contents

Table of Figures

Table of Tables

1. Introduction

In this chapter, first, the research background (Section 1.1) is described. Second, the research problem is stated (Section 1.2), to clarify the selection of the research topic and the added value of this research. Third, the conceptual design (Section 1.3), including the research objective, research framework, research issue and definition of concepts, is described. In the last part of this chapter, the technical research design (Section 1.4) meaning the research materials, research strategy and research planning is outlined. The objectives of this chapter are; clarification for the selection of the research topic, added value and the implementation of this research.

1.1 Research background

The pet food sector is internationally growing, which offers various opportunities for companies to achieve competitive advantage. A continuous rise of the international pet food sales is recorded up to $68.9 billion in 2011 (Figure 1.1) (Pets International, 2009; Pet product news international, 2012; The Dog Daily, 2013). According to two recent market analyses, the international pet food sector is expected to approach sales levels ranging between $74.8 and $95.7 billion in 2017; this means an expected growth rate between 8% and 28% during 2012-2017 (Pets International, 2009; Pet product news international, 2012; The Dog Daily, 2013). It is assumed that the global pet food sector will further grow until 2017, which should result in higher sales for the companies involved in this sector.

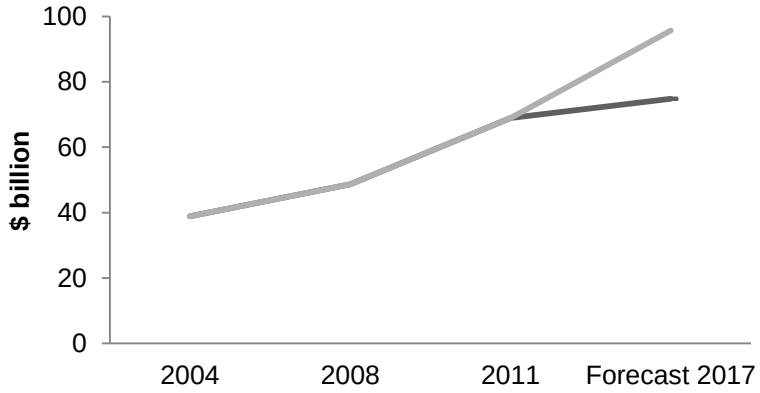

Figure 1.1 Global retail sales of pet food in $ billion with two forecasts for 2017
Sources: Pet food industry, 2009 (data 2004 only cat & dog food), Pets International, 2009; Pet product news international, 2012; The Dog Daily, 2013

Although in recent years sales rapidly increased in emerging regions, the largest pet food market sales are still realized in North America ($20.7 billion) and Western Europe ($22.5 billion) (Figure 1.2). The sales for the emerging regions Asia Pacific, Eastern Europe and Latin America were $7.5 billion, $4.3 billion and $10.6 billion (Pet food industry, 2012). Eastern Europe and Latin America are expected to have the highest growth rate from 2011-2012 with approximately 12% (Pet food industry, 2012). Lower growth from 2011-2012 is expected for Western Europe with 1% and North America with 4% (Pet food

industry, 2012). It is concluded that the highest growth is expected for the emerging regions, Eastern Europe and Latin America.

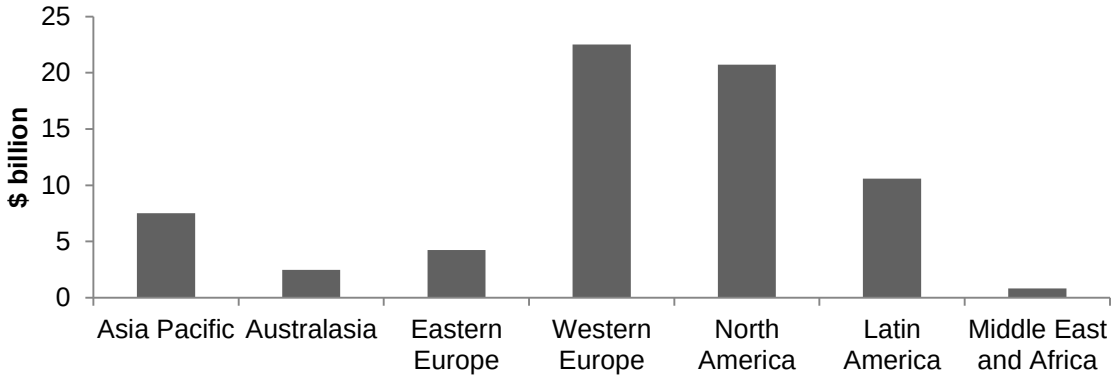

Figure 1.2 Pet food sales per region in 2011 in $ billion
Source: Pet food industry, 2012
Note: *At the time of preparing the report, 2011 was the latest data available per region*

In the global pet food sector, the pet care business units of two manufacturers, Nestlé (Purina PetCare) and Mars (Petcare) are recognized as the top players. Their recent global pet care market shares available are from 2012, where Mars had 23.4% and Nestle 23.1% (Reuters, 2014). It has to be considered that Nestlé Purina PetCare and Mars Petcare operate several brands, like Mars Petcare compromises 35 brands (Purina, 2011; Mars, 2012). These pet food brands focus on different product categories, pet species and are partly marketed separately. This could potentially result in different business strategies and target consumers for the particular brands. The sales of Nestlé Purina PetCare and Mars Petcare are not split up into the sales of the different brands. The actual pet food sales of Nestlé Purina PetCare could be lower, since Nestlé Purina PetCare includes business units which produce other pet care products, such as cat litter. Summarized, the top players in the pet food sector hold several pet food brands.

Numerous aspects of the pet food industry still remain unclear. First, the estimated ranking of the global top pet food companies is only stated every few years and varies between the years (Pet food industry, 2014). For 2010, the pet food business segments of Procter & Gamble Pet Care (4.7% global pet market share in 2012), Colgate-Palmolive Hill's Pet Nutrition and Del Monte Pet Products had global sales of around $2 billion each (Pet food industry, 2014; Reuters, 2014). Second, top pet food companies lose market share to smaller pet food companies, as reported for the Colgate-Palmolive's pet food business unit (Pet food industry, 2013c). Third, in recent years, numerous mergers and acquisitions activities were recognised, which could have led to an increase of the industry concentration (Pet food industry, 2013d). These activities could also lead to changes in the ranking of the pet food companies. In April 2014, Procter & Gamble announced the sale of its pet food brands (IAMS, Eukanuba, Natura) to Mars in the United States and some other countries (European Union markets are excluded from the deal) (Reuters, 2014). For the United States market regarding cat and dog food, Mars will receive an expected market share of 20% (current 13%), but will still be behind Nestle with 50% (The New York Times, 2014). Recently, Big Heart Pet Brands, former Del Monte

Foods, sold its humane food production business to completely focus on pet food. Fourth, new geographical regions for pet food products emerged, which could offer new growths opportunities for pet food companies. For instance different consumer demands that could also increase competition, through the shift of the global pet food market share (Pet food industry, 2012). There could be differences in the industry structure and dynamics between the geographical regions in which the pet food companies operate. For this reason, understanding the different geographical pet food markets is important for pet food companies operating in different geographical regions or planning to enter new geographical regions. It can be concluded that there are numerous factors that could have influence on the pet food sector, however, which factors have an influence on this sector is not clarified, yet.

1.2 Problem statement

The industry structure and dynamics can be influenced by various factors, which can be assessed by several tools. These factors could also influence whether a particular business strategy is successful in an industry. In the following paragraphs, factors that can have influence on an industry and the available research on the pet food sector will be described, leading to the research objective.

For the analysis of the sector dynamics, different layers of the business environment have to be investigated (Johnson et al., 2012). First, the outer layer, the macro-environment, has to be investigated by analysing the factors and their potential impact level (Johnson et al., 2012). The impact of an macro-environmental factor cannot be generalized for all industries and geographical regions (Johnson et al., 2012). The knowledge of the factors can help to better predict the future development of the sector and the implementation of probably successful business strategies (Johnson et al., 2012). After scanning the scientific literature, the factors from the macro-environment influencing the pet food sector and their impact level seems to be barely investigated until now**.** A couple of magazines provide only information on the current and expected consumer trends for pet products, which could affect the consumer demand in particular for certain products such as pet wellness and health products (Pet food industry, 2011a). Second, the meso-environment, so-called industry, has to be analysed (Johnson et al., 2012). The Five Forces model is a widely used tool to assess the competitive situation and the attractiveness of an industry (Johnson et al., 2012). The competitive situation and the resulting attractiveness level can differ between geographical regions, which could be applicable for the global pet food sector (Johnson et al., 2012). For example, in emerging regions, the entry barriers into the pet food industry could be lower compared to the assumingly more mature regions, leading to more competition and a more dynamic market. The competitive situation can change with the development of an industry, which can be investigated by the industry life cycle or comparative industry structure analysis (Johnson et al., 2012). One can agree that the macro- and meso-environment of a sector can be influenced by several factors, but the influencing factors for the pet food sector seems to be barely scientifically investigated until now.

According to the literature, there are several factors, such as innovation, media and interactive strategies that could influence the industry structure, dynamics and business strategies (Grunert et al.,

1997; Capitanio et al., 2010; Johnson et al., 2012). For the human food sector, innovations are considered to increase the competitiveness and lead to better response to the consumer needs (Grunert et al., 1997; Capitanio et al., 2010). For the pet food sector, several scientific journals such as "Animal feed science and technology", publish information on, for example, feed ingredients or production processes. One pilot study on the pet food SMEs in UK investigated that the pet food companies are willing to innovate in order to improve their product lines (Thomas et al., 2010). Scientific research, as published in scientific journals and in-house Research & Development (R&D) can result in new developments, which potentially provide competitive advantage for companies (Smith, 2010). Product innovations can have various degrees potentially leading to different positive outcomes for the company such as creating new market niches or shift in the consumer demand (Smith, 2010). Besides innovations resulting from science, consumer needs are also assumed to be an important innovation source in mature markets for better response to the consumer needs (Smith, 2010). Only the study of Thomas et al. (2010) was found that investigated innovations in the pet food sector. Therefore the influence of innovations on the pet food sector seems to be barely investigated until now. When interactive strategies are present in the sector, for example, new product innovations could influence the strategic business choices of the competitors to imitate or differentiate their business strategies (Johnson et al., 2012). The dynamics of a sector could also be influenced by media which could affect the consumer demand. Regarding media, it has to be distinguished between the use of media for marketing pet food products and magazines, which write about the sector, for example, current consumer trends. Marketing by companies can be related to the use of advertisements in the media, but also to web pages created by the companies, with the objectives to attract attention for their products or to influence consumer preferences (Solomon et al., 2013). To keep this research narrowed, the influence of media and interactive strategies are not in the focus, but the influence of innovation will be investigated as one element of this research.

After looking over the scientific literature databases, the scientific research on the pet food sector seems to be limited. A few scientific studies were done to examine the pet owner preferences regarding pet food (for example: Tesform and Birch, 2010; Suarez et al., 2011). Research on the pet food sector is mainly done by commercial market research companies, which sell their data to interested companies and magazines. These companies mainly assess the current trends, such as, pet humanization, current consumer preferences regarding product categories, such as, wellness and health products or feed ingredients (For example: Pets International, 2009; Pet food industry, 2011a; Pet food industry, 2013b; The Dog Daily, 2013). In addition, they estimate the pet food and total pet care sector sales, but the values can differ between the research companies. Generally more detailed data is available about the region North America, in particular United States. Due to the limited scientific research on the sector, only the current trends as pet humanization, current consumer preferences regarding feed ingredients or product categories, such as, health and wellness can be found.

This research will investigate whether there are systematic industry differences between the geographical regions, by examining which factors have influence on the industry structure and the

dynamics in three regions. Furthermore, the potential impact on the business strategies of pet food companies will be investigated. North America and Western Europe are selected on the basis of their large annual sales, and are assumed to be developed markets. Eastern Europe is chosen as representative for the emerging countries, due to the high annual growth rate from 2010-2012 of 12% and a low current sales level leaving the potential for further growth in the coming years (Pet food industry, 2011b).

The added value of this research is to provide insight into the factors that impact the industry structure and the dynamics in the different geographical regions of the pet food sector. This should develop our knowledge on the influencing factors and their potential impact on the business strategies of pet food companies. The knowledge of the influencing factors is important for the pet food companies, since it can influence whether their chosen business strategies will be successful.

1.3 Conceptual design

The purpose of a conceptual design of a research proposal is to investigate, what, why and how much is going to be analysed (Verschuren & Doorewaard, 2010). This section details the four parts of the conceptual design; research objective (Sub section 1.3.1), research framework (Sub section 1.3.2), research issue (Sub section 1.3.3) and definition of concepts (Sub section 1.3.4).

1.3.1 Research objective

The objective of this research is to provide insight into which factors impact the industrial structure characteristics, the dynamics and the business strategies of companies involved in the international pet food sector. The research area is limited to the regions North America, Western Europe and Eastern Europe.

The research is mainly practice-oriented and exploratory, in order to develop knowledge on factors influencing the industry structure and dynamics of different geographical regions. In this research**,** factors refer to the various aspects in the business environment that could have impact on the industry structure and dynamics of the pet food sector, such as, innovation, competitors or legislation. It is expected that the pet food sector consists of more mature geographical regions with slower growth rate and emerging geographical regions with higher growth rate. That could have resulted in differences regarding the factors that have impact. The growth of the emerging regions could potentially lead to investments by companies in these new geographical regions or a shift of the leader position regarding the development of the sector towards the emerging regions. As previously stated, factors that impact the pet food sector seem to be barely investigated until now; therefore this research can be accounted to the intervention phase; problem finding and analysis. The results of the research could have practical relevancy. For instance, assisting companies to clarify which factors have impact on the pet food sector regarding different geographical regions, their industry structure, the dynamic and business strategies. The clarification of the influencing factors and potential geographical market

differences should help companies with their strategic decision making actions also regarding the entry into new geographical regions (Verschuren & Doorewaard, 2010).

1.3.2 Research framework

In this sub section, the research framework is displayed and described. A research framework is a schematic representation of the steps that are necessary to achieve the research objective and to organize the research (Verschuren & Doorewaard, 2010). The established research framework for this study consists of four phases (A, B, C, D). First, the phases of the research framework are described and below the research framework is displayed (Figure 1.3).

A The first phase is the literature study, in which scientific literature will be examined. For this purpose, literature on the concepts of industrial organization, business strategies and innovation management will be analysed. The literature study should result in the relevant concepts that will be used for this research.

B Based on the literature study the theoretical framework will be constructed. The theoretical framework is the basis for the empirical part of this research. At this point the methodology of the empirical study will be described and the empirical study will be conducted.

C In the third phase, first, the results of the empirical part of the study will be analysed. Second, the empirical results will be compared to the results of the literature study to investigate whether there is confirmation. The results for three regions will be compared to investigate systematically whether there are differences or similarities between the influencing factors.

D In the last phase, based on the literature study and the results of the empirical part, the conclusions regarding the influencing factors will be described. In this part, the central research question will be answered.

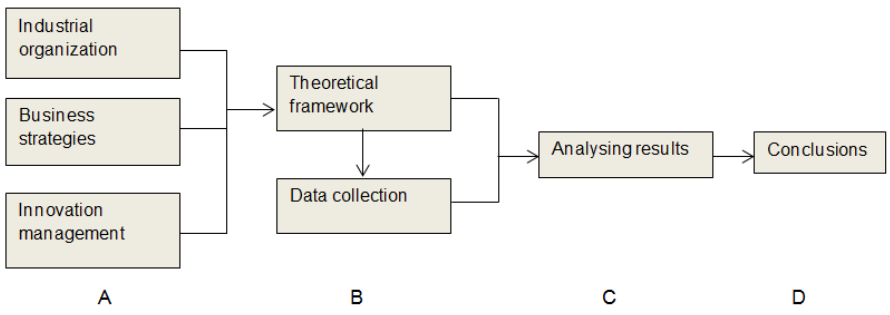

Figure 1.3 Research framework with four phases

1.3.3 Research issues

Based on the research objective (Sub section 1.3.1) and research framework (Sub section 1.3.2), the central research question and the sub questions are formulated and described in this sub section. The central research question has to result from the research objective and has to have an efficiency and steering function. In this case, efficiency points to the level of knowledge needed to produce the

answers to the question and the level of knowledge to achieve the research objective. Steering refers to the research activities that needed to be performed during the research. In addition, the answers to the sub questions have to lead to a sufficient answer for the central research question and to the achievement of the research objective (Verschuren & Doorewaard, 2010).

The **central research question** is:
Which factors impact the industrial structure and dynamics of the international pet food sector and how do these affect the business strategy of the pet food companies in the regions North America, Western Europe and Eastern Europe?

Investigating the scientific literature showed that factors impacting the pet food sector seem to be barely investigated until now. This means it is not clear which factors have impact and whether there are similarities between the different geographical regions in which the pet food sector is present. In this research**,** factors refer to the various aspects in the business environment that could have impact on the industry structure and dynamics of the pet food sector, such as, innovation, competitors or legislation. The result of this research should provide the factors that have impact on the sector. The factors that have a high impact could affect the sector and its future development, therefore the assessment of these factors is important for the strategic choices of businesses that are established in the sector or possibly plan to enter a geographical region. Based on the answer to the central question recommendations could be given for companies in this sector regarding the impact factors and which business strategies could be successful.

Through subdividing the research framework, a couple of sub questions categorized per research framework phase are formulated; these together should answer the central research question.

Phase A: Literature study

1. *According to the industrial organization and innovation management literature, which factors could impact the industrial structure and the dynamics in the international pet food sector?*
2. *According to the business strategy literature, which possible business strategies could be applied to achieve competitive advantage?*
3. *What are, according to the literature, the elements that can be used for a suitable theoretical framework?*

In phase A, scientific literature will be assessed to answer the sub questions and this will result in a theoretical framework. Literature on concepts of industrial organization and innovation management will be used to gain insight in the potential factors that influence the dynamics and the industry structure. Furthermore, business strategies that can be used by companies will be investigated. The relevant concepts will be used for the theoretical framework which will be the basis for the empirical part of this research.

Phase B and C: Empirical part and analysis

4. *What methodologies should be applied to identify the factors that impact the industrial structure, the dynamics of the international pet food sector and the business strategies?*

5. *According to the empirical data, which factors impact the industrial structure and dynamics in the different geographical regions?*
6. *According to the empirical data, how do these factors affect the business strategies in the different geographical regions?*
7. *What conformity exists between the theoretical framework and the results of the empirical part of the study?*

In phase B and C, the methodology to analyse which factors have impact will be described. Next, the data for the empirical part of the research will be collected. In the analysis, first, the empirical data will be analysed and, second, compared with the literature study results to investigate whether there is confirmation concerning the pet food sector.

Phase d: Conclusions

8. *Which conclusions could be given concerning the factors that impact the dynamics and industrial structure of the international pet food sector?*
9. *Which conclusions could be given concerning the effect of these factors on the business strategies?*

Based on the results of the research the conclusions will be formulated.

1.3.4 Definition of concepts

In this sub section, the concepts that are necessary to ensure a clear understanding of the research for each reader are defined.

Business strategy: refers to "how individual businesses should compete in their particular markets" (Johnson et al. 2012). The individual businesses can be stand-alone businesses or business units within a larger corporation (Johnson et al., 2012). The business strategy has to integrate the functional level strategies and, if applicable, has to be aligned with the corporate strategy (Wit & Meyer, 2004).

Dynamics: refers to changes in the industrial structure, definition of the market boundaries, players, business models, linearity, as well as the predictability of these changes (Eisenhardt and Martin, 2000).

Factors: In this study**,** the factors refer to the various aspects in the business environment that could have an impact on the industry structure and dynamics of the pet food sector such as innovation, competitors or legislation.

Industry structure: refers to the composition of an industry. An industry is a group of companies that produce products that are essentially the same (Johnson et al., 2012). The composition of an industry can be described through numerous characteristics; number and size of companies, concentration level, industry life cycle phase, product differentiation level, competitive intensity, integration level, barriers of entry/ exit, extent of internationalization, global integration (Porter, 1980; Porter, 1998; Wit

& Meyer, 2004; Carlton & Perloff, 2005). For this research, the focus is on the competitive structure and the industry life cycle.

International/ Global pet food sector: In this research, this term is used to refer to the total pet food sector and aspects that are considered to be equal for each region, in which the pet food industry can be found. When referred to a particular country or region, this should be clear in the text.

North America: For this research, North America is defined as the countries Canada and USA.

Pet food sector: It consists of companies that produce and sell animal feed products for dogs, cats, small mammals, bird and aquaria. Since, 95% of the sales compromises of dog and cat food, this research will mainly focus on these types of pets (Pets International, 2009; Pet product news international, 2012).

Eastern versus Western Europe: For this research, the border between Western and Eastern Europe is the eastern border of Germany. This means all countries western from this border, Austria and the Scandinavia countries belong to Western Europe. The other European countries eastern from this border are counted to Eastern Europe.

1.4 Technical research design

In the first part of the description of the technical research design, the types of required research material and how it is going to be gathered are determined (Sub section 1.4.1). In sub section 1.4.2, the research strategy is described, meaning the type of approach that is taken during this study to achieve the research objective. The planning of the activities and the extent of the activities related to this research can be found in sub section 1.4.3, research planning. The report outline is briefly described in sub section 1.4.4.

1.4.1 Research materials

Verschuren and Doorewaard (2010) categorize five different types of sources: people, media, reality, documents and literature. For this research, people, documents, literature and media will be used as information sources. For the empirical part of the research, people working at pet product associations, pet food companies, magazines related to pet food sector and potential experts will be contacted for interviews. Documents as scientific articles, research reports and annual reports will be used for the literature study (Research framework phase A) and the empirical part of the study (Research framework phase B) (Verschuren & Doorewaard, 2010). Literature as scientifically established books, but mainly scientific articles will be used as knowledge source. Especially, during the literature study (Research framework phase A) extensive literature assessment will take place and the resulting knowledge will be used for the building of the theoretical framework. For this research, the media is used for relevant additional information during the empirical phase of the research and for background knowledge (Verschuren & Doorewaard, 2010). For this research, the four information

sources, people, documents, literature and media will be used to achieve the research objective and answer the research questions.

1.4.2 Research strategy

In this subsection, the general research strategy is briefly explained. A detailed description and explanation of the research strategy for the empirical part can be found in Chapter 3, Methodology.

In the first phase (Research framework phase A), a scientific literature study is carried out. The objective is to obtain knowledge and to answer the research questions for the theoretical background. Databases available at the Wageningen UR library, especially Web of science and Scopus, are used for the search of classic and state-of-the-art scientific articles. These articles could be also related to other sectors when the provided knowledge is relevant for this research. In addition, scientifically established books are used for the investigation of the theoretical concepts. The first phase of this research consists of a scientific literature study of articles and established books to obtain knowledge.

For the empirical part of the study, pet product associations, magazines related to pet food sector, potential experts and pet food companies are contacted for interviews. Depending on their preferences and the geographical distance these interviews are conducted face-to-face, via Skype or via email. Secondary sources that are analysed are pet food company website and documents. For the empirical data collection, interviews are conducted and secondary resources are analysed.

1.4.3 Research planning

In this sub section the expected planning of this research is displayed.

This research project contains five phases. In the first phase, the student is getting familiar with the topic and the research proposal is written to explain the upcoming research. This phase ends with the presentation of the proposal. Phase two, the literature study takes place and results in the theoretical framework. Phase three consists of the empirical study. In phase four, the analysis of the data take place and results in a draft report. After the final feedback, the final report will be written and the presentation of the research, phase five, is conducted. In between the phases regular meetings with the supervisor and feedbacks will be arranged by the student. The five phases of this research are: research proposal, literature study, empirical study, analysis of data and finishing of minor thesis.

This minor thesis has a time value of 24 ECTS, 672 working hours. This represents 84 working days each with eight hours or 16.8 working weeks. In Table 1.1, an overview of the working weeks per activity is displayed. The expected start date was August 2013 to start writing the research proposal. Due to the admission to a fulltime exchange semester in Sweden, the research project was interrupted till 6th of January 2014. From the 6th of January 2014 the research project was continued full time.

Table 1.1 Research planning with activities and weeks

Calender weeks	32	33	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Months	August		January				February				March					April		
Date of Mondays	5-8	12-8	6-1	13-1	20-1	27-1	3-2	10-2	17-2	24-2	3-3	10-3	17-3	24-3	31-3	7-4	14-4	21-4
1. Getting familar with topic/ Research proposal																		
2. Literature study																		
3. Empirical study																		
4. Analysis of results																		
5. Finishing of minor thesis																		
Total number of weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

1.4.4 Outline of minor thesis report

The minor thesis report consists of 5 chapters. Chapter 1 presents the research background, problem statement, conceptual and technical design of this research. In chapter 2, the theoretical background is described. The methodology of this research is discussed in chapter 3. Chapter 4 presents the results of the empirical part of this research and their analysis. The final chapter provides the conclusions and the limitations of this research.

2. Theoretical background

In this chapter, the results of the literature study are presented. The objective of this chapter is to create a theoretical framework, which will be used as a basis for the empirical part of this research. In section 2.1, the industrial organization literature is connected to the strategic management literature. Furthermore, the relevant concepts to partly answer sub research question 1 are discussed. For answering the second part of sub research question 1, concepts of the innovation literature are assessed in section 2.3. Section 2.2 deals with sub research question 2 to investigate business strategies that could be applied by pet food companies. A couple of companies, in particular the top players have pet food at a maximum as a business unit of the company. A number of pet food companies operate several pet food brands and potentially use different strategies for the different pet food brands; therefore the corporate strategy of these companies is also relevant. The literature study will result in a theoretical framework, section 2.4. In section 2.5 the sub research questions 1-3 are answered.

Sub research questions for the theoretical background:

1. *According to the industrial organization and innovation management literature, which factors could impact the industrial structure and the dynamics in the international pet food sector?*
2. *According to the business strategy literature, which possible business strategies could be applied to achieve competitive advantage?*
3. *What are, according to the literature, the elements that can be used for a suitable theoretical framework?*

The focus is on the outside-in perspective, which states that business environment influences the business strategic choices (Wit & Meyer, 2004). The outside-in perspective is used, since the research objective focusses on the external environment of companies. According to the outside-in perspective, companies have to be orientated towards the business environment and its developments, when deciding or adapting their business strategy (Wit& Meyer, 2004). This orientation is important to achieve strategic fit of the business strategy with the business environment (Wit & Meyer, 2004). Successful companies are externally oriented and market-driven, which enables them to adapt their resources and activities, potentially benefitting from the “first mover advantage” (Wit & Meyer, 2004). This can be also linked towards the structure-conduct-performance model (SCP) which displays that the companies’ behaviour is affected by the industry structure and the governmental policy. Based on the research objective, the outside-in perspective will be used to investigate the influence of the external environment.

2.1 Industrial organization

This section is divided into four parts in which the different concepts of the industrial organization and strategic management literature, which will be used for this research, are discussed. In sub section 2.1.1, the structure-conduct-performance framework and its connections to the other concepts, which are relevant, are explained. The PEST-framework, for the investigation of the macro-environment is

described in 2.1.2. In sub section 2.1.3, the Five Forces model for the investigation of the competition in an industry and the industry attractiveness is assessed. In the last sub section, 2.1.4, the appropriateness of the industry life cycle and the comparative industry structure analysis for this research is discussed.

2.1.1 Structure-conduct-performance framework

The industrial organization literature deals with the "functioning of markets" (Tirole, 1988, p.1). This means that the research in this field is focused on the business environment, companies and the interactions between business environment and companies (Tirole, 1988; Carlton & Perloff, 2005; Belleflamme & Peitz, 2010). In the industrial organization literature, two major approaches are distinguished; namely the structure-conduct-performance (SCP) and the price theory (Carlton & Perloff, 2005). These two perspectives are compatible, but the SCP focusses on the whole industry, whereas the price theory focusses on an individual firm (Hoskisson et al., 1999; Carlton & Perloff, 2005). Considering the research objective and the focus on industry level, the structure-conduct-performance approach from the industrial organization literature will be used.

The analytical framework SCP (Figure 2.1) consists of three main interacting elements; structure, conduct and industry performance (Carlton & Perloff, 2005). Structure refers to "factors that determine the competitiveness of the market" (p. 3, Carlton & Perloff, 2005) and is seen as relatively stable over time. The structure determines the underlying conditions and companies behave within the frame of these conditions. This means the structure influences the strategic choices of companies, so-called the conduct, which can influence the industry performance. The industry performance refers to the success of the industry in producing benefits for consumers, thus to the profitability or efficiency of the industry (Carlton & Perloff, 2005; Panagiotou, 2006). According to the SCP, it can be expected that structure, conduct and performance differ systematically between industries. From the SCP framework, it can be concluded that an industry can be described by the main causal relationship between industry structure, company behaviour and industry performance.

Figure 2.1 Structure-conduct-performance framework
Source: Based on Carlton & Perloff (2005) and Panagiotou (2006)

The relations in the SCP framework can be complex and other elements can also have influence (Carlton & Perloff, 2005; Panagiotou, 2006). Studies showed that the connections between the three elements are complex, such as, that the interactions are vice versa (Carlton & Perloff, 2005). For example, the behaviour of companies can increase the barriers of entry. The criticism of many economists is that often these complex connections are not explained in detail (Carlton & Perloff, 2005; Panagiotou, 2006). Two other elements, basic conditions and governmental policy can interact with structure, conduct and performance. The basic conditions are concerned with the consumer

demand and production. According to the SCP, the basic conditions and the industry structure influence one another. The external element, governmental policy, can influence all elements of the SCP (Carlton & Perloff, 2005). Due to the objective of this research; the basic conditions and the performance will not be in the focus of this research. For this research, the influence of the business environment on the industry structure and business strategies is more important than the actual performance of the industry and the companies. There could be differences between geographical regions that potentially lead to a different industry structure, which could have influence on the business strategies. If this is the case, then companies have to adapt their business strategies based on the geographical region to be successful. For this research, the focus will be on the structure, conduct and an expanded external element.

Strategic management concepts can be used for the investigation of the elements of the SCP. The strategic management field is a young discipline and was initially a by-product of the industrial organization field (Hoskisson et al., 1999; Panagiotou, 2006). Useful related concepts can be found in the strategic management literature, such as Five Forces model that investigates the underlying forces of the industry structure. These forces influence the attractiveness and the profitability of an industry. The behaviour of the company, the conduct, can be linked to the value disciplines of Treacy & Wiersema (1993) which states the different strategies a company can apply. Due to the relatedness of strategic management with the industrial organization field, the Five Forces model and the value disciplines will be used for this research.

Studies showed that the Five Forces model (Sub section 2.1.2) can be used to investigate the industry structure (Hoskisson et al., 1999). The Five Forces model was developed to investigate in more detail the aspects influencing competition. This means the model can be seen as refinement of the industry structure element of the SCP framework (Hoskisson et al., 1999). The industrial organization literature sees the barrier of entry as the most important structural aspect, but the Five Forces model takes into account additional aspects that may influence competition. The advantages of the Five Forces model are that it simplifies the micro-economic theory on the one hand, but is beyond the scope of market growth rates to predict the attractiveness and the long term profitability of the industry on the other hand (Grundy, 2006). The Five Forces model will be used for this research, because of its detailed assessment of the industry structure regarding the aspects influencing competition.

The SCP element conduct can be investigated by the value disciplines of Treacy and Wiersema (1993; 1995) (Section 2.2). First, value disciplines are linked to different business strategies that a company can apply (Treacy & Wiersema, 1993, 1995). Second, through the choice of a value discipline the company receives a focus and will adapt its operating model to achieve the objective of this value discipline. Third, the choice for a value discipline leads to a selection of a specific customer group that highly rates particular aspects, for example price (Treacy & Wiersema, 1993, 1995). The company will base its strategic choices, as pricing behaviour, on the demands of the selected customer group to provide value for these customers. Fourth, based on the selected value discipline company's behaviour regarding, for example, R&D activities is influenced. Based on the objective of

the value discipline the quantity and direction of the research activities can vary. It can be concluded that the selection of a particular value discipline influences the strategic choices and activities of the company.

Besides structure and conduct, the external influences and the industry development will be investigated in this research. The restricted view on the external influences and the exclusion of the industry development are the limitations of the SCP framework (Panagiotou, 2006). Concerning the external influences the SCP often only considers the governmental policies. Due to the objective of this research, the PEST framework (Section 2.1.2) will be assessed. The PEST framework investigates the macro-environment and gives a more complete picture of the environmental factors that impact all organizations (Carpenter & Sanders, 2004; Johnson et al., 2012). The dynamic of an industry can be investigated through the industry life cycle or comparative industry structure analysis (Section 2.1.4). The industry life cycle assumes that the industry is going through four phases with shifting levels of competition and competitive forces. The comparative industry structure analysis investigates the Five Forces in an industry at two different points in time. Due to the objective of this research, factors of the macro-environment (PEST framework) and the industry development (industry life cycle or comparative industry structure analysis) will be investigated.

Recapitulating this sub section, strategic management concepts can be used to investigate the SCP elements. The strategic management was initially a by-product of the industrial organization field and both fields have useful related concepts. The structure of the industry can be investigated in more detail with the Five Forces model. The conduct can be linked to the value disciplines of Treacy & Wiersema (1993), which assess the different strategies a company can apply. To include the influences from the macro-environment and the industry dynamic, the appropriateness of the PEST framework, the industry life cycle and the comparative industry structure analysis, for this research, will be assessed. The strategic concepts, five forces, value disciplines, PEST framework, the industry life cycle and the comparative industry structure analysis, will be assessed in the following sub sections, leading to a theoretical framework.

2.1.2 PEST framework

The PEST framework can be used to describe the macro-environment. Numerous studies used this tool to describe the factors of the macro-environment (Johnson et al., 2012). The framework categorizes the factors in four prime categories: political/legal, economic, socio-cultural and technological. The objective of this tool is to better understand factors from the macro-environment and their potential influence on the industry. The factors from the macro-environment can influence future market growth and thus impacting the strategic choices of companies to compete viable (Carpenter & Sanders, 2004; Johnson et al., 2012). It can be concluded that the PEST framework can be used to assess the influencing factors from the macro-environment on the industry.

In this paragraph, the four prime categories are briefly described and examples are given.

Political/ Legal: Political/ legal is concerned with the level of government inference in the industry. Therefore different aspects can be taken into account, such as, governmental stability, foreign-trade regulations and laws, for example regarding to food safety, ingredient use and labelling (Carpenter & Sanders, 2004; Johnson et al., 2006).

Economic: Economic factors, such as growth of national economic, disposable income, GNP, business cycles and interest rate can have a strong impact on the location of whole companies or their facilities (Carpenter & Sanders, 2004; Johnson et al., 2006).

Socio-cultural: The impact of socio-cultural category depends on the business the company operates. It includes: demographics (i.e. age, religion, population growth, education, and income distribution), life style attitudes (i.e. consumerism, sustainability, and environmentalism), living standards and local consumer tastes (Carpenter & Sanders, 2004; Johnson et al., 2006).

Technological: Changes in technology as new product and process innovation can lead to changes in the industry structure and the competitive advantage of companies (Carpenter & Sanders, 2004). This category is concerned with the government and industry focus on technology, level of technology, status intellectual-property, potentially disruptive technologies in adjacent industries, technological ability to produce cheaper or more innovative products and service, new technology's impact on distribution and speed of technology transfer (Carpenter & Sanders, 2004; Johnson et al., 2006).

The PEST framework is a flexible tool meaning that categories can be split up (Carpenter & Sanders, 2004). Several studies modified the framework by adding categories, to give a more detailed focus on potential influences (Carpenter & Sanders, 2004; Johnson et al., 2012). The adding of categories is splitting up of the four prime categories. For example, political/ legal can be split up into political and legal, otherwise legal is considered as a part of political. Whether to choose for splitting up categories depends on the investigating industry, the research objective and the expected impact of factors of the macro-environment. For this research, the categories are not split up, since it cannot be assumed that the influence of the separate categories is strong enough to have an impact. The prime categories can be split up to give a more detailed focus on potential influences, but the usefulness of this approach depends on the industry and the expected impact of the factors of the macro-environment.

For this research the basic PEST framework, with the four prime categories, will be used. First, most macro-environmental factors are included when dealing with these four categories. Second, the factors affecting the pet food sector seems to be poorly investigated. This means it is difficult to make assumptions about which categories should be split up and what their impact will be. Third, it is necessary to assess the influence of the 4 categories, since the research looks at different geographical areas which could have systematic differences regarding these categories. Fourth, also other tools, as Five Forces model, will be used to give an insight in the factors affecting the sector. Since most factors of the macro-environment are taken into account, the research on influencing factors is limited and the investigation of the macro-environmental factors will be only a part of this research, the origin PEST framework is used.

The actual influence of an prime category can differ between industries and geographical regions (Carpenter & Sanders, 2004; Johnson et al., 2006). In general, all prime categories have effect on industries, but depending on the industry and geographical regions some macro-environmental factors can have a higher impact. There are known as key drivers for change. Key drivers for change can have a high impact on success or failure of a business strategy (Johnson et al., 2006; Johnson et al., 2012). The assessment of highly influential factors can help companies to better adapt to potential future developments (Johnson et al., 2012). The influence of the prime category and key drivers can change over time, meaning that the influence can increase or decrease (Johnson et al., 2012). The combination of factors can also lead to a different effect. In this case, scenario building of different alternatives is recommended (Johnson et al., 2012). It can be concluded that highly influential macro-environmental factors can impact the success or failure of a business strategy.

Besides the factors of the macro-environment, each industry has underlying conditions that can drive globalization. These underlying conditions can create opportunity for companies to use a global strategy (Yip, 1995). These industry conditions can be divided into four categories: market globalization drivers, cost globalization drivers, government globalization drivers and competitive globalization drivers. As for the prime categories, the specific drivers and their impact vary between industries (Johnson et al, 2006). In many cases, the rise in industry globalization increases the strength of the competitive forces, such as the threat of new entrants due to expansion of the geographical scope (Yip, 1995). A global strategy can lead to different benefits that can be categorized in cost reduction, improved quality of products, enhanced customer preference and increased competitive leverage. The pet food sector is operating in various geographical regions; hence the use of a global strategy could be possible. The objective of this research is not concerned with whether the use of a global strategy is possible and this research could become too broad. Therefore the globalization drivers will not be further investigated. To keep the research narrow and fit to the research objective the globalization drivers will not be investigated.

Recapitulating this section, the effect of the macro-environment can be analysed with the PEST framework. The PEST framework distinguishes four categories, political/ legal, economic, socio-cultural and technological. These influence the business environment, depending on the industry. The PEST framework is used, since most macro-environmental factors are taken into account by these four categories. The factors affecting the pet food sector seems to be barely investigated and the investigation of the factors of the macro-environment will be only a part of this research. The influence of the prime categories can differ between geographical areas; therefore the investigation of these is required. For this research, due to the fit with the research objective and the comprehensive categories, the PEST framework will be used. The underlying conditions that drive globalization will not be investigated, to keep the research fit to the research objective and narrow.

2.1.3 Porter's Five Forces

The Five Forces model can be used to describe the industry structure regarding the competitive situation. The industry structure is the second layer of the business environment of an organization

(Figure 2.2). In the previous sub section, the factors from the macro-environment were assessed, which relates to the first layer of the business environment. Five Forces model is a widely used tool to describe and assess the competitive structure of an industry (Wit & Meyer, 2004). It states that the competitive situation in each industry, independent of the product, is defined by five underlying forces; Threat of new Entrants, Bargaining Power of Suppliers, Bargaining Power of Buyers, Threat of Substitutes and Competitive Rivalry (Figure 2.3) (Porter, 1980; Wit& Meyer, 2004; Porter, 2008; Johnson et al., 2012). The model takes into account that the competitive interactions in an industry does not only rely on the behaviour of the incumbents, but on all Five Forces (Pecotich et al., 1999). The Five Forces model is a useful tool for a first assessment of an industry, due to its detailed investigation of the competitive industry structure.

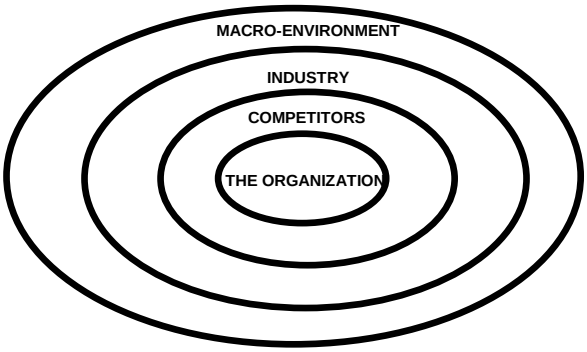

Figure 2.2 Business environment of an organization
Source: Johnson et al., 2012

In the following paragraphs, each force will be described for a deeper understanding of the model.

Threat of New Entrants

The strength of the force, Threat of New Entrants, depends on the Barrier of Entry level and the expected retaliation of the incumbents (Porter, 1980; 2008). New companies entering an industry could increase the costs for incumbents, put pressure on the price and lead to a reduction of the profitability (Porter, 1980; 2008). The resources of the entrants can differ depending on whether they are start-ups, foreign firms or already established companies in other industries (Porter, 2008). The threat can be reduced by high Barriers of Entry, which relates to the advantages that the incumbents have compared to the new entrants (Porter, 2008). Porter (1980) defined several sources of Barriers of Entry (Porter 1980; 2008; Wit& Meyer, 2004; Carlton & Perloff, 2005; Johnson et al., 2012), which are briefly stated in the following:

- Economics of scale i.e. production on large scale leads to lower cost per unit
- Product differentiation i.e. brand identity
- Capital requirements i.e. initial investments
- Cost disadvantage independent of size i.e. experience curve, access to raw material
- Government policy i.e. license requirements, patent protection
- Access to distribution channels i.e. wholesaler, retail
- Expected retaliation i.e. incumbents' resources, price cutting

The Bargaining Power of Suppliers

The Bargaining Power of Suppliers refers to the degree of influence that the suppliers have on pricing and quality of the industry inputs. The supplier power can influence the company's profitability (Porter 1980; 2008; Pecotich et al., 1999; Johnson et al., 2012). The suppliers' Bargaining Power depends on;

- Concentration i.e. few firms are more powerful
- Switching cost or differentiated product
- Supplier does not depend on industry or industry is no important customer
- Threat of forward integration

The Bargaining Power of Buyers

The Bargaining Power of Buyers is concerned with the strength of the organization's immediate customers. Regarding the pet food industry, this is the retail. The Buyers are powerful if (Porter 1980; 2008; Pecotich et al., 1999);

- Concentration i.e. few firms or buy large volumes
- Standardized product, meaning faster to find alternatives
- Buyers that earn lower profit, more motivated to search for other suppliers
- Product quality is not important for buyer
- Threat of backward integration
- Buyers have access to information about supplier's products
- Buyers have influence on the purchasing decision of the customer downstream

The Threat of Substitutes

When refereed to Threat of Substitutes, products that offer a similar benefit but come from outside the industry are meant (Pecotich et al 1999, Porter, 2008). For this research, substitutes are products from outside the pet food industry that can be used to feed pets. The Threat of Substitutes depends on

- Relative price/performance ratio

Competitive Rivalry

The Competitive Rivalry is influenced by the four previous described forces. It relates to the intensity of rivalry among the existing companies in the industry, for achieving competitive advantage (Porter, 1980; Pecotich et al., 1999). Competition can be done on several bases, such as, price, innovation or advertisement. The basis of competition can influence the business strategic choices and the degree of profitability of the industry (Porter, 2008). Competition on aspects such as product feature, brand image or delivery time is less likely to reduce profitability, because it improves the value (Porter, 2008). Besides the influence of the other forces, the following aspects can impact the intensity of Competitive Rivalry (Porter, 1980; 2008; Pecotich et al., 1999; Johnson et al., 2012);

- Competitor balance i.e. number of competitors of similar size and power
- Low product differentiation (possibly due to focus on same customer needs or segment) leads to low switching cost for buyers potentially increase price competition
- High fixed costs

- Slow industry growth or decline can increase competition for market share and can lead to price competition
- High exit barriers can lead to overcapacity and price cutting
- Unfamiliarity of rivals or different approaches for competition

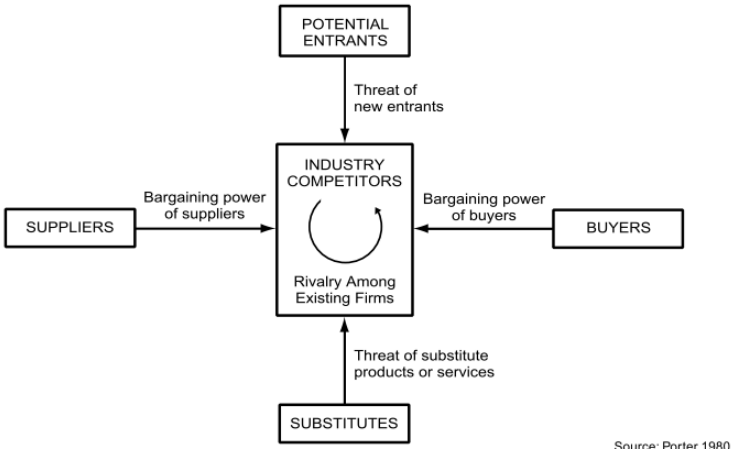

Figure 2.3 Five Forces model
Source: Porter (1980)

The Five Forces model is used to determine the attractiveness of an industry (Porter, 1980; Wit& Meyer, 2004; Porter, 2008; Johnson et al., 2012). The model determines the level of competition in an industry. Based on the strengths of the Five Forces, it can be determined whether an industry is profitable at a particular point in time (Wit& Meyer, 2004). The profitability is assessed on the industry level, not on a firm level. Industries that are profitable are more attractive to companies, thus having a higher attractiveness level (Porter, 1980; 2008). If the strengths of the Five Forces are low, many competitors are able to achieve profitable returns. Despite that the industry structure can be seen as relatively stable, but an industry evolves over time leading to structural changes (Wit & Meyer, 2004; Johnson et al., 2006). The speed of the industry's development depends on the kind of industry among other things (Wit & Meyer, 2004; Johnson et al., 2006). These structural changes can lead to a shift in the strength of the forces and the attractiveness of an industry (Carpenter & Sanders, 2004; Wit & Meyer, 2004). The forces have to be assessed separately, since each force refers to another area that can increase the intensity of competition. The strongest force or forces determine the profitability of the industry and have the highest importance for the strategy formulation in our case for the pet food companies (Porter, 1980; 1998). One very adverse force can nullify other favourable forces (Johnson et al., 2012). It can be concluded that the assessment of the strengths of the Five Forces allows the examination of the industry profitability and attractiveness at a particular point of time.

The business strategy of a company must be derived from an understanding of the Five Forces (Porter 1980; 2008). This approach relies on the outside-in perspective; this means the business environment influences the company's strategic choices (Wit & Meyer, 2004). Therefore it has to be taken into account in the company's strategic decisions (Wit & Meyer, 2004). As previously stated the Five Forces investigate the competition in an industry and its attractiveness at a particular point in time. A company has to adapt its business strategy to the strengths of the Five Forces in order to stay

profitable (Wit & Meyer, 2004). This means if the strengths of the forces change over time, the business strategy has to be possibly adapted. The objective of a company should be to choose a business strategy that influences the strengths of the competitive forces resulting in an improvement of the company's competitive position. Each force and its strength can constrain the business strategic choices (Porter, 1980). This means that the company has to adapt its strategy; otherwise its profitability can be further reduced (Wit & Meyer, 2004). It can be concluded that the objective of the business strategy should be to cope with the competitive forces or ideally to change the forces in favour of the company.

The Five Forces model has several limitations that have to be taken into account. One limitation is that the model focuses too much on the industry level analysis instead of more specific product-market combination. This is appropriate for this research, since the aim is to look at the industry level. The second limitation is that the industry values chains are too simplified, since the buyers are generalized. The buyers have to possibly be segmented and differentiated when different channels are used by the industry. For this research, the power of buyers will be investigated in general. The last limitation is that the model should be combined with other concepts to achieve a more complete picture (Grundy, 2006). For this research, the Five Forces model will be combined with the PEST factors as recommended by Grundy (2006). The Five Forces model and the PEST framework are interdependent (Grundy, 2006). This combination gives the possibility to access the influencing factors of two different layers of the business environment of the pet food sector more adequately. The limitations of the Five Forces model are not problematic for this research.

Several studies (Pecotich et al., 1999; Weerawardena, 2006) attempted to operationalize the Five Forces model to make it measurable. Pecotich (1999) stated that there is little empirical evidence that support the model; this means it could be possible that more or less competitive forces have impact on the industry structure. Pecotich et al. (1999) study resulted in the 'industruct', which consists of 42 items to identify the strengths and sources of the different forces in an industry. Weerawardena et al. (2006) reduced Pecotich et al. (1999) items to 25 to clarify the dynamics of the competitive intensity. As stated earlier the Five Forces model can be used to analyse all industries, but since this research is looking at one industry, the pet food industry, items that are considered to be adequate for this research will be selected and stated in Table 2.1. The items are selected from the studies of Pecotich et al. (1999) and Weerawardena (2006). If necessary, the items were reformulated. Reasons for reformulation were two statements in one item or ambiguity. The number of selected items is limited, since other factors resulting from other concepts, such as PEST framework, will also be investigated in this research.

Table 2.1 Forces with variables and selected items
Interview items based on Pecotich et al., (1999) and Weerdawardena (2006)

Force	Variable	Interview items
Threat of new Entrants	Capital requirements	Large financial resources are required for entry into the pet food sector.
	Expected retaliation	New entrants have to expect strong retaliation from incumbents.
	Access to distribution channels	New entrants will have difficulties to find distribution channels for their products.
Bargaining Power of Suppliers	Concentration	A small number of suppliers deliver a large proportion of industry's inputs.
	Power (price)	Suppliers have the power to influence the input price.
	Power (quality)	Suppliers have the power to reduce the quality of the input.
Bargaining Power of Buyers	Concentration	A small number of buyers purchase large volumes relative to the sales of pet food producers.
	Power	Buyers are powerful, can enforce their will upon pet food producers.
	Influence on final consumers'	Buyers have influence on the final consumers' (i.e. pet owners) purchase decision.
Threat of Substitutes	Variety of substitutes	There are many substitutes.
	Competition	There is a strong competition from substitutes.
Competitive Rivalry	Competiveness	Firms compete intensely to hold their market share.
	Competitive moves	Competitive moves lead to counter moves of other companies.
	Advertisement competition	Advertising battles occur frequently.
	Price competition	Price competition is intense.
	Innovation competition*	Countinous introductions of new products to hold market share

* This interview item was formulated by the author, since the influence of innovation on the pet food industry is also investigated during this research. Companies can also use new product innovations for competition, therefore this item is added.

In the following paragraphs the choice for these items are briefly explained.

Threat of new Entrants

Capital requirements assess whether the companies need large financial resources to enter the industry. For the production of pet food products raw materials and special equipment is required; therefore it should be assessed whether new entrants need large financial resources to invest in the equipment and the finding of ingredient formulation, possibly linked to investments in R&D. *Expected retaliation* can differ between geographical regions. A high level of expected retaliation can make the entrance into this industry unattractive; this means the Barrier of Entry would be high. *The access to distribution channel* refers to the easiness for new entrants to sell their products, whether this is easy achieved in the pet food sector is unclear till now.

Bargaining Power of Suppliers

Concentration is concerned with the number of suppliers that deliver the industry inputs, such as raw materials. If the number of suppliers is small, then the suppliers are powerful. Power is split up into *power regarding price and quality*. Suppliers of the pet food industry supply raw materials which are the basis for the pet food products. If the suppliers have a high power they could increase the price or reduce quality of the input.

Bargaining Power of Buyers

Concentration refers to the volume that the number of buyers purchase, if there are only a few buyers in the pet food sector that purchase large volumes their power is expected to be high. *Power in general* assesses whether the power of buyers is estimated to be high in the pet food sector. *Influence on final consumers'* assess whether the buyers in the pet food industry have a large influence on the final consumer, i.e. pet owners, if this is the case, the power of the buyers would be high.

Threat of Substitutes

The *variety of substitutes* looks whether there are many products from outside the pet food industry that are used to feed pets. *Competition* refers to the degree of competition from these substitutes.

Competitive Rivalry

The assessment of the Competitive Rivalry provides an insight into the process of competition in the pet food industry. The item *competitiveness* describes the intensity of competition in the pet food sector in general. *Competitive moves* refers to whether the competitive moves of companies in the pet food sector lead to countermoves. The moves and responses of the companies in the industry could reduce the competitive advantage of a company. This means competitive advantage has to be seen as temporary (Hoskisson et al., 1999; Johnson et al., 2006). *Advertisement competition* looks to what degree the firms use advertisement for competition. *Price competition* is another aspect of rivalry. High price competition can lead to a reduction of the profitability of the industry. *Innovation* competition is yet another base of competition that was added as an extra item, to investigate whether new pet food product introductions are used by companies to hold their market share.

Recapitulating this sub section, the Five Forces model can be used to assess the competitive structure and attractiveness of an industry. The tool is widely used and describes the industry structure by the underlying five forces, Threat of new Entrants, Bargaining Power of Suppliers, Bargaining Power of Buyers, Threat of Substitutes and Competitive Rivalry (Porter, 1980; Wit& Meyer, 2004; Porter, 2008; Johnson et al., 2012). If the strengths of these forces are high, an industry is not attractive at that particular point in time (Porter, 1980; Wit& Meyer, 2004; Porter, 2008). The strengths of the forces can alter over time leading to a change in the attractiveness of the industry. If one force is strong, it can reduce the favourable conditions of the other forces. Therefore each force has to be considered separately. Through the selection of items based on the studies of Pecotich et al. (1999) and Weerawardena (2006) the forces can be operationalized for measurements. Based on the detailed assessment of the competitive industry structure the Five Forces model will be used for this research.

2.1.4 Industry life cycle and comparative industry structure analysis

As in sub section 2.1.3 stated, the strengths of the Five Forces can change over time, as the industry is evolving, leading to alterations in the industry structure (Porter, 1998). These changes can impact the industry attractiveness and profitability (Porter, 1998). The Five Forces model gives a picture of the current industry situation only and based on that predictions for the future development could be made (McGahan, 2000). The development of an industry is described by the industry life cycle model, which

is founded on the product life cycle (Porter, 1998). The model assumes that the industry passes through four stages (figure 2.4), which are distinguished by the growth rate of the industry sales (Porter, 1998; Klepper, 1997; Johnson et al., 2012). In the beginning the industries are small, then a period of rapid growth till maturity (growth rate slows down) is reached and at the end of the cycle the industry growth declines (Porter, 1998; Johnson et al, 2012). During the different phases the strength of the Five Forces and thus the competition will shift, requiring adjustments of the business strategic choices to stay profitable (Porter, 1998). Since the industry life cycle model assists by making predictions on the development of the competitive forces and the industry, it will be used in this research (Porter, 1998; Klepper, 1997).

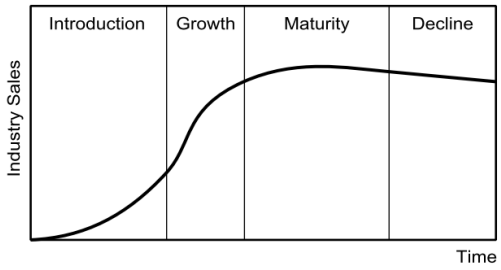

Figure 2.4 Industry life cycle
Source: Porter (1998)

The industry life cycle model has a couple of limitations (Klepper, 1997; Porter, 1998; McGahan, 2000; Johnson et al, 2012). First, the duration of the different life cycle phases can differ between industries and in some cases it is difficult to access the actual life cycle phase of an industry (Porter, 1998; McGahan, 2000). Second, industries can leave out phases or add phases as a second growth period, leading to a discrepancy from the assumed S-curve (Klepper, 1997; Porter, 1998; Johnson et al, 2012). Third, innovations can shape the curve, thus leading to another growth phase (Klepper, 1997; Porter, 1998). Evolutionary processes that create pressure or stimuli for change occur in each industry, but with different speed, form and direction (Porter, 1998). For example evolutionary processes include, changes in buyer segment served, product and process innovation, expansion (or contraction) and government policy changes. Other studies stated that the principle of the industry cycle has been validated as adequate for many industries (Klepper, 1997; Nelson & Winter, 2002). For this research, the life cycle phase of the different geographical regions will be assessed, based on the results of the strengths of the competitive forces.

Another possibility to analyse the changes of the Five Forces over time is the comparative industry structure analysis. This means making the static Five Forces model to a dynamic model (Johnson et al., 2012). For this concept the strengths of each force will be assessed at two points in time and displayed in the so called “Radar plot” (Johnson et al., 2012). After identifying the strengths of each force, they will be connected and the resulting area represents the strengths of all forces together. This can help to predict trends in the forces. It has to be considered that there are possibly different ways how the strengths will develop, thus the same limitation as for the industrial life cycle model

applies (Porter, 2008). The comparative industry structure analysis will not be used for this research and the prediction for the future development of the forces will be not accessed in detail.

Recapitulating this sub section, the industry life cycle and the comparative industry structure analysis can be used for the analysis of the industry development. Both models have similar limitations such as that there are different ways possible how the industry can develop in the future and the actual process of competition is not accessed. Since prediction of the future development of the forces is assumed to be difficult for the pet food sector, the industry life cycle model will be used. Based on the competitive forces, the industry life cycle phase will be determined, this enable also future predictions of the industry development in this region.

2.2 Business strategies

The success of a company depends on the constant adaptation to the current and expected situation in the business environment. According to the outside-in perspective, which is used in this research, the business environment influences the business strategic choices (Wit& Meyer, 2004). Therefore companies have to analyse the company's external environment (Macro-environment and industry structure) and its expected developments to adjust their business strategy, if necessary, to achieve strategic fit with the environment (Wit& Meyer, 2004). Besides strategic fit to the environment, the objective of each company is to achieve competitive advantage over the competitors, to be successful and profitable. A company can achieve competitive advantage through "creating value in a way that its rivals cannot" (Carpenter & Sanders, 2009). To achieve competitive advantage, companies have to assess their business environment, for the choice of the business strategies.

According to the literature, there are different concepts of business strategies, but for this research the values disciplines of Treacy and Wiersema (1993, 1995) are used. Porter's generic competitive strategies lead to many debates and confusion about the actual meaning of the three competitive strategies, especially, with regard to cost leadership strategy (Johnson et al., 2006, Johnson et al., 2012). In addition, to assess whether a company uses cost leadership strategy is difficult without insight into the business documents. Furthermore, the generic competitive strategies miss a strategy that focused on the customer. The strategy clock, distinguishes eight strategies based on the perceived product benefits and the price (Johnson et al, 2006). This concept is mainly focused on price and differentiation. Some strategies, such as hybrid strategy are unlikely to be sustainable on long term, if there is no cost advantage for the company (Johnson et al., 2012). The value disciplines, offer three strategies that are focused on different aspects. The choice for one value disciplines lead to a focus and an adaptation of the operating model and the behaviour of the company. It can be concluded, that the value disciplines are used for this research, since they focus on different aspects and with the choice a company decides for a clear direction of its business activities.

Each firm should have a focussed business strategy to achieve competitive advantage and to know how to behave in the business environment. According to the concept of Treacy and Wiersema

(1993), companies should choose one of the three value disciplines: operational excellence, customer intimacy or product leadership, to create value for the customer and achieve competitive advantage (Table 2.2). Value disciplines refer to the way in which companies "combine their operating models and value proposition to achieve to be the best in their markets" (p. xiv, Treacy & Wiersema, 1995). Value proposition is the promise that a company makes to its customer "to deliver a particular combination of values', such as quality, price, conventions" (p. xiv, Treacy & Wiersema, 1995). The focus on one value discipline enables the company to build resources and competences in order to achieve the objective of the particular value discipline (Treacy & Wiersema, 1993). When choosing a value discipline the company's capabilities, culture and competitors' strength have to be taken into account (Treacy & Wiersema, 1993). Additionally, through the choice of a value discipline the company also selects for a category of customers that value particular aspects value drivers (Treacy & Wiersema, 1993; Wit & Meyer, 2004). If the company is able to deliver a higher than expected value to the customer, the expectations of the customers can rise, which could raise the standards in the industry, thus making it more difficult for competitors (Treacy & Wiersema, 1993). For the other two value disciplines that are not in the focus of the company the industry standards should be reached. The focus on one of the value disciplines; lead to a choice for a particular group of customers and influence the company's operating model.

Table 2.2 Value disciplines
Based on Treacy & Wiersema (1993; 1995) and Wit & Meyer (2004)

Value disciplines	Operational excellence	Customer intimacy	Product leadership
Objective	Leading position in pricing and convenience	Customer loyalty on long term	Continuous stream of state-of-the-art products & services
Value proposition	Best total cost	Best total solution	Best product
Characteristics of business	- minimize overhead costs - eliminate intermediate production steps - optimize business processes - low-cost transactions - 'lean & mean' production and distribution - simple service	- customer lifetime value - address each customer segments - Flexibility → value-added service or products direct to clients that are interested	- Market-focus for new ideas - creative - fast commercialization - business & management processes engineering for speed - fast-decision making - well-designed risk management system - Emphasize innovation - Collaboration R&D and marketing
Focus	Products/service at competitive price with minimal inconvenience	Products/ service tailored to customer problems	Differentiated state-of-the-art products/ services
Customers preferences	Low price, reliable product	Products that satisfy their specific requirements/ taste, price and convenience less important	Special features, advanced product performance
Bases for gaining competitive advantage	Price, Availability	Bundling, Relations	Features, Quality

The value disciplines of Treacy & Wiersema (1993) have to be translated into measurable variables for the integration into this research. For this purpose, the value disciplines could be linked to the bases of competitive advantage according to Wit & Meyer (2004) (Table 2.2). Operational excellence could be linked to price, since the objective of this strategy is to offer products for a lower price than competitors. In addition, availability could be linked meaning the product is available at the right place at the right time to the customer. Customer intimacy could be linked to the aspect bundling, in which the package of products or services could better fulfil the customer needs. Relations can be also connected to this value discipline, since enables the company to better adjust the products to the customer needs and ideally result in customer loyalty. Product leadership can be related to features and quality, since the objective is to deliver the best product to the customer. Features, in this case, refer to the product differentiation through the use of different intrinsic characteristics compared to the competitors. Therefore the company has to be open to continuously improve their products or develop new products. Quality is related to the aim to making the same products, but better than the competitors. All in all, the bases for gaining competitive advantage can be linked to the value disciplines to make them better measureable.

A better approach to the operationalization of the value disciplines is to formulate the variables based on the value disciplines' characteristics, objectives and description by Treacy & Wiersema (1993, 1995) in Table 2.3. The bases for competitive advantages give a more generic description of different possible competitive strategies that can be used to achieve competitive advantage. Therefore these variables can be used for various business strategy concepts. The use of the value disciplines characterization and description by Treacy & Wiersema (1993, 1995) leads to more appropriate and focused variables, meaning they better fit to the content of the value disciplines.

Table 2.3 Operationalization of value disciplines
Variables based on Treacy & Wiersema, 1993; 1995

Value disciplines	Operational excellence	Customer intimacy	Product leadership
Variables	- Cost - Price for customer - Availability - Standard products	- Tailored products - Customer relationship - Service	- State-of the-art products - Innovation - Fast commercialization

When looking at the pet food sector the business strategies of the companies are focused on the end-customer of the supply chain, the pet owner. In the following the selected variables for the value disciplines will be described and related to pet food sector;

Operational Excellence

Cost refers to keeping the production, distribution and marketing costs low, to offer the products at a low price to the customer. *Price for customer* means that the pet food products are offered at a low price compared to competitors in the market. *Availability* means that the pet owners have easy access to the products, for example, through supermarkets and that the pet food products are always available. *Standard products* can reduce the cost, since the same equipment and raw materials can be

used, reducing the time to clean or change the equipment between the production. For standard products no expensive ingredients are required.

Customer intimacy

Service refers to the ability to advice customer regarding purchase decisions and other pet nutrition related issues. *Customer relationship* is concerned with good interaction with the pet owner to fulfil their needs which should ideally result in customer loyalty towards a company. Customer relationship includes customer databases with information about the customer needs, extra service or promotions for loyal customers. *Tailored products* mean that the company focuses on products that are customized to particular customer segment(s) and their needs.

Product leadership

S*tate-of-the-art products* refer to continuous offering of new or improved products. *Innovation* means constantly modifying and improving pet food products, through adding new functions, ingredients or developing new kind of feeds. *Fast commercialization* means that after the invention of a new pet food product, the company fast brings it to the market to achieve first-mover advantage.

Recapitulating this section, the value disciplines of Treacy & Wiersema (1993; 1995) can be used to investigate the business strategies of pet food companies. According to Treacy & Wiersema (1993; 1995) a company should focus on one of the three value disciplines. This focus enables the company to build up their operational model and capabilities to achieve the objective of the particular value discipline. When choosing or considering adapting a business strategy, the business environment has to be taken into account. For the operationalization of the value disciplines variables were formulated based on description of the different value disciplines. It can be concluded companies can choose between three value disciplines to create value for the customer, but the choice should depend on the business environment.

2.3 Innovation management

In the literature, various definitions of innovation can be found. A basic definition is that it is “something new” (Smith, 2010). A more detailed definition is that it “is an idea, practice or object that is perceived as new by individual or other unit of adoption” (Smith, 2010). The definition of Freeman and Soete (1997 in Smith, 2010) is more practical and focused on product and process level; ‘The first commercial application or production of a new process or product’. There are several definitions of innovation available, but the definition of Freeman and Soete (1997 in Smith, 2010) is more practical and appropriate for this research.

The two innovation types, product and process innovation can provide competitive advantage to companies (Smith, 2010). Product innovation refers to new or improved tangible physical objects without the change of the production process (Smith, 2010). Product innovation affects the quality of the product, but has a stronger effect on reputation and value of a company (Smith, 2010). This means

products innovations potentially lead to growth or maintaining of the company's market share (Tidd & Bessant, 2009). Product innovations are more common in newly and developing industries, in contrast to process innovations, which are more common in mature industries (Johnson et al., 2012). In mature industries the competition moves to efficient production (Johnson et al., 2012). Process innovations are new or improved equipment, method or system that is used to produce products or services (Smith, 2010). Process innovations can improve the productions, leading to lower costs for the company or improvement of the quality, thereby improving the value of the product (Tidd & Bessant, 2009; Smith, 2010). It can be concluded that product and process innovation will be investigated for this research, since both can be used achieve competitive advantage.

Innovations can be seen as systems that can be distinguished based on their degree of modification (Henderson and Clark, 1990 in Smith, 2010). According to Henderson and Clark (1990, in Smith, 2010) innovations are systems that consist of different components, which fit together in a particular way to be able to carry out the function. Therefore component and system knowledge is necessary (Henderson and Clark, 1990 in Smith, 2010). Radical innovation refers to changes in the components and the architecture due to a technological breakthrough or application of new technology (Smith, 2010). It has the highest level of novelty. Architectural innovation is concerned with innovations that have a change in the system, but the components remain the same (Smith, 2010). The changes are minor since the components are linked in a new way and they are improved or refined (Smith, 2010). Modular innovation means the change in one element but the systems remains the same, leading to an improvement of the existing product (Smith, 2010). Incremental innovation is the modest change this means that the components are often improved but the system remains the same, thus a low level of novelty (Smith, 2010). It is the most common innovation type and the gradual improvements lead to most products and services enhanced over time, thus a linear process (Smith, 2010). The four innovation types that enable a categorization are radical innovation, architectural innovation, modular innovation and the most common type incremental innovation.

For this research, the models, technology push and market pull, are used as main bases for innovation. The technology push model, also called knowledge push, assumes that innovations are driven by developments in science and technology (Tidd & Bessant, 2009; Smith, 2010). Technology is concerned with practical knowledge; this means how to do things and is embedded in artefacts, people and organizations. Science is related to understanding and explicit knowledge in books or papers (Smith, 2010). Both fields are connected meaning breakthroughs in science can lead to advances in technology and vice versa. Based on this model higher investments of companies into R&D should lead to more innovations (Smith, 2010). In the market pull model, also called demand pull, the focus is on the market, i.e. the market and the consumer needs are seen as the source for new innovations (Smith, 2010). The market pull model is more appropriate for mature industries, technologies or product life cycle, where there is more than one offering to the customer (Tidd & Bessant, 2009; Smith, 2010). The companies compete on differentiating to better meet their target customer needs (Tidd & Bessant, 2009; Smith, 2010). But technologies and markets are constantly changing, this means technological opportunities can arise and the consumer needs can change.

According to the coupling model, companies have to consider both. This means companies have to connect to the state of the art in technology, the needs of consumer and the market during the innovation process (Smith, 2010). It can be concluded that the models focus on different drivers for innovations leading to different assumptions on innovation sources depending on the used model.

Companies can use innovations to achieve competitive advantage (Smith, 2010; Tidd et al., 2005). As industries are made up of companies producing the same products, in this case pet food, innovations can increase the distinctness or efficiency of a company compared to its competitors (Tidd et al., 2005). For establishing a successful innovation strategy, companies have to orientate towards the business environment to investigate opportunities or competitive threats regarding innovations (Tidd et al., 2005). For example, opportunities for profitable innovations can increase through technological advances or socio-cultural shifts. The latter refers to customer expectations, believes or needs which can also be a constraint (Tidd et al., 2005). In this context, it can be referred to the dynamic capabilities; this means the organization's ability to adapt their strategic capabilities to the changing environment (Smith, 2010). In addition, the absorptive capacity of the company is important, which refer to the ability of the company to "recognize the value of new, external information, assimilate and apply it" (Smith, 2010). This means the recognition of external trends or technological opportunities and the adequate application into new product or processes as output. It can be concluded the orientation towards the business environment is necessary for companies to produce successful innovations.

The maturity of the market and the technology have influence on the technique of development and commercialisation (Tidd & Bessant, 2009). In mature markets with mature technology, differentiation is often used, this means innovations are an improvement of existing technology to better meet the customer requirements. The competition is based on quality and features. The products are differentiated based on packaging, pricing and support. In developing markets with mature technology architectural innovation is common, this means existing technologies are used to create new products, services or applications. The basis for competition are market niches and close relationship to customer, which can help for the development of new innovations. Technological innovation, thus new technologies for known customer needs are usual in mature market with developing technology. The products compete on performance, therefore innovation is mainly driver by developers. When technology and market are novel and co-evolve there is no clear use of an new technology typ. Over time the developers will work with lead users to create new applications. The maturity of the market and the technology should be taken into account by the companies, since the maturity influence the type of innovation and the competition.

Recapitulating innovations, their type and successful application depend on the business environment and its developments. For this research, the two innovation types product and process innovations are taken into account. Product innovations are more common in newly and developing industries, in contrast to process innovations, which are more common in mature. industries Innovation drivers can be explained by the technology push and market demand model. These different models lead to

different approaches towards the innovation sources. To achieve competitive advantage companies have to orientate towards the business environment, to draw conclusions based on the market maturity, consumer needs and technology development for their innovation strategy. It can be concluded, for the purpose of this research two types of innovation (process and product) and the main drivers of innovation (technology push and market pull) will be used for the aspect innovation.

2.4 Theoretical framework

The combination of the different models and concepts in the theoretical framework makes it a useful tool to achieve the research objective. First, the PEST framework is integrated to assess the influencing factors of the macro-environment. Second, the Five Forces model is used to examine the competitive forces and their influence on the competitive industry structure. This should result in placing each geographical region on the industry life cycle. Third, the value disciplines of Treacy & Wiersema (1993; 1995) is used to investigate the business strategies. Final, the innovation types (Process- and Product innovation) and the bases (Technology push and Market pull) are integrated to enable the assessment of the influence of innovation. The main concepts that are used for the theoretical framework investigate the macro-environment, competitive industry structure, business strategies and innovation.

In Figure 2.5, the theoretical framework that resulted from the theoretical background and is used as basis for the empirical part is presented. Based on the literature, several connections between the theoretical framework elements, which are relevant for this research, were found. The connections are displayed by arrows in the theoretical framework. For each geographical region this theoretical framework is used, this means all elements will be assessed during the empirical part for each region (North America, Western Europe and Eastern Europe). Next, each of the 7 arrows is explained.

1. **Macro-environment to industry structure**

The PEST framework describes the macro-environment by four prime categories, political/legal, economic, socio-cultural and technological (Carpenter & Sanders, 2004; Johnson et al., 2012). According to the literature, these categories impact the industry structure including all organizations (Section 2.1.2) (Carpenter & Sanders, 2004; Johnson et al., 2012).

Whether all prime categories influence the pet food industry is not investigated yet. Only a few assumptions could be made: The influence of the political/legal category could differ, due to differences in regulations for pet food products in the geographical regions. The economic situation between the three geographical regions differs; this could influence the use of substitutes. As stated earlier, the trend of pet humanization is mentioned in the media. Therefore a high influence in all three regions on the purchasing behaviour and the offered pet food products could be assumed.

2. **High competitive forces to business strategies**

If the strength of the Five Forces is high, than the competition is intense, which lead to the competition based on price (Porter, 1980; 2008). First, if the Threat of New Entrance is high, the possibility that

new companies will take market share from the incumbents increases, possibly creating value by offering low prices or raising the costs of competition (Porter, 1980; 2008). In this case, incumbents must lower their prices or increase their investments, thus reducing their profitability. Second, powerful suppliers can increase the prices or lower the quality, leaving the industry with low returns. This can be due to higher costs for purchasing raw material or lower quality of the raw materials leading to lower product prices (Porter, 1980; 2008). Third, strong buyers can force down the price or demand a higher quality for the same price leading to low returns for the industry (Porter, 1980; 2008). Fourth, powerful substitutes can influence the prices that buyer are willing to pay for the industry products (Porter, 1980; 2008). It can be based on a better performance compared to the industry products or the same performance for a lower price. Last, the strong Competitive Rivalry can lead to passing the value to buyers in form of lower prices, thus price competition (Porter, 1980; 2008). Based on these aspects, it can be concluded that high competitive forces constrain the choices for the business strategies and it will potentially lead to competition based on price. Competition on price can be linked to the operational excellence strategy of Treacy and Wiersema (1993; 1995).
Regarding the pet food sector, high Competitive Rivalry could be expected for the assumed mature regions, North America and Western Europe.

Based on the description of the three value disciplines (Treacy & Wiersema, 1993; 1995) the variables in Table 2.4 were formulated to assess the business strategies. Detailed information can be found in section 2.2.

Table 2.4 Operationalization of value disciplines
Variables based on Treacy & Wiersema, 1993; 1995

Value disciplines	Operational excellence	Customer intimacy	Product leadership
Variables	- Cost - Price for customer - Availability - Standard products	- Tailored products - Customer relationship - Service	- State-of the-art products - Innovation - Fast commercialization

Based on strengths of the Five Forces the development phase of the industry can be determined (Section 2.1.4). The strengths of the Five Forces change over time, while the industry is evolving leading to alterations in the industry structure and the industry attractiveness (Porter, 1998). During the different phases, the forces' strength and thus the competition will shift, potentially requiring adjustments of the strategic choices to stay profitable (Porter, 1998). Through assessing the industry development phase predictions about the development of the competitive forces over time and the future performance of the industry can be made (Porter, 1998; Klepper, 1997). The regions North America and Western Europe are assumed to be more developed, probably in the mature phase of the industry life cycle. Eastern Europe is assumed to be less developed; this means the competition level should be lower.

3. Low-medium competitive forces to business strategies

If the competitive forces are low or medium, the business strategic choices are less constrained. According to Porter (2008), it is recommended for companies to compete on other dimensions than on

price. The competition on other dimensions is less likely to reduce the attractiveness of the industry, since it improves customer value and can support higher prices (Porter, 2008). The literature recommends that companies apply strategies that differentiate themselves from the competitors (Porter, 2008; Johnson et al., 2012). When relating this to the value disciplines of Treacy and Wiersema (1993, 1995) the companies should apply one of the two strategies: product leadership or customer intimacy.

For the assumed developing region, Eastern Europe, low or medium competition is expected due to an assumed lower Competitive Rivalry.

4. Macro-environment to innovation

The macro-environment can support or constrain innovation. Advances in technology could provide new opportunities for innovation according to the technology push model (Tidd, et al., 2005; Tidd & Bessant, 2009; Smith, 2010). Regarding the pet food sector, this could be technological developments in adjacent industries, such as the humane industry, which could be also used for the pet food industry regarding new products or processes. The market pull model sees the consumer needs as stimulation for innovations (Tidd et al., 2005; Tidd & Bessant, 2009; Smith, 2010). Regarding the pet food sector, this could be the development of new consumer preferences, such as for new ingredients, leading to the development of new products to fulfil these needs. But, technology development and consumer expectations could also restrain the innovation possibilities (Tidd et al., 2005). Regarding the pet food sector, consumers could not value new products, which would lead to a reduction of the innovations in the sector.

5. Innovation to industry structure

Innovation can influence the competitive forces of the industry structure (Porter, 1998; Tidd et al., 2005; Porter, 2008). Innovation can change the Competitive Rivalry in a positive or negative way (Porter, 2008). This means that innovation can influence the scope of competition and the industry structure (Bettis & Huggs, 1995; Hughes, 1990 both in Allred & Swan, 2005). Product innovations can expand the market and enhance product differentiation (Porter, 1998). Process innovations can make the process less capital intensive or can increase the economies of scale, thus leading to a higher Barrier of Entry (Porter, 1998). Regarding the pet food sector new product innovations could be used for differentiation from competitors, thus reducing or shifting the competition. Process innovation could increase the efficiency of production leading to offering the products for lower prices. Innovations outside the sector could lead to new substitutes for feeding of pets.

6. Business strategies to innovation

The selected business strategies can influence the number and types of new innovations. The product leadership strategy objective is to continuously develop new products, thus high investments in innovations and continuous new product developments are expected (Treacy & Wiersema, 1995). Regarding the pet food sector, this would mean new products with new functions or ingredients. The value discipline customer intimacy is focused on customer needs and could use innovation to offer their customer products that better fit their individual needs. Operational excellence is linked to price

and according to Porter (2008) to high competitive forces, therefore it could be expected that the investments in innovations are lower. Although process innovations could reduce the cost by improving the efficiency of the production process, which would fit to the operational excellence objective.

7. Innovation to business strategies

The developments regarding innovation can influence the business strategies of the companies operating in the industry. According to the outside-in perspective a company has to orientate towards the business environment, which also includes innovations, to adjust their business strategy (Wit & Meyer, 2004; Allred & Swan, 2005). This means a company's innovation strategy is influenced by the business environment (Allred & Swan, 2005). The two models (technology push and market pull) assume different sources of innovation. For example, process innovations based on science can improve productivity leading to lower cost or improvement of quality which could be potentially linked to operational excellence (Section 2.3). Regarding the pet food sector, it could be assumed that the pet food companies use scientific research, such as published in Animal feed science and technology' and 'Nutrition reviews' as basis for new innovations. But the importance of scientific research compared to in-house research and consumer needs for innovations in this sector is not clear.

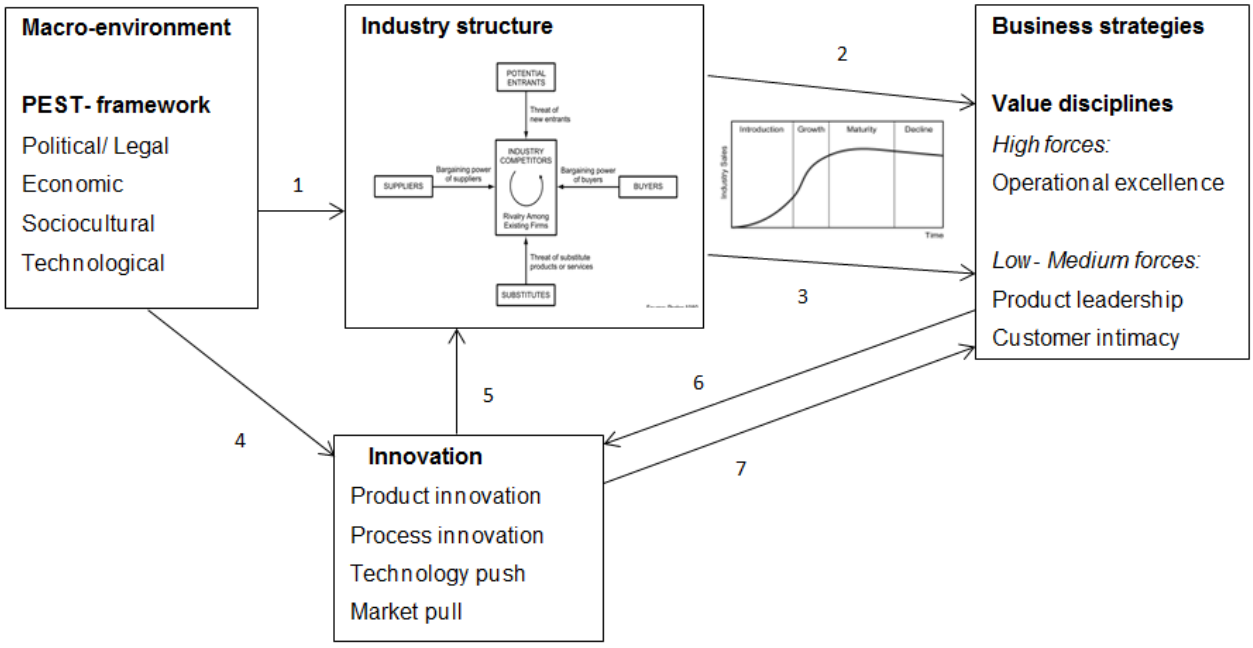

Figure 2.5 Theoretical Framework

2.5 Conclusions of theoretical background

In this section, the sub research questions for the theoretical background are answered based on the results of the theoretical background chapter. More detailed information about the different concepts can be found in the sections 2.1-2.4.

1. *According to the industrial organization and innovation management literature, which factors could impact the industrial structure and the dynamics in the international pet food sector?*

The strategic management field was initially a by-product of the industrial organization field. Both fields have useful related concepts and therefore the strategic management tools can be used to investigate the SCP elements (Sub section 2.1.1). Based on the PEST framework, political/ legal, economic, socio-cultural and technological factors from the macro-environment could affect the pet food industry (Sub section 2.1.2). According to the Five Forces model, Threat of New Entrants, Bargaining Power of Suppliers, Bargaining Power of Buyers, Threat of Substitutes and Competitive Rivalry can influence the industry structure, dynamics and the business strategies in the pet food sector (Sub section 2.1.3). In addition, the dynamics of the pet food sector can be assessed by the industrial life cycle, which assumes that the industry development occurs in four phases with different strengths of competitive forces (Sub section 2.1.4). From the innovation management literature, the different types of innovations (process and product innovation), innovation sources (technology push and market pull) are used for the assessment of the influence of innovation (Section 2.3).

2. *According to the business strategy literature, which possible business strategies could be applied to achieve competitive advantage?*

According to the value disciplines of Treacy and Wiersema (1993), companies can achieve competitive advantage by choosing one of the three value disciplines; operational excellence, customer intimacy or product leadership (Section 2.2). Through the focus on one value discipline the company has to adjust it capabilities and behaviour to achieve the objective of this discipline. For the value disciplines that are not in the focus of the company, the industry standard should be met.

3. *What are, according to the literature, the elements that can be used for a suitable theoretical framework?*

The elements for the theoretical framework were selected based on the research objective and focus of the research (Section 2.4). The elements that are used for the theoretical framework are: PEST framework for the macro-environment, the Five Forces for the competitive industry structure, the value disciplines for the business strategies, industry life cycle for the development phase of the industry and innovations (types, sources). Between these elements seven connections that are relevant for this research were found, based on the literature.

3. Methodology

This chapter provides information about the research strategy for the empirical part of this research. The objective of this chapter is to explain the decisions made regarding the data gathering. First, the data sources are described (Section 3.1). Second, details are given about the method of disclosure (Section 3.2) for this research. Third, the operationalization of the theoretical framework is explained (Section 3.3). The baseline data-set description with the validity and reliability is given (Section 3.4). Finally, the analysis of a few empirical aspects (Section 3.5) and the conclusions are described (Section 3.6).

In this chapter the following sub research question should be answered:

4. *What methodologies should be applied to identify the factors that impact the industrial structure, the dynamics of the international pet food sector and the business strategies?*

3.1 Data sources

There are three different data sources that were used for the purpose of the empirical part: people, media and documents (Verschuren & Doorewaard, 2005). The objective was that people are the main input, since they can provide knowledge and diverse information (Verschuren & Doorewaard, 2005). The latter two sources were used for the provision of additional relevant information. Summarized, first, the objective was that people are the main data source and, second, media and documents were used to provide relevant additional information.

Each data source has advantages and disadvantages, which are briefly explained in the following paragraphs (Verschuren & Doorewaard, 2010).

The main advantage of people is that they can provide a diversity of information, are a primary data source and the information can be gathered quickly (Verschuren & Doorewaard, 2010). Through specific formulated questions the researcher is able to receive adequate information that is required to answer the research questions. Disadvantages of the use of people are potentially subjective and social desirable answers. To overcome these disadvantages several people should be used to give a broader picture and the answers should be seen related to the people's background and their potential interests (Verschuren & Doorewaard, 2010).

Media and documents are secondary data source; this means the data were initially meant for a different purpose than for this research. The advantages of the use of media are that it provides a high information density and a wide geographical scope can be covered (Verschuren & Doorewaard, 2010). The validity of the information has to be considered. Therefore a critical assessment of the information is necessary (Verschuren and Doorewaard, 2010). The advantages of documents are that they are durable and are considered to be more objective source than people (Verschuren and Doorewaard, 2010). If there is a large quantity of documents available the use can be time-consuming.

Each of the three sources has advantages and disadvantages that have to be considered when assessing these sources.

Different types of organizations were contacted for the data source people, which are assumed to have knowledge or information regarding the research topic. First, pet product and pet food associations were contacted. These associations represent the companies in their particular region such as The Netherlands or Europe. It is assumed that these associations have knowledge also about the global sector to be able to advice their member companies. Second, magazines related to the pet sector were contacted. These magazines write about the developments in the pet sector and are addressed to pet related companies, people working or interested in the sector. Based on the fact that these magazines deal with the sector and its developments, it is expected that they can provide valuable information for this research. Third, pet food companies were contacted. Companies are directly involved in the pet food sector, this means they should have knowledge on which factors affect pet food industry. Last, experts such as university lecturers interested in the pet food sector, due to their research area were contacted. These experts deal with pet sector based on their research areas, for examples, social sciences or animal nutrition and they have a personal interest in the development of the pet food sector.

The persons that seemed suitable for this research were several times contacted. For the interview, 32 organizations were contacted with personalized emails. Twice, each time after two weeks, personalized reminders were send. From the 32 organizations, 6 confirmed for an interview (3 in written) and 4 organizations stated that they do not want to participate. After the formulation of the questions, the questions (Section 3.3) were send to 37 organisations (including the 3 confirmations for answering in written) with a deadline for the 20/3 (two weeks after sending). A couple of organizations replied (via email or by phone) that they had no time or their knowledge was restricted to a national level. Some organisations that initially stated to probably participate had to decline due to time issues. A couple of these organizations and some of the respondents recommended respondent 7. Regarding the interviews in written (Section 3.3.) a reminder was send 3 days before the deadline and some organizations were contacted by phone. During this time the face-to-face and Skype interviews took place. Several respondents stated the difficulty, in particular to come in contact with pet food companies. In total, the respondents consisted of 2 experts (R2, R10), 4 associations (R1, R6-R8), 3 pet food companies (R3, R4, R9) (1 send a personal comment, since the respondent had no time to fill in the questions) and 2 magazines/ websites (R5, R11). More detailed information cannot be given without making the respondents indefinable for people with background knowledge on the pet food sector.

For additional information, documents and media of four pet food companies were assessed. For documents, recent annual company reports, half yearly reports and Form 10-K documents were examined. According to the federal security law (USA) publicly traded companies have to submit their annual report on Form 10-K (U.S. Securities and Exchange Commission, 2014). It is distinguished from the annual report for shareholders and “provides a comprehensive overview of the company's business and financial condition and includes audited financial statements” (U.S. Securities and Exchange Commission, 2014). For media, the websites of these pet food companies and their brands

were assessed. These documents and media should provide additional information to fulfil the research objective and answer the main research question.

Recapitulating this section three data sources people, documents and media were used. The objective was that people are the main data source. Therefore pet food associations, magazines, pet food companies and experts were contacted. In total, the respondents consisted of 2 experts, 4 associations, 3 pet food companies (1 send a personal comment) and 2 magazines/ websites. For additional information documents and media were used. For documents, recent annual company reports, half yearly reports and Form 10-K documents were examined. For media, the websites of pet food companies and their brands were assessed.

3.2 Methods of disclosure

In this section, the methods of disclosure for all three data sources that are described in section 3.1 are explained. First, the method of disclosure for the data source people is described. Second, the method of disclosure for the data sources media and documents is explained. The objective of this section is to clarify the used method for the reader to make the research replicable.

The method of disclosure of the data source people were qualitative semi-structured interviews. In a qualitative interview the opinion of the respondent is of great interest, this means the interview is participant orientated (Bryman & Bell, 2011). Qualitative interviews are flexible; this means it is possible to deviate from the interview protocol by changing the questions order or asking additional questions that result from the respondent's answers (Bryman & Bell, 2011). The objective of this kind of interviews is to receive detailed and rich answers. This is important for this research, since the influencing factors seem to be barely investigated until now. Qualitative interviews can be categorized into unstructured and semi-structured interviews (Bryman & Bell, 2011). Semi-structured interviews were chosen, since, first, the wording of the questions can differ between the interviews, second, additional explanations to a question can be given and, third, additional questions can be asked that are not in the interview protocol, based on the answers of the respondent (Bryman & Bell, 2011). The asking of additional questions enabled the researcher in this research to receive more detailed answer when the respondent had more knowledge about a particular topic. Due to the advantages; flexibility, detailed answers, possibility to add additional questions and explanations, qualitative semi-structured interviews were chosen for this research.

The qualitative semi-structured interviews were done face-to-face (2 respondents), via Skype (2 respondents) or in written (6 respondents). A couple of respondents stated that they prefer to answer the questions in written due to time issues. The interviews consisted of an introduction about the study. The face-to-face and Skype interviews took between 40-60 minutes (In written assumed 20 minutes). Written explanation and instructions were given, which were given oral during the interviews. Furthermore, the email address and phone number were stated, if respondents have further questions. The questions were categorized based on elements of the theoretical framework. The interview

consisted of open questions, closed questions and statements. The objective of the open questions was to receive a more detailed answer and to possibly get new knowledge or a new perspective. For the statements the numerical response format of the Likert scale was used (Bryman & Bell, 2011). For the closed questions the respondents received a page so that they can tick their answers on it. The interviews were recorded, when permitted by the respondent, but the recorded information is kept confidential. The answers were anonymized. Different types of questions were used and the explanations and instructions were given.

The documents and media were qualitative analysed. As previously stated, the documents (recent annual report, half year report, Form- K 10) and websites of four pet food companies were assessed for additional information. The articles and information of the websites were selected based on themes that seemed relevant for answering the main research question (Bryman & Bell, 2011). Next, the content of websites and the reports were investigated in depth, for example on the importance of innovation, and analysed. In addition, reflections on the content were done. For the analysis of secondary sources, first, selection based on topic, second, content analysis and third reflection on the extracted content was done.

3.3 Operationalization

In this section, the selected interview questions and variables, based on the found literature and the theoretical framework (TF), are described. For some concepts, variables or statements were already selected in the theoretical background. If this is applicable, it is cross-referred. The questions are divided into four parts: factors from the macro-environment, industry structure, potential business strategies and influence of innovation. Each question was asked for the three geographical regions (North America, Western Europe, and Eastern Europe). Based on the knowledge of the respondent, they decided if they could answer the particular question for all three regions. In addition, the reason for each chosen interview question will be explained in this section.

Factors from the macro-environment

The first element of the theoretical framework that should be measured is the influence of the factors from the macro-environment. As stated in section 2.1.1, the factors can be assessed by the PEST framework (Johnson et al., 2012). The variables for the PEST framework are the four prime categories: political/legal, economic, socio-cultural and technological (Johnson et al., 2012). In the following the questions for this part will be stated and the selection of the questions will be explained.

The following questions were asked to the respondents regarding the factors from the macro-environment:

1. *Which political factors were highly influential on the pet food industry during the last 5 years? Please explain whether the influence of each factor was positive or negative.*
    a. *Which legal factors were highly influential on the pet food industry during the last 5 years? Please explain whether the influence of each factor was positive or negative.*
2. *Which economic factors were highly influential on the pet food industry during the last 5 years? Please explain whether the influence of each factor was positive or negative.*
3. *Which socio-cultural factors were highly influential on the pet food industry during the last 5 years? Please explain whether the influence of each factor was positive or negative.*

4. *Which technological factors were highly influential on the pet food industry during the last 5 years? Please explain whether the influence of each factor was positive or negative.*
5. *Please rate the dominance of the prime categories on the pet food industry for each geographical region during the last 5 years!*

You can make the choice on the seven-point scale ranging from:

No impact						*Very strong impact*
1	*2*	*3*	*4*	*5*	*6*	*7*

Category	***North America (NA)***	***Western Europe (WE)***	***Eastern Europe (EE)***
Political/Legal			
Economic			
Sociocultural			
Technological			

6. *If any, which environmental issues (such as recycling and sustainability) had the most influence on the pet food industry during the last 5 years? Please explain whether the influence of each factor was positive or negative.*

To investigate the influencing factors of the macro-environment 6 interview questions were formulated. Questions 1 to 4 investigate which factors of the different prime categories were highly influenctial during the last 5 years. The objective was to get deeper insight in which factors of each category were highly influential and whether the influence was positive or negative on the pet food industry. Question 5 is used to quantitify the dominance of each prime category and estimate the potential differences between the geographical regions. Question 6 is used to investigate whether environmental issues are seen as relevant for the sector and differ between the regions. If the environmental influences are seen as influential during the last 5 years, the category should be investigated seperately in future studies.

Industry structure

The second element of the theoretical framework is the competitive industry structure. As stated in section 2.1.2 the Five Forces model describes the competitive forces that influence the industry structure (Porter, 1980; 2008). But the strengths of the competitive forces can differ; therefore they have to be investigated (Porter, 1980; 2008). In the following the questions for this part will be stated and the selection of the questions will be explained.

The following questions were asked to the respondents regarding the competitive industry structure:

1. *How far do you agree with the following statements regarding the pet food industry.*
You can make the choice on the four-point scale ranging or choose N.K. (=no knowledge)

Fully disagree	*Disagree*	*Agree*	*Fully agree*	*No knowledge*
1	*2*	*3*	*4*	*NK*

Statements about new competitors

- *Large financial resources are required for entry into the pet food sector.*
- *New entrants have to expect strong retaliation from incumbents.*
- *New entrants will have difficulties to find distribution channels for their products.*

Statements about suppliers

- *A small number of suppliers deliver a large proportion of industry's inputs.*
- *Suppliers have the power to influence the input price.*
- *Suppliers have the power to reduce the quality of the inputs.*

Statements about buyers

- *A small number of buyers purchase large volumes relative to the sales of pet food producers.*
- *Buyers are powerful, can enforce their will upon pet food producers.*
- *Buyers have influence on the final consumers' (i.e. pet owners) purchase decision .*

Statements about substitutes*

**Substitutes are products from outside the pet food industry that can be used to feed pets*

- *There are many substitutes**
- *There is a strong competition from substitutes**

Statements about competition

- *Firms compete intensely to hold their market share*
- *Competitive moves lead to counter moves of other companies*
- *Advertising battles occur frequently*
- *Price competition is intense*
- *Countinous introductions of new products to hold market share.*

2. *If any, what are the substitutes (= products from outside the pet food industry that can be used to feed pets)?*
3. *Which influence do SMEs (=small and medium pet food companies) have on the competition in the sector?*

The statements for question 1 are chosen from the studies of Pecotich et al. (1999) and Weerawardena (2006). Some of the items in the studies were ambivalent. For example, "The suppliers to our industry can raise their prices easily or threated to reduce the quality of their products" (Pecotich et al., 1999), was rewritten into two statements as "Suppliers have the power to influence the input price" and "Suppliers have the power to reduce the quality of the inputs". The original items consisted of two statements. This could lead to problems during the analysis, since then it will not be clear which aspect the respondent rated. Therefore these statements were split up or were reformulated. The choice for these particular statements is explained in section 2.1.2. Question 2 investigates what are the substitutes outside the pet food sector at the moment. The kind of substitutes could not be investigated when only the statement is used. Question 3 relates to the impact of SME on the competition in the sector. In the pet food sector both SMEs and large companies can be found. It is not clear, which power the SMEs have, but for future research it can be relevant. If SMEs also influence the industry, future research has to focus on both large pet food companies and SMEs.

Business strategies: Value disciplines

The third element of the theoretical framework is the business strategies that can be applied by pet food companies. As stated in section 2.2 the values disciplines of Treacy and Wiersema (1993) are used. The three value disciplines that can be distinguished are; operational excellence, product leadership and customer intimacy.

The variables for the question were chosen from the characteristics and description of the three values disciplines by Treacy & Wiersema (1993, 1995). These led to more specific variables, this means they better fit to the content of the value disciplines. Descriptions were formulated for each variable, based on Treacy & Wiersema (1993, 1995) to clarify each variable. A ranking is used to receive the top 5 variables that are important for a pet food company to be successful in the market for each region, separately. Through the use of a ranking the rating of all variables as important shall be avoided. A similar question with the use of key success factors instead of variables was successfully used in the

thesis of Kretowski (2009) for the assessment of adequate business strategies for piglet feed companies.

The following question was asked to the respondents regarding the business strategies:

1. *In the table, you can see a list of variables (with description) that might be important for a company to be successful in the pet food market.*

*Please **choose the 5 most important variables** and **rank them from 1 to 5, for each region seperately**. If you think there is a variable missing please add it to the list.*

Variable	***Description***	***NA***	***WE***	***EE***
Cost	*Aim to keep the costs of production, marketing and distribution low*			
Price for customers	*Offering pet food products at a lower price compared to competitors in the market*			
Availability	*Pet owners have easy access to the products e.g. through supermarkets and the products are always available*			
Standard product	*Offer standard products to keep prices for customer low e.g. inexpensive ingredients or procedures are used*			
Tailored products	*Offer products that are customized to particular customer segment(s) and their needs*			
Customer relation	*Focus on good interaction with the pet owners to fulfil their needs which should ideally result in customer loyalty*			
Service	*Ability to advice customers on which pet food to buy and other pet nutrition related issues*			
State of the art products	*Continuous offering of new or improved products*			
Innovation	*Constantly modifying and improving pet food products, through adding new functions or ingredients*			
Fast commercialization	*After the invention of a new pet food product, the company fast brings it to the market to achieve first-mover advantage*			
Free to add				

Influence of Innovation

The fourth element of the theoretical framework is innovation. Based on the theoretical framework, the main aspects to investigate are the innovation types and sources for this research. Dependent on the industry life cycle phase the importance of the two types of innovations, product and process innovation differs (Johnson et al., 2012). The importance of the different innovation bases technology push and market pull is not clear for the pet food sector. In the following the questions for this part will be stated and the selection of the questions will be explained.

The following questions were asked to the respondents regarding the influence of innovation:

1. *What are the main motives for pet food companies to innovate?*
2. *According to your opinion, what percentage (%) of the sales should a pet food company invest in development of new products?*
3. *According to your opinion, what percentage (%) of the sales should a pet food company invest in development of new processes?*
4. *Please distribute 100 points to indicate the influence of product and process innovations on the pet food industry. Please explain your choice.*
5. *Please distribute 100 points (for each geographical region) between the innovation types based on their impact on the pet food industry dynamics. If you think there is a innovation type missing please add it to the list.*

Innovation type	***North America***	***Western Europe***	***Eastern Europe***
Complete new products			
Improvement of existing products			
Line extension			
New product lines			
Product repositioning			
New processes			
Improved processes			
Others:….(please add)			
	100	*100*	*100*

6. *Please distribute 100 points (for each geographical region) between the bases for innovation regarding their importance for pet food companies. If you think there is a driver missing please add it to the list. If you think there is a basis for innovation missing please add it to the list.*

Bases for innovation	***North America***	***Western Europe***	***Eastern Europe***
Scientific research (as published in scientific journals)			
In-house research regarding technology			
Consumer needs			
Other industries: *Name them here*			
Others:….(please add)			
	100	*100*	*100*

7. *Do SMEs (small and medium companies) play a role for product innovations in the pet food industry? If yes, please explain.*

According to the literature, innovation can be used by companies to achieve competitive advantage over their competitors (Smith, 2010; Tidd et al., 2005). The actual motives for using innovation depend, for example, on the development phase of the industry and the sophistication of the customers (Tidd et al., 2005). Based on this information in the literature the question 1 is formulated to receive information about the reasons for innovations and possibly link this to the development phase of the industry. According to the literature, product innovations are more common in newly and developing industries, in contrast to process innovations, which are more common in mature industries (Johnson et al, 2012). Question 2 and 3 are formulated to assess the importance of the development of new product or processes based on the recommended investments for pet food companies. The percentage of investments could be linked to the business strategies and development phase of the industry that are recommended for a sector. For example, if the value discipline product leadership is advisable for an industry higher percentage of investments in product innovations are expected (Treacy & Wiersema, 1995). Question 4 and 5 are formulated to assess, types of innovations and degrees of innovation (Smith, 2010; Tidd et al., 2005). The importance of the innovation type can be also linked to the industry life cycle which assumes that in mature markets more process innovations can be found (Smith, 2010; Tidd et al., 2005). Question 6 investigates the importance of different bases for innovation in the pet food sector. The variables ‘scientific research’ and ‘inhouse research’ relate to model technology push. The variable ‘consumer needs’ relates to the model market pull. Question 7 relates to the impact of SME on the product innovation in the sector. In the pet food sector both SMEs and large companies can be found. It is not clear, which influence the SMEs have regarding product innovations, but for future research it can be relevant.

3.4 Baseline data-set description

In this section the validity and reliability of this qualitative research are briefly discussed. Validity and reliability can be categorized into internal and external, respectively (Bryman & Bell, 2011).

External reliability refers to the level of which the current study can be replicated (Bryman & Bell, 2011). The flexibility of semi-structured interviews enables the researcher to ask additional questions that are not in the interview protocol and these additional questions can vary between the interviews. However, only sometimes a few additional questions were asked when the respondent should explain an answer in more detail. The interview questions are given in this report which makes it easy to replicate the research. The respondents had different background, but had extensive knowledge about the sector therefore the questioning of other persons with similar knowledge level should lead to the same results. For a replication of the research the interview questions are given and interviewing respondents with similar knowledge level should lead to the same results.

The external validity refers to the degree of which the results can be generalized (Bryman & Bell, 2011). As stated in the objective the research area is limited to North America, Western Europe and Eastern Europe meaning the results cannot be generalised for the global pet food sector. To increase the representativeness and reliability of the research, it was tried to interview people with different backgrounds, but which are expected to have extensive knowledge about the sector. The number of respondents is small. This is based on different reasons as time issues of the people, lack of knowledge was stated and the time limits of this research project. Company reports were analysed to support the results from the interviews. Through interviewing of people with extensive knowledge about the sector and analysis of a couple company reports it was tried to increase the external validity.

The internal reliability is concerned with the size of the researcher team and the agreement of them about the observations (Bryman & Bell, 2011). This research is conducted by one student which leads to a higher internal reliability, since the concepts and results are only interpreted by one person. A larger team could result in different interpretations leading to an inconsistency.

The internal validity refers to the match between the observations and the theoretical ideas of the study (Bryman & Bell, 2011). The comparison between the theoretical ideas of the theoretical framework and the empirical results showed partly confirmation of some variables and arrows. This means there is medium internal validity in this research, since relations and influencing factors were found that were assumed in the theoretical framework. Although some variables do not have a high influence and some relation were not validated. Through the interviews more details and the actual influencing factors on the pet food industry were revealed. The internal validity is medium since the empirical results partly confirm the theoretical framework.

3.5 Analysis of the empirical results

In this section, the analysis of the empirical results of the force's strength and the business strategies are explained.

Five Forces

In order to define the strength of the forces the following strength's level classification (Table 3.1) was made with corresponding business strategies that can be applied. The explanation for the constructed table 3.1 can be found in the theoretical framework section 2.4. Based on the variables for the force strength assessments, statements were selected, which were rated by the respondents resulting in the score for this variable. The average scores can range from 1, indicating the statement has low relevance for the region, till 4 indicating a high relevance of this statement. The force's strength was calculated based on the average scores for the belonging variables.

Table 3.1 Classification of force's strength

Force's average score range	Force's strength is	Business strategy
4.0-3.0	High	Operational excellence
2.9-2.0	Medium	Product leadership or Customer Intimacy
1.9-1.0	Low	

Business strategies

For the calculation of the relevance of a business strategy for a geographical region, the respondents should select their top 5 variables and rank these based on their importance (1-most important till 5-least important). The variables and the belonging value disciplines can be found in Table 3.3. Description of each variable can be found in section 3.3. For the analysis, first the ranks were recoded into scores (Table 3.2). Second, the weightings were assigned for the variables of each value disciplines, due to the unequal number of variables per value discipline. The weighting for the variables of each value disciplines are displayed in the Table 3.3. The weightings are based on the number of variables for the particular value discipline.

For each geographical region, the ranks of the respondents were translated into scores and then averaged for each variable. The average scores were divided through the number of respondents and multiplied by the frequency of selection of this variable. These average scores are given in the Tables in the section 4.3. Then they were multiplied with the corresponding weighting, leading to weighted scores. For the determination of the relevance of a business strategy the weighted scores of the variables of a value discipline were summarized. A higher weighted score means that the value discipline is more relevant for the geographical region. This results in the business strategies based on the respondents' ranking.

Table 3.2 Recoding of ranks into scores

Rank	Score
1	5
2	4
3	3
4	2
5	1

Table 3.3 Business strategies, related variables and weighting

Business strategy- Value discipline	Variable	Weighting[1]
Operational excellence	- Cost - Price for customer - Availability - Standard products	1/4→0.25
Customer intimacy	- Tailored products - Customer relationship - Service	1/3→0.33
Product leadership	- State-of the-art products - Innovation - Fast commercialization	1/3→0.33

[1] Calculation of weighing: All variables for one value discipline are together 100%=1, 1 is divided by the number of variables for this value discipline e.g. 1:4= 0.25, this means each variable accounts for 0.25 (25%) of the characterisation of the value discipline

3.6 Conclusions of the methodology

In this section, the sub research questions for methodology is briefly answered based on the results of this chapter. More detailed information can be found in the sections 3.1-3.3.

4. *What methodologies should be applied to identify the factors that impact the industrial structure, the dynamics of the international pet food sector and the business strategies?*

The main data source is people. Based on the preferences of the respondents the qualitative semi-structured interviews were done face-to-face, via Skype or in written. The questions were answered by 10 people with different backgrounds and 1 respondent send a personal comment. For documents (recent annual report, half year report, Form- K 10) and, media, websites of four pet food companies were assessed for additional information. For the analysis, first, selection based on topic, second, content analysis and third reflection on the extracted content was done.

4. Results and analysis

In this chapter, the results of the empirical part are presented and analysed. The objective of this chapter is to provide the answers to the following sub research questions:

5. *According to the empirical data, which factors impact the industrial structure and dynamics in the different geographical regions?*
   Results and analysis can be found in sections 4.1, 4.2, 4.4.
6. *According to the empirical data, how do these factors affect the business strategies in the different geographical regions?*
   Results and analysis can be found in sections 4.3 and 4.4.

The chapter division is based on the different elements of the theoretical framework. First, the results regarding the factors of the macro-environment are described and analysed (Section 4.1). Second, the influence of the Five Forces based on the empirical results is described and analysed (Section 4.2). Third, the results regarding the business strategies are described and analysed (Section 4.3). Fourth, the influence of innovation according to the empirical data is evaluated (Section 4.4). Finally, in the conclusions the answers to the sub research questions for this chapter are given (Section 4.5).

As stated in the previous chapter (Section 3.2), 11 respondents (R) and documents of 4 pet food companies (C) were used for the empirical part of this study.

4.1 Factors from the macro-environment

The analysis of the macro-environment had the objective to indicate the influence of the different prime categories (political/legal, economic, socio-cultural, and technological) on the pet food industry. For this purpose, the respondents were asked to state, first, the highly influential factors of each prime category during the last 5 years (Table 4.1). Second, whether the influence was positive or negative should be explained. Third, they should indicate the dominance of the prime categories on the pet food industry during the last 5 years (Figure 4.1).

In Table 4.1, the highly influential factors on the pet food industry, during the last 5 years, are displayed based on the respondents' answers. If answered, it is indicated, whether the influence was positive or negative. In the following paragraphs, the results for each prime category are discribed.

Table 4.1 Highly influential macro-environmental factors during last 5 years

Prime categories	North America	Western Europe	Eastern Europe
Political/Legal	+ FSMA - FSMA + FDAAA - FDAAA - Trade regulations	- EU labelling rules + EU labelling rules - Trade regulations - EU Feed additives regulation + EU Animal By-products regulation - Subsidies & support policies - Social security	- EU labelling rules + EU labelling rules
Economic	- Economic crisis Purchasing power Cost of ingredient Currency value	- Economic crisis Purchasing power - Export raw materials - Dog ownership - Income	- Economic crisis Purchasing power + Wealth growth
Socio-cultural	+ Pet humanization + Human-animal relationship Consumer awareness + Obesity	+ Pet humanization + Human-animal relationship + Obesity + Single households - Single households - Family values - Leisure activities	+ Pet humanization + Human-animal relationship
Technological	+ Packaging + Sourcing of safe ingredients	+ Packaging Sale via Internet	

+ indicates a positive influence on the pet food industry
- indicates a negative influence on the pet food industry
FSMA Food Safety Modernization Act
FDAAA Food and Drug Administration Amendments Act

Concerning the political/legal factors, the respondents primarily stated regulations as highly influential on the pet food industry during the last 5 years. Most frequent the new EU labelling rules (Regulation on marketing and use of feed) was named as key factor in the past and in the future (R2, R3, R4, R6, R7). This regulation led to higher costs for pet food companies through the adaption of their product labels (R2, R6, R7). In particular small pet food companies "with me-too products could face problems to comply with the new regulation" (R2). The regulation could lead to reduced growth of super-premium products stated by R2. Another negative aspect is that some labelling requirements are complicated and not easy to understand mentioned by R7. However, previously non-regulated issues are clarified and there is an increase in information (transparency) for the pet owners, which can be seen as positive (R6, R7). The interpretation of the EU regulations and the legislation regarding pet food differs between the countries, which can lead to differences in the "strictness" (R2, R6). As second key factor, four respondents (R3, R4, R9, R11) named the trade regulations as still highly influential for Western European pet food companies and two respondents (R5, R8) for North American pet food companies. Regarding Western Europe export, in particular, to non-European countries issues as registration of companies and hygiene regulations are seen as constraining. The export to North America, in particular, United States is still difficult as explained by R3. The export to Eastern Europe, in particular, the regulation for Russia (such as new EG 767) was seen as constraining according to R9. Regarding North America export to the European Union is highly influenced by the regulations concerning pet food ingredients and labelling (R5, R8). The company reports (C2, C3, C4) state that changes in regulations regarding trade can lead to higher costs and risk the operation of the company in a particular area. The Food Safety Modernization Act (FSMA) is seen

as another highly influential factor on the pet food industry in North America (R1, R8). The pet food contamination, in 2007, led to investigations and eventually influenced the Food and Drug Administration Amendments Act (FDAAA) and the FSMA regulations stated by R1. Respondent 1 added these regulations are negative in short term, but should be beneficial for manufacturers in long term. Negative influences are the additional costs for pet food companies and the adaptation of enhanced procedures could be necessary, that eventually are not applied by small pet food companies yet according to R1. Positive influences, in particular for the consumers, are the improved pet food safety and possibly further adoption of the current good manufacturing practices (cGMPs) (R1, R8). The fourth key factor that was stated was the new EU legislation regarding the feed additives as a negative influence (R4, R7). Based on this regulation, the re-authorisation of all feed additives used in pet foods is required, which leads to high costs stated by R7. Furthermore, some feed additives are no longer allowed (R7). To mention all items, the following factors were each only mentioned by one respondent. The improved EU Animal By-product rules for pet food had positive influence on the pet food industry according to R7. The improved regulation “recognises the safety of pet food, its processing standards and resulting in reduced veterinary controls of the finished product” (R7). R9 stated that in Europe, the subsidies and support policies led to a bias of the competitive positions. For example, the subsidising of unprofitable pet food companies and building of new plants based on EU funds that are at the end unprofitable. In some western countries, the decline in social security, meaning that the income strongly declines when the people become unemployed or unable to work, was stated (R10). Some respondents stated that there are no political and legislative factors that had a high influence in the timeframe of the last 5 years (R5, R11). It can be seen that the respondents agree on the influence of a couple of regulations: EU labelling rules, trade regulations, FSMA and EU feed additive regulations, but some political/ legal factors are only named by single respondents.

There were 8 economic factors named that were highly influential on the pet food industry, but the economic crisis was most frequent stated (R2, R5, R6, R7, R9, R11). The negative influence of the economic crisis on the pet food industry was higher in the regions North America and Western Europe than in Eastern Europe (R2, R11). The pet owners’ purchase decision was negatively influenced by the economic crisis and led to a move from expensive to cheaper pet food, “super premium to premium or budget pet food” (R2, R6). R11 expects that the pet owner will not quickly move back to premium brand products, if recognising no change between feeding premium brands and premium private label pet food. The economic crisis seems also to lead to a stagnation of the special pet food products, such as life stages and special needs, added by R6. In the company reports, the companies state a potential relationship between the economic situation and the changed consumer purchasing behaviour, which could affect their sales (C2, C4). “Our business is impacted by global economic conditions, which continue to be volatile” (C2). Pet owners also started to use other distribution channels such as internet or supermarket where the products are often cheaper stated by R6. The economic crisis can also put pressure on the ownership of pets, meaning that the purchase of new pets can decrease when the owners face financial problems explained by R11. Despite the economic crisis, the pet food sector continued to grow which can be explained by different factors (R1, R2, R11).

In North America, the demand for new and improved pet food products, but also higher quality products enabled the pet food companies to maintain the R&D investments and resulted in a high number of new pet food products described R1. Another explanation for the continuous growth of the pet food sector was the growth of other geographical regions such as China and Russia; compensating the sale losses in other regions (R2, R11). To mention all items, the following factors were each only mentioned by one respondent. The wealth growth in countries as Russia increased the spending for pets mentioned R11. The increasing export of raw materials of animal origin, that are not used for human consumption in EU, but in other countries, lead to a rise of the raw material prices for pet food companies stated by R7. The development of the purchasing power was highly influential in all three geographical regions according to R3. The purchasing power has to be seen in relation with the socio-cultural and technological factors (R3). Respondent 10 stated that in a couple of Western European countries, such as Greece, the purchasing power decrease with 25-30%. In addition, the income development stagnated or decreased and had together with the unemployment a negative influence on the sales (R10). Respondent 7 mentioned the trend to less dog ownership in Western Europe. For North America, the cost of ingredients and the currency value were stated as highly influential factors by R8. Summarized, the following economic factors were highly influential on the pet food sector during the last 5 years: economic crisis, purchasing power, export raw materials, dog ownership, income, wealth growth, cost of ingredients and currency value.

The respondents stated 7 highly influential socio-cultural factors, but most frequent pet humanization (R2, R3, R11) and strengthening of human-animal relationship (R1, R3, R5) were named. “The humanization of pets continues to be a key driving factor in the growth of the pet market” (C3). Respondent 11 states that pet humanization is a permanent part of the pet food industry, now. At the moment the pet food sector, for cat and dog products, is about 3-5 years behind, meaning humane food products are adapted to pets qua ingredients or supplements stated by R2. The pet humanization also starts in Eastern Europe, but increases more slowly, due to the slower economic development and the lower living standards (R2, R3). Therefore, the positive influence of pet humanization is lower. Both key factors resulted in consumer demand for humane-like products, new products, product variations, high quality pet food and luxury products (R1, R2, R5). The strengthening of human-animal relationship factor also “led to a higher pricing point at sale, but it could also lead to overpriced products for pet owners” (R1). The strengthening of the human-animal relationship increased faster in Western Europe and North America (R1, R5), but more slowly in Eastern Europe (R5). To mention all items, the following factors were each only mentioned by one respondent. R2 stated the obesity development parallel in humans and pets (cats and dogs) as highly influential for North America and Western Europe. In Western Europe, the development only started, but not yet in Eastern Europe explained by R2. The pet food industry introduced special pet food products for which a higher price is charger and the feed intake of these products is also higher, thus the obesity is leading to a higher profit stated by R2. The “middle class increased together with the western values, which led to an increase in pet ownership in Eastern Europe” (R7). R6 emphasized the close relationship between the economic and social-cultural factors, meaning that economic growth lead to a more sophisticated consumer taste. The recognition of the positive effects of pet ownership (e.g. health, social life) and

the pets' role in society (e.g. assistance dogs, working dogs) (R7) can be also linked to the strengthening of the human-animal relationship. The consumer awareness for the content of pet food products also increased in North America stated by R8. Highly influential factors that negatively affect the pet ownership and thus the pet food sales are: increase in single-households (reduction in number of dogs, but increase in cats), reduced family values "house, garden, two children, one dog" (R7) and different leisure activities of children according to R7. However, the development of fewer children is becoming stronger and has a positive influence on the pet ownership according to R10. The demographic aging does not lead to an increase in pets, since the older people are often not able to care in particular for dogs added by R10. It can be concluded that there are several highly influential socio-cultural factors that have a positive, but some also have a negative influence on the pet food sector.

Regarding the prime category technological, of the three mentioned factors, new packaging (R2, R3, R7, R9) was most frequent stated. New packaging, for example, pouch packaging, in particular, for premium products and supplements were developed for the regions North America and Western Europe. The light weight packaging had a positive influence since the packaging costs for the pet food companies and the waste is reduced stated by R7. The consumer demand for "humane grade pet food products resulted in steps being taken to upgrade the manufacturing plants" regarding "Best Management Practices, traceability and recall capability" for North America (R8). The other two key factors were each only mentioned by one respondent. First, "the sale via internet, in particular of supplements, has sometimes let to a strong market shift" (R10). Second, a developing technological factor is the sourcing of safe reliable ingredients, based on the past pet food safety issues in North America stated by R1. Therefore an accurate record keeping of ingredient sources is required in the future. A couple of respondents stated the technology for the production of pet food did not change during the last 5 years (R1, R5, R11). According to R11, the production is based on extrusion and there were no breakthrough only minor variations. For the technological factors, only the development of new packaging was stated by several respondents.
If it is reflected on the results for the technological prime category, the respondents stated only a few factors and some mentioned that there were no highly influential factors. However, for the socio-cultural factors the respondents stated that new products and product variations were produced. New products and product variations could be counted to the technological factors. Furthermore, changes in the legislation could also have let to technological changes. It seemed that the respondents were more focussed on the innovation degree of complete new processes, this could have let to the small number of factors for this prime category.

Figure 4.1 displays the dominance of all prime categories and it can be seen that the economic factors had the highest dominance in the three geographical regions during the last 5 years. The respondents stated several new or changed regulations as highly influential, but evaluated the dominance of political/legal as low for all three geographical regions. This means the influence on the pet food sector was not as strong as of other prime categories. In addition, it was stated by R8 that in Canada pet food is not regulated, except for the import. Regarding the influence of technological factors, Eastern

Europe was the exception with a low scoring compared to a medium scoring for the two other regions. As stated by the respondents the technological development is slower in the pet food industry in Eastern Europe. One respondent (R3) stated that the plants are older, but will be renewed in the future. Despite the few factors stated for this category, the respondents indicate a medium dominance. Socio-cultural category has a slightly higher dominance than technological, but still medium in North America and Western Europe. Several respondents stated pet humanization and strengthening of human-animal relationship, which resulted in the development of new pet food products, product variations and the demand for higher quality. For Eastern Europe, the category was lower rated. This can be linked to the slower development of the pet humanization and the demand for budget pet food. The economic category received the highest ranking, which can be linked to the strong influence of the economic crisis on the purchasing behaviour of the customers. The dominance of the prime categories, except for socio-cultural and technological, is similar for all three geographical regions, but has to be linked to the actual high-influential factors for each geographical region.

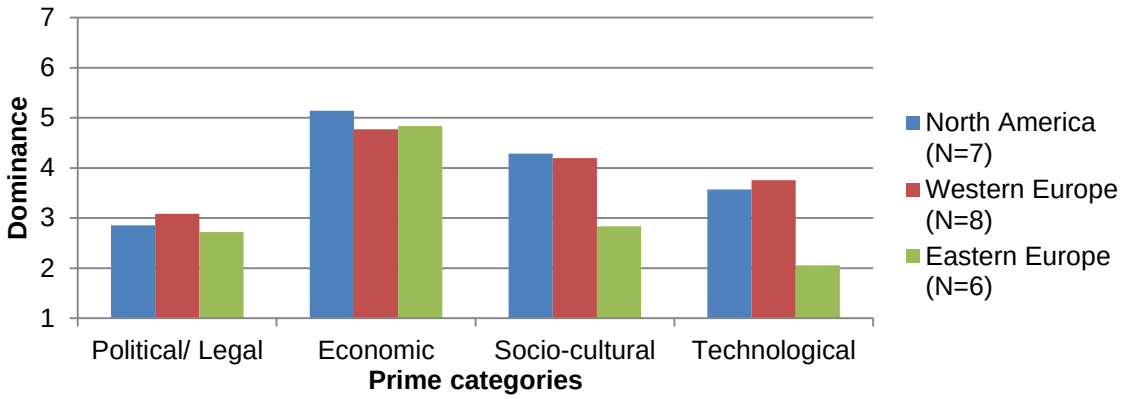

Figure 4.1 Dominance of prime categories on pet food industry during last 5 years

The question about the environmental issues led to contrasting answers regarding the current relevance in the pet food industry. Some respondents see the environmental issues as increasing relevant or already relevant (R3, R7, R11) It was stated: some countries recently pay more attention towards sustainable and national produced products by R3 or sustainable and biological are no distinct products features and have a large influence in all three regions by R11. Environmental issues are important during the manufacturing process (R1, R6), but there were only a few sustainability claims in North America according to R1. “Pet food companies see themselves as sustainable since they partly use waste of humane food production” (R2, R3). On long term the investment in environmental issues such as in renewal energy can save cost and improve the image of the pet food company stated by R7. Other respondents see the environmental issues as less relevant for the pet food sector during the last 5 years (R2, R10). Due to the economic crisis, environmental issues as sustainability were not relevant until now mentioned by R2. However, an important issue is the future protein sourcing, if the sector maintains growing and the increasing consumption in emerging regions (R2, R4). Respondent 8 also stated the “steady availability of ingredients”. It can be seen that the opinions between the respondents highly varied.

4.2 Five forces

The Five Forces analysis had as objective to investigate the competitive industry structure of the pet food sector and to indicate which business strategy should be applied, taking into account the competitive situation. In the following, the strength of each force and its variables based on the respondents scoring are displayed and analysed. The calculation of the force's strength can be found in section 3.5.

Threat of New Entrants

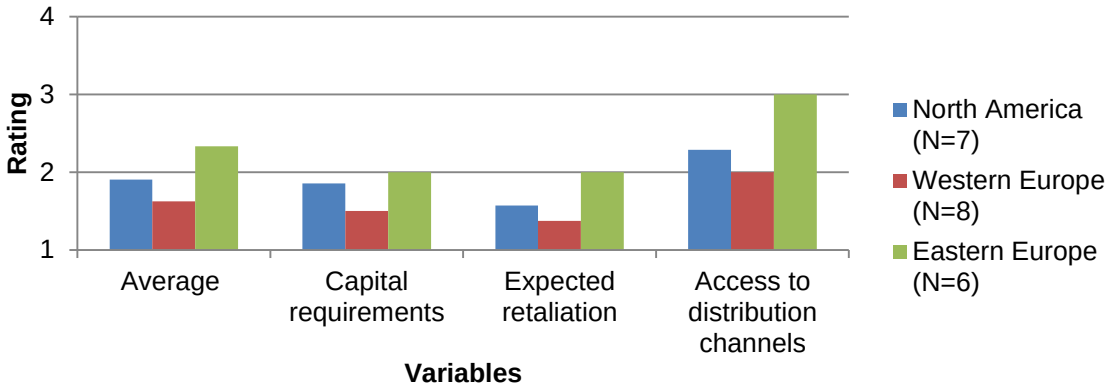

Figure 4.2 Threat of New Entrants

For this force, the scaling had to be recoded, due to the fact that the higher the Barriers of Entry, the lower the Threat of New Entrants. The results displayed in the Figure 4.2, indicate the higher the average score, the higher the threat to existing companies that new competitors will easily enter the industry.

Figure 4.2 shows that the Threat of New Entrants is low for North America and Western Europe, but medium for Eastern Europe. First, the score for capital requirements is low for North America and Western Europe. This means new companies need large financial resources to enter the pet food industry. For Eastern Europe the score is medium meaning lower financial resources are required to enter the pet food industry, making the entry easier. Second, new companies that want to enter the pet food industry have to expect strong reactions from incumbents firms in North America and Western Europe. This makes the pet food industry in these regions more unattractive for new companies and the threat for this variable is low, since fewer new companies will enter. Third, "Access to distribution channels" score is the highest for Eastern Europe; this means it is easier for new entrants to access the distribution channels, resulting in an increase of the Threat of New Entrants. For North America and Western Europe, the "Access to distribution channels" is medium, this means it lowers the Barrier of Entry and increases the threat for incumbent companies. The scoring of all variables highly varied between the respondents for North America. For Western Europe and Eastern Europe, the variation was slightly lower between the scoring but still high compared to the average. The variables for Threat of New Entrants score mostly low for North America and Western Europe, but mostly medium for

Eastern Europe, this means the Threat of New Entrants is more relevant for the pet food industry in Eastern Europe.

Bargaining Power of Suppliers

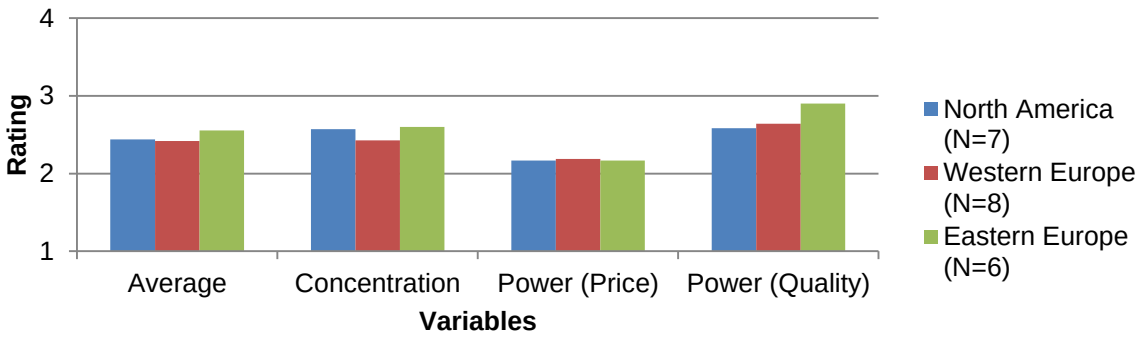

Figure 4.3 Bargaining Power of Suppliers

Note: No knowledge was given by R1 for price for North America, R8 for concentration for Western Europe/ Eastern Europe, R11 for Power (Quality) for all

The average Bargaining Power of Suppliers is medium and almost the same in the three geographical regions (Figure 4.3). The medium scoring for the variable “concentration” means that there are several suppliers present reducing the threat of suppliers. The power to influence the raw material price for the pet food industry is medium, but on the lower end. The power to influence the raw material quality is in the upper end of the medium category. From the three regions the suppliers have the highest power to influence the raw material quality in Eastern Europe. This increases their strengths towards the pet food producers. Company 1 indicates that it has contracts with their suppliers to ensure the required quality. R7 mentioned the increase of export of raw materials for human consumption “from the EU to the Far East and leading to higher prices”. If linked to Bargaining Power of Suppliers, this development could lead to a higher strength of the suppliers, thus higher scores in the future. It was also stated that if the use of bone flour in the feed for production animals will be re-allowed the price for raw materials will rise (R2). If this is linked to the supplier’s strengths their strengths will increase due to the higher number of customers. R3 stated that the supplier variables should be evaluated differently for private label and brand products. For the results, the scores of R3 were averaged. It has to be considered that the scoring for all variables for all three geographical regions highly varied between the respondents. This means the respondents have different evaluations of the strengths of the different variables. However, all four companies (C1-4) state that the disruption of the sustainable supply of raw materials or the fluctuation of the input prices would be adversely for their financial results. Summarized, according to the empirical data the threat of suppliers is medium for the three geographical regions.

Bargaining Power of Buyers

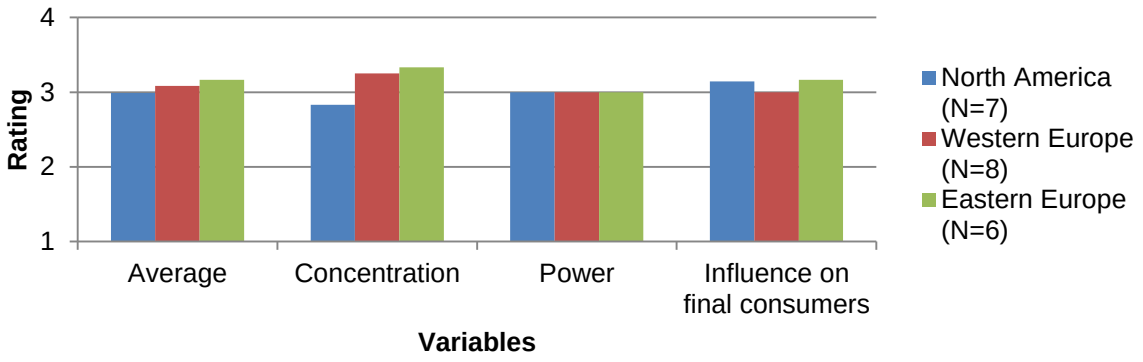

Figure 4.4 Bargaining Power of Buyers

Note: No knowledge was given by R2 for concentration for all, R8/R11 for concentration for Western & Eastern Europe, R10 for concentration for Western Europe

The Bargaining Power of Buyers is high for the average score and for most variables in the three regions (Figure 4.4). R2 states that the pet food company actively choose their distribution channel for each brand. This means the strategy regarding the distribution is dominated by the pet food company (R2, R6). This could have led to high at the lower end scoring for the variables. For example the pet food products are “available at mass retailers, grocery and pet specialty stores” (C2) and “sold by authorized pet supply retailers and veterinarians” (C4). For the variable concentration, which assesses whether only a few buyers purchase a large volume of pet food products, several respondents indicated that they have no knowledge (R2, R10; R8 & 11 not for WE, EE). For North America, the given scores for concentration highly varied between the respondents. Based on the scoring for concentration, it can be said that there are only few buyers that purchase pet food products in large volumes. This increases the Bargaining Power of Buyers, which is the highest in Eastern Europe. The variable ‘Power of buyers’ is high in all three regions. The influence of the buyers on the final consumers, the pet owners, is high for all three geographical regions. For Eastern Europe the variation of the scoring between the respondents was high compared to the average. This means the respondents had different opinions regarding this statement. According to company 2, customer disruptions would adversely affect their business. Company 3 states that it works with buyers in the areas of merchandising, product assortment and distribution and shelving to improve the profitability. R 3 indicated that these variables should be evaluated differently for private label and brand products. For the results, the scores of R3 were averaged. Summarized, according to the empirical data the Bargaining Power of Buyers is high for the three geographical regions.

Threat of Substitutes

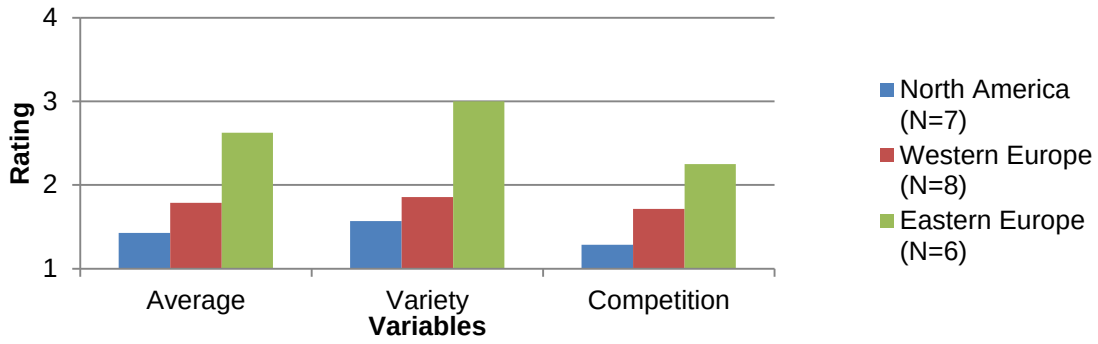

Figure 4.5 Threat of Substitutes

Note: No knowledge was given by R2 for Eastern Europe, R8 for Eastern Europe, Western Europe

The Threat of Substitutes is low for North America and Western Europe, but medium for Eastern Europe (Figure 4.5). This difference is influenced by the larger variety of substitutes and the degree of competition from these substitutes. R11 gave a higher scoring for the variable variety, which led to a higher differentiation from the average for this variable. For Eastern Europe, R3 also gave a higher scoring compared to the other respondents. Several respondents stated that substitutes outside the pet food industry are table scraps and home-made pet food (R1, R2, R3, R5, R7, R10, R11). In North America, home cooking by pet owners is a growing segment stated by R1. Most pet owners use more easily available ingredients such as meat, chicken or rice, but some use sophisticated recipes from the internet with supplements and recommended health additives explained by R1. Meat products such as organs or bones for human consumption are used as substitutes (R2, R3). The respondents indicated that substitutes, in particular table scraps, are expected to be more used on the countryside and in Eastern Europe (R5, R2). When referred to these statements the medium Threat of Substitutes for Eastern Europe can be explained by the fact that most respondents stated that the use of substitutes in Eastern Europe is more common. This can be linked to the industry life cycle phase and to the macro-environmental factors regarding this geographical region. As previously stated factors as pet humanization and strengthening of human-animal relation are not as strong in Eastern Europe as in the other regions yet. This can be also linked to the slower economic development and wealth growth. It can be concluded that humane products are used as substitutes, but the threat is low for the region North America and Western Europe.

Competitive Rivalry

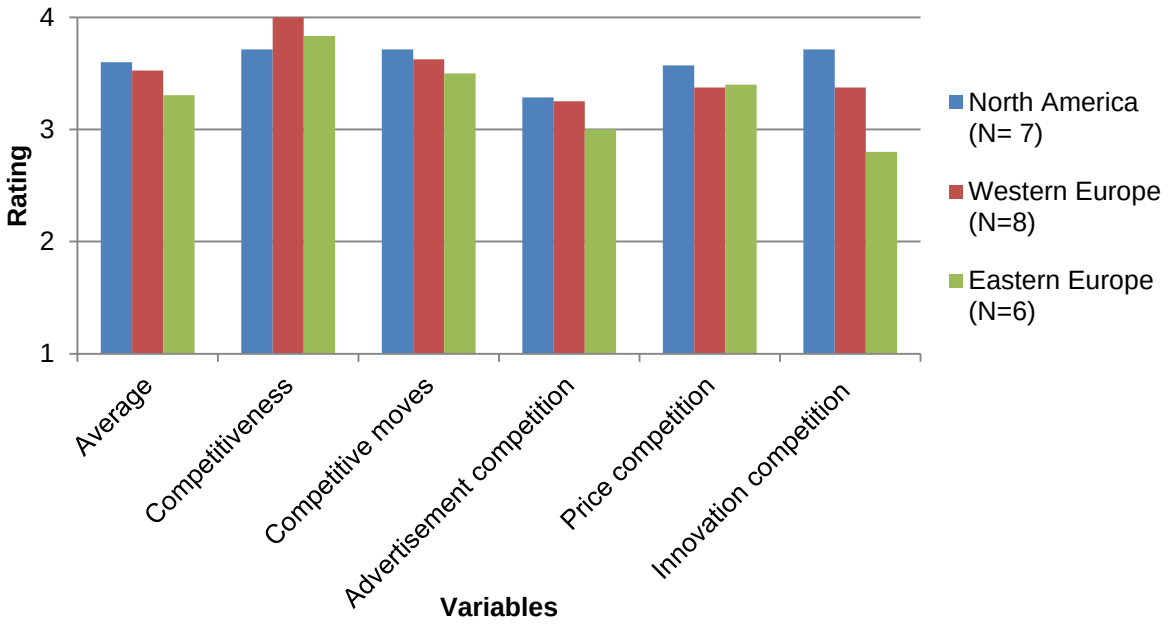

Figure 4.6 Results for Competitive Rivalry

Note: No knowledge was given by R2 for advertisement, price and innovation for Eastern Europe

The competitiveness is intense in the three regions, due to competition on different dimensions (Figure 4.6). All four company reports stated that their markets are highly competitive and consist of small and large companies with branded or private label products. The pet food companies react with counter moves on the competitive activities of other pet food companies in all investigated regions according to the respondents' scores. The respondents agreed that in all three geographical regions advertisement competition is frequent. The importance of advertising and marketing to increase the sales is emphasized by two company reports (C3, C4). Price competition is slightly higher ranked for North America, but still high for Western and Eastern Europe. The continue introduction of new products to maintain the market share is the highest in North America and only medium in Eastern Europe. This can be linked to the socio-cultural factors and the development phase of the pet food industry in the particular region. In the North America and Western Europe the consumer demand for new products or product variations is already higher. Company 2 supports their products with advertisements and promotion to maintain the market share. Company 3 adds that their branded products face strong competition from private label products that are sold at lower price level in North America. The competition in the pet food sector is done on different dimensions, such as advertisement and price resulting in a high Competitive Rivalry scoring for all three regions.

Influence of SMEs on competition

Several respondents (R5, R6, R8, R9, R11) stated that the influence of SMEs on competition in the pet food industry is relatively low in the three regions. A couple of respondents estimated that the top 5 pet food companies account for approximately 70% of the market share depending on the region. The SMEs have in particular influence in niches and in budget pet food (R2, R4, R6, R10). SMEs offer

budget pet food at lower prices, which lead to the pull back of larger pet food companies from this segment stated by R2. This can be done due to shorter distribution channels, smaller quality control systems, lower investments in brand popularity and often operating national (R2, R4). Some SMEs produce premium food, but usually no super premium quality added by R2. According to R3 in snacks and treats segment almost all companies are SMEs. The niche products of the SMEs are often distributed via specialist shops (R4, R7, R10). R10 ads that the niche markets and new markets are often better served through SMEs and in these markets SMEs have a strong influence. However these companies always have problems to reach the supermarket segment (R10). According to R7 there is a huge number of pet food SMEs in Europe that have a large local market share and the SMEs are sometimes innovative. In North America innovative SMEs are highly influential and often lead the trends towards new pet food varieties stated by R1. In Canada, most SMEs rely on strong export strategy according to R8. Summarized, the influence of SMEs is mainly on budget pet food, niches and new markets.

Life cycle phase of geographical regions

There are differences and similarities regarding the strengths of the Five Forces between the geographical regions (Table 4.2). The Threat of New Entrants and the Threat of Substitutes is medium in Eastern Europe. This means it is easier for new companies to enter the pet food market and substitutes are used by consumers. Substitutes are more often used by the consumers thus a smaller percentage of consumers is convinced of the relevance of pet food products compared to the other two regions. Based on this it could be concluded that Eastern Europe is in the growth phase of the industry life cycle. Despite the Competitive Rivalry which is already high as in North America and Western Europe, which can be accounted to the maturity phase. The high Competitive Rivalry could be explained by the fact that large pet food companies entered the Eastern European market and introduced their existing products as stated by the respondents. But the development the Eastern European market is more slowly due to the slower economic growth leading to consumer demands for budget pet food. Therefore despite the high Competitive Rivalry, Eastern Europe should be placed into the growth phase. In North America and Western Europe the Threat of New Entrants is low; this means Barrier of Entry is high, which is commonly linked to the maturity phase. The maturity phase is characterised by high competition and low level of new entrants. The Bargaining Power of Suppliers is medium and the Bargaining Power of Buyers is high for all three regions. Based on the empirical results, the regions North America and Western Europe are considered to be in the maturity phase and Eastern Europe in the growth phase.

Table 4.2 Overview over averaged results for Five Forces strength

Force	North America	Western Europe	Eastern Europe
New Entrants	Low	Low	Medium
Bargaining Power of Suppliers	Medium	Medium	Medium
Bargaining Power of Buyers	High	High	High
Substitutes	Low	Low	Medium
Competitive Rivalry	High	High	High

As stated previously, high competitive forces can be linked to the value discipline of operational excellence. According to Porter (1980, 1998) the strongest force or forces determine the profitability of the industry and has the highest importance for the strategy formulation in our case for the pet food companies. The results, Table 4.2, for all three geographical regions show that the Bargaining Power of Buyers and Competitive Rivalry are high. Therefore the use of the business strategy operational excellence should be recommended for all three regions. For Eastern Europe, no force was scored as low therefore this it is the least attractive geographical region from the three regions at this point in time. The attractiveness of an industry depends on the strength of the Five Forces. As higher the strength of the forces the less attractive is the industry or in this case the industry in the geographical region (Porter, 1980, 1998). In the next section, the business strategies based on the respondents' rankings will be evaluated. Due to the fact that all forces are medium or high for Eastern Europe, it is expected that the decision for the operational excellence strategy is clearer. For the other two regions the scores for different value disciplines are expected to be more closed together. Based on the high strengths of the forces Bargaining Power of Buyers and Competitive Rivalry, the business strategy operational excellence should be recommended for pet food companies in all three geographical regions.

4.3 Business strategies

The objective of this section is to point out, which business strategy should be applied by pet food companies to be successful in the three geographical regions according to the ranking of the variables. Another interest was to examine whether companies should apply the same or different business strategy for the different regions. In section 4.2, it was presented that the strengths of the Five Forces can be linked to the recommendation for applying particular business strategies. This means the strengths of the Five Forces influence the business strategic choices to compete viably. In this section, the business strategies based on the answers of the respondents are analysed for each geographical region. This gives the possibility to investigate, whether the results of the respondents agree with the results of the previous section.

R3 decided to rank the variables separately for A-brands and private label companies. The ranking of R3 is not included, but the inclusion of one of the respondent's ranking (each separately) or both did not change the business strategy results for the three geographical regions. Two other respondents did not rank their top 5. Therefore their data, for this section, could not be used.

Business strategy for North America

The average top 5 of the selected variables consist of 3 variables of operational excellence, 1 of product leadership and 1 of customer intimacy (Table 4.3). All variables were selected by the respondents at least once. The variables that received the highest ranking by the respondents were "Price for customers" and "Cost". The variable "Cost" refers to keeping the costs low for pet food production, marketing and distribution. The variable "Price for customers" refers to offering the pet food products at a lower price compared to competitors. In addition, the variables "Availability",

"Customer relation" and "Innovation" are in the average top 5. There is a large difference between variables 4 and 5 to the first three variables. This means that most respondents ranked the first three variables as important. "Availability" means that the pet food products are easy accessible for the pet owners, for example, through supermarkets. "Customer relation" refers to the pet food company focus on a good relationship with the pet owners to fulfil their needs to ideally achieve customer loyalty. 'Innovation' is the constantly modifying and improving of pet food products, through adding new functions or ingredients. It can be concluded that the variables "Price for customer", "Cost" and "Availability" are seen as most important for a pet food company to be successful in North America.

Table 4.3 Variable ranking and weighted scores for North America (N=5)

Variable ranking	Business strategy	Average score	Selected/ No respondents	Weighting	Weighted score
1. Price for customers	OE	3.80	4/5	0.25	0.95
2. Cost	OE	2.60	3/5	0.25	0.65
3. Availability	OE	2.40	4/5	0.25	0.60
4. Customer relation	CI	1.20	2/5	0.33	0.40
5. Innovation	PL	1.00	3/5	0.33	0.33
6. Tailored products	CI	1.00	2/5	0.33	0.33
7. State of the art products	PL	1.00	2/5	0.33	0.33
8. Service	CI	0.80	2/5	0.33	0.26
9. Fast commercialization	PL	0.80	2/5	0.33	0.26
10. Standard product	OE	0.40	2/5	0.25	0.10
Operational excellence					2.30
Customer intimacy					0.99
Product leadership					0.92

Customer intimacy (CI), Operational excellence (OE), Product leadership (PL)

The summing up of the weighted scores for all variables showed that the business strategy operational excellence is most appropriate based on the respondents' rankings. The business strategy operational excellence aims for the leading position in pricing and convenience. It is characterised by minimising overhead costs, optimizing business processes, "lean & mean production" and distribution and simple service (Treacy & Wiersema 1993; 1995). Company 2 and 4 stated that they started to focus on saving costs and increasing the production efficiency. The second (Customer intimacy) and third (Product leadership) business strategy are closer together. The lower scores for customer intimacy and product leadership mean that these strategies are not as appropriate for North America, based on the ranking of the respondents. The analysis of the Five Forces (Section 4.2) resulted in the same business strategy. It can be concluded that the business strategy operational excellence is appropriate for pet food companies to be successful in North America.

Business strategy for Western Europe

The top 5 of the selected variables consist of 3 variables of operational excellence, 1 of product leadership and 1 of customer intimacy (Table 4.4). All variables were selected by the respondents at least once. From the results of all three geographical regions the average score of the top 5 variables for Western Europe are the closest together. The highest scored variable is "Price of customers", the offering of pet food products at a lower price compared to competitors. "Availability" means that the pet food products are easy accessible for the pet owners, for example, through supermarkets. Place three

"Costs" refers to keeping the costs low for pet food production, marketing and distribution. R2 and R6 stated that the pet food companies want to keep their distribution and production cost low, but most companies invest in marketing, in particular for super premium pet food products the marketing spending is high. "Innovation' is the constantly modifying and improving of pet food products, through adding new functions or ingredients. "Customer relation" is on place five, which refers to the pet food company focus on a good relationship with the pet owners to fulfil their needs to ideally achieve customer loyalty. R6 stated that also the relation of the pet food companies with the distributors and the retail is important. It can be concluded that the variables "Price for customers", "Availability" and "Costs" are seen as most important for a pet food company to be successful in Western Europe.

Table 4.4 Variable ranking and weighted scores for Western Europe (N=5)

Variable ranking	Business strategy	Average score	Selected/ No respondents	Weighting	Weighted score
1. Price for Customers	OE	3.40	5/5	0.25	0.85
2. Availability	OE	3.20	4/5	0.25	0.80
3. Cost	OE	1.80	2/5	0.25	0.45
4. Innovation	PL	1.40	4/5	0.33	0.46
5. Customer relation	CI	1.40	2/5	0.33	0.46
6. Service	CI	1.20	2/5	0.33	0.40
7. Tailored products	PL	0.80	2/5	0.33	0.26
8. Fast commercialization	PL	0.40	1/5	0.33	0.13
9. State of the art products	CI	0.40	1/5	0.33	0.13
10. Standard product	OE	0.20	1/5	0.25	0.05
Operational excellence					2.15
Customer intimacy					1.12
Product leadership					0.72

Customer intimacy (CI), Operational excellence (OE), Product leadership (PL)

The summing up of the weighted scores for all variables showed that the business strategy operational excellence is most appropriate based on the respondents' rankings. The business strategy operational excellence aims for the leading position in pricing and convenience. The business strategies customer intimacy received a weighted score of which is the closest to operation excellence score of three regions. This can be explained by the high scores for the two variables "Customer relation" and "Service". The total weighted score for product leadership is 0.72. Compared to the results of the two other geographical regions, the total weighted scores for Western Europe are the closest together. The analysis of the Five Forces (Section 4.2) recommended the business strategy operational excellence. This means the results of both sections agree on the same business strategy. It can be concluded that the business strategy operational excellence is appropriate for pet food companies to be successful in Western Europe.

Business strategy for Eastern Europe

The top 5 of the selected variables consist of 4 variables of operational excellence and 1 of customer intimacy (Table 4.5). For Eastern Europe, the respondents did not select the variables "State of the art products" and "Fast commercialisation". But the variables "Price for customers" and "Standard product" were selected by all respondents and received the highest scoring, this means all respondents consider them as important. These variables are ranked on first and second place.

"Standard product" refers to products that use inexpensive ingredients and procedures to keep the price for the customers low. "Price for customers" is concerned with offering the pet food products at a lower price compared to competitors. "Costs", which refers to keeping costs the low for pet food production, marketing and distribution, is on place three. On the fifth place is "Tailored products", which are products that are customized to particular customer segments and their needs. "Availability" means that the pet food products are easy accessible for the pet owners, for example, through supermarkets and is also in the top 5. It can be concluded that the variables "Price for customers", "Standard product" and "Costs" are seen as most important for a pet food company to be successful in Eastern Europe.

Table 4.5 Variable ranking and weighted scores for Eastern Europe (N=4)

Variable ranking	Business strategy	Average score	Selected/ No respondents	Weighting	Weighted score
1. Price for customers	OE	4.50	4/4	0.25	1.13
2. Standard products	OE	3.50	4/4	0.25	0.88
3. Costs	OE	2.50	2/4	0.25	0.63
4. Availability	OE	2.25	4/4	0.25	0.56
5. Tailored products	CI	0.75	1/4	0.33	0.25
6. Customer relation	CI	0.50	2/4	0.33	0.17
7. Service	CI	0.50	2/4	0.33	0.17
8. Innovation	PL	0.50	1/4	0.33	0.17
Operational excellence					3.20
Customer intimacy					0.59
Product leadership					0.17

Customer intimacy (CI), Operational excellence (OE), Product leadership (PL)

The summing up of the weighted scores for all variables showed that the business strategy operational excellence is most appropriate based on the respondents' rankings. The business strategy operational excellence aims for the leading position in pricing and convenience. It can be seen that there is a large distance between the weighted scores for the first two strategies; this means operation excellence is considered as much more appropriate based on the respondents' rankings. Based on these results of the Five Forces the same business strategy operational excellence was recommended. It can be concluded that the business strategy operational excellence is appropriate for pet food companies to be successful in Eastern Europe.

4.4 Influence of innovation

The objective of this section is to give insight in the influence of innovations on the pet food sector regarding the industry structure, dynamics and the business strategies. First, the main motives for pet food companies to innovate are analysed. Second, the recommended investments into R&D for the development of pet food products and manufacturing processes are investigated. Third, the influences of the different innovation types are indicated. Fourth, the importance of different sources for innovations for pet food companies in the three regions is analysed. Finally, the influence of SMEs on product innovations is described.

Main motives for innovations in pet food companies

There were 9 different motives mentioned for pet food companies to innovate, but the most frequent maintaining, strengthening and improving the competitive position was stated. The most frequent named motive was to maintain, strengthens and improve the competitive position of the company, linked to maintaining and expansion of the market share and competitive edge (R1, R5, R7, R8, R10, R11). The motive was named for all three geographical regions. Successful innovations are necessary for company's growth and competition (C2, C4). To be in the follower position or the failing of an innovation could negatively affect the company (C4). The motives increase profit (R2, R3) and margin (R3, R9) were named each by two respondents for all three geographical regions. When referred to the motive margin, new unique products can be offered for a higher price leading to a higher margin for the pet food company. To mention all items, the following motives were each only mentioned by one respondent. The motive differentiation from the competitors should lead to the improvement of the profit (for all three regions) (R3). Two further motives were stated by respondent 6 for companies in Europe, the "adaptation to the legislation and to consumer needs". "The improvement of products, for example taste or functionalities", and cost savings is stated for companies in Western Europe by R7. All four companies (C1-4) strongly invest in R&D to develop new products and improved products to maintain the attention of their customers. "Smaller companies could innovate since they recognise quality problems by the larger companies", for Western Europe (R10). It can be seen that diverse motives were named by the respondents and company reports, but the most frequent stated motives were: maintaining, strengthens and improve the competitive position, increase profit and increase of the margin.

Recommended investments of pet food companies into development of new products and processes

Regarding the recommended investments of the sales into new product and process development, numerous respondents had no knowledge and only a couple of respondents gave estimates. Several respondents stated that they have no knowledge or that a distinction of the investments is difficult (R1, R5, R6, R8, R9, R11). The invested amount depends on factors such as the company size (start-ups, major food companies), sophistication of company, private label or brand, resulting in different budget and capabilities (R1, R3, R9). This makes it difficult to estimate a percentage (R1, R3, R9). For the companies also the brand protection is important in which large investments are done stated by R2. The timeframe of the strategic objective could lead to differentiation of the innovations, for example "short term as new variation, medium-term as new packaging, long-term as new technology" (R4). It can be concluded that the recommended investments depends on various factors, to make an estimation difficult.

Two aspects that became clear are that product innovations are more important in the pet food industry and there is a difference between the three geographical regions concerning the importance of innovation (R2, R3, R5, R7, R9). Product innovations in the pet food sector are often changes in product composition as new variations (R2, R3, R5). Process development is focussed on new types of pet food, but the investments are lower stated by R2. "With the same equipment diverse products

can be made" (R3). The respondents stated investments of the sales between 0-15% (depending on geographical region and private label/ brand) for product development and 0.2-3% for process development (R2, R3, R7, R9). North America, in particular USA, is the strongest region regarding pet food innovations (R2, R3, R11). North America is followed by Western Europe and the innovative developments are the lowest in Eastern Europe or not present (R2, R3, R11). The following investment percentages of the sales were stated: product innovations: North America: 3-4% (R2), 10-15% (A-brands R3); Western Europe: 2% (R2), 5-10% (A-brands R3), 3% (R9), 2-5% (R7); Eastern Europe 0% (R2), 0-5% (A-brands R3). R3 estimated that private label invested 2-4% in their new product development. For process innovations were stated: for all 1/10 of investments for product innovations (R2), 1-2% (R3) Western Europe: 1-3% (R7). When referred to these results, the estimated low investments in process innovations could be linked to the statement of two respondents named that there was no break-through regarding innovations in the last years and that for the production still the same procedures as extrusion are used in the pet food industry (R5, R11). The respondents indicate the lowest dominance for technological factors for the region Eastern Europe, which can be linked to respondents' opinions that the development of new products and processes is the weakest in this region. According to the literature (Johnson et al., 2012) product innovations are more common for growing markets which could be assumed to lead also to higher investments, but the investments in Eastern Europe are the lowest according to the empirical data. For the mature regions North America and Western Europe higher process investments could be expected according to the literature (Johnson et al., 2012), but the empirical data does not confirm this for the pet food sector. It can be concluded the investments differ between the three regions, but are higher for product innovations than for process innovations.

Impact of innovation types on pet food industry dynamics

The impact of the different innovation types on the pet food industry dynamics differ between the three geographical regions. In Table 4.6 the average of the points and the range of the respondents answers can be found. There were 3 items added by one respondent (R11): innovation regarding packaging, transport efficiency and improvement of the integration of raw material sourcing. Due to the scoring of only one person for these three items, their percentage is high and the total is lower than 100%. Taken together product innovations have more impact in all three regions compared to process innovations. This agrees with the answers on the recommended investments. Complete new products received the highest percentage for North America also compared to the other regions. Four out of six respondents gave the highest percentage for this innovation degree in North America. This can be linked to the answer of several respondents that North America is the innovation leader. R2 also stated that the pet food product life cycle in North America is shorter compared to the other two regions. Line extensions and improvement of existing products are on second and third place. The smallest differences between the given points are for improvement of existing products, product repositioning and new processes meaning the respondents had a similar opinion about their impact. For Western Europe, improvement of existing products is on first place, but complete new products and new product lines are scored only slighty lower. This means these three innovation degrees have a similar strong impact on the industry dynamics. Western Europe is seen as innovation follower. The

closest values can be found for process innovations compared to the range of points given by the respondents for the other variables. For Eastern Europe the influence of improvement of existing products, complete new products and line extension are scored as highest and are close together. The smallest range in the scoring was found for product repositioning and improved processes. From the company reports: company 1 uses different degrees of innovation in particular new products and improvement of existing products and company 4 focuses in particular on new products and line extentions. It can be concluded that complete new products or improvement of existing products have the highest impact on the industry dynamics in each region.

Table 4.6 Average impact (%) and range (%) of innovation types on industry dynamics

Innovation type	North America (N=6)	Western Europe (N=7)	Eastern Europe (N=4)
Complete new products	27.0 (10-50)	18.7 (7-30)	16.7 (0-30)
Improvement of existing products	14.5 (10-20)	19.5 (7-40)	18.3 (10-35)
Line extension	19.5 (10-30)	16.8 (6-35)	16.7 (5-35)
New product lines	11.7 (0-30)	18.0 (10-30)	5.0 (0-50)
Product repositioning	6.7 (0-15)	10.7 (0-30)	8.3 (0-15)
New processes	7.4 (2.5-10)	6.6 (2-20)	11.7 (0-30)
Improved processes	10.8 (2.5-20)	7.8 (2-20)	8.3 (0-15)
Account for (% of 100)[2]	98%	98%	88%
Packaging[1]	15.0	15.0	15.0
Transport efficiency[1]	0	10.0	10.0
Integration of sourcing[1]	0	10.0	10.0

[1] The respondents had the possibility to add further innovation types. R11 added these variables, because the respondent saw them as relevant. Therefore N=1 for these items

[2] The respondents were asked to distribution 100 points. The lower total percentage is due to the additional added innovation types that received the rating only of the one respondent.

Importance of bases for innovations in pet food companies

The respondents had to distribute 100 points to rate the importance of the bases for innovations in pet food companies. The scores of the respondents were averaged to indicate the importance of the different bases. For Eastern Europe, the scores varied highly between the respondents. For example, the scoring for consumer needs ranged from 20 to 100 points. R11 stated that in general the importance of the bases differs between the top 5 pet food companies and the other pet food companies. For example, the top 5 do a lot of scientifc research also in cooperation with universities. R11 was not able to distribute all 100 points for the other pet food companies. Therefore the scoring of R 11 as well as R10, which also did not divide 100 points were removed from the analysis concerning this question.

Figure 4.7, shows that the scorings for North America and Western Europea are similar in contrast to the scoring for Eastern Europe. It can be seen that the consumer needs received the highest average scoring for North America and Eastern Europe. The importance of consumer needs can be linked to the medium impact of socio-cultural factors on the industry. As previous stated the increase of the pet huminization and strengthens of human-animal relation led to several new innovations during the last 5 years. Consumer pull is more important, since the best innovation (technology push) does not provide profit if there is no demand stated by R4. This means the companies have to orientate towards the consumer to better meet the needs. “Successful innovation depends on our ability to correctly

anticipate customer and consumer acceptance" (C2). For Eastern Europe has the largest distance between the different variables and consumer needs scores the highest. For Western Europe, the scores for scientific research and consumer needs are similar. Scientific research scored on the second place for North America, first for Western Europe and third for Eastern Europe. Some respondents stated that scientific research and in-house research overlap in particular when pet food companies work together with universities (R11, R5). Company 1 has research partnerships with other businesses and universities. "In-house research is important, since scientific research does usually not result in ready pet food products, but the pet food company has to integrate the knowlegde to develop new products" (R6). Between 13-15% received the base other industries, in particular the humane food industry in all three geographical regions was stated. This can be also linked to the pet humaniZation which resulted in consumer demand for particular pet food products, therefore the pet food companies also have to orientated toward this industry. It can be concluded that the pet food industry uses 4 bases for their innovations, but the importance of these bases differ between the three geographical regions.

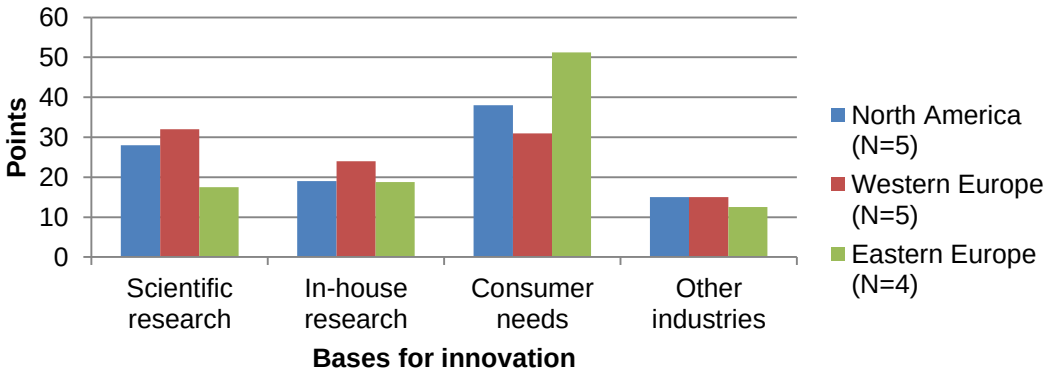

Figure 4.7 Results for bases for innovation

Role of SMEs on product innovations in pet food industry

Several respondents stated that the SMEs play a role regarding product innovations in the pet food industry (R1, R2, R3, R4, R6, R8, R10, R11), but some respondents have a opposite opinion (R5, R7, R9). The SMEs often lead innovation through the "use of new ingredients, flavours, for example, trends towards organic and low calorie pet food in Nord America' and Western Europe" (R1(citation), R3, R6, R10, R11). They develop more new products since they are more flexible (R2, R11), meaning the "companies do more experiments and then test on the market whether there is a demand" (R2(citation), R4). The larger companies have more strategies as first consumer research is done (R2, R4). "Small and medium companies play a large role for innovation and dynamics in the pet food sector" (R11). The SMEs also use product innovations to compete for the remaining market share stated by R8. R5, R7 and R9 have a different opinion about the role of SMEs. They see their role as limited. R9 added that the new developments in Western and Eastern Europe are driven by the brands. It can be seen that there are different opinions about the role of the SMEs regarding product innovations.

Several respondents mentioned that if the SMEs develop a successful product, they are often copied, patents are purchased or taken over by the larger pet food companies in North America and Western Europe (R2, R3, R6, R11). R11 sees the practice of takening over in all the investigated regions. Another possibility is that the large companies copy the product or purchase the patent, if present, in North America and Western Europe stated by R2. Due to their distribution channels and operating international, it is easier for the large companies to introduce the new product and profit from it mentioned by R2. The large pet food companies monitor the other companies, their developments and patent requests (R2, R6). Most respondents indicated that SMEs are often taken over, copied or there patents are purchased when they introduce a successful product.

4.5 Conclusions of the results

In this section, the sub research questions for the empirical part are briefly answered. More detailed information concerning the results can be found in the sections 4.1-4.4.

5. *According to the empirical data, which factors have impact on the industrial structure and dynamics in the different geographical regions?*

The empirical data showed differences regarding the influencing factors between the three geographical regions. Three of the four macro-environment categories; economic, socio-cultural and technological have a medium to high impact in the regions North America and Western Europe (Section 4.1). In Eastern Europe only economic factors have a high impact. The highly influential factors of these categories and their influence (positive/negative) partly differ between the geographical regions (Section 4.1). Regarding the competitive forces, Bargaining Power of Buyers and Competitive Rivalry are high for all three geographical regions. The Bargaining Power of Suppliers is medium for all three regions (Section 4.2). For the region Eastern Europe, Threat of Substitutes and Threat of New Entrants were medium. This makes Eastern Europe the least attractive of the three geographical regions and the other two regions moderately attractive at this point in time (Section 4.2). Regarding innovations, it can be concluded that innovations have an impact on the industry structure and dynamics. Product innovations have influence, although the respondents stated that innovations are not as important in Eastern Europe as in the other two geographical regions (Section 4.3). Innovations are mainly used to influence the competitive position of a pet food company, thus influencing the Competitive Rivalry. In the regions North America and Western Europe, technology push and market pull are similar important for innovations in the sector, but in Eastern Europe market pull has a higher relevance (Section 4.3). The highest influence on industry dynamics was stated for new products in North America, and improvement of existing products in Western and Eastern Europe (Section 4.3).

6. *According to the empirical data, how do these factors affect the business strategies in the different geographical regions?*

The high and medium macro-environmental categories and the stated highly influential factors, impact in particular the price, innovations and products offered in the geographical region. For example, the

most frequent stated socio-cultural highly influential factors led to more new products and product variations, in particular, in North America and Western Europe. Product innovations are seen as more important for the pet food companies than process innovations. The medium influence of socio-cultural and technological factors in North America and Western Europe can be also linked to the importance of market pull and technology push for the innovations in pet food companies. However, based on the ranking by the respondents the business strategy product leadership is least appropriate for the three regions. For Eastern Europe the respondents stated that innovation is the least important, thus has low influence. Although in Eastern Europe, the innovations are mainly based on market pull, but the respondents stated a low impact for socio-cultural factors, which can be explained by the high dominance of economic factors. Eastern Europe has lower living standard and slower economic development than the other two regions leading to the lower influence of innovation. Other factors that have influence on the business strategies are the strengths of the competitive forces. The high strengths of the Bargaining Power of Buyers and Competitive Rivalry lead to the recommendation of operational excellence for all three regions. The Bargaining Power of Suppliers was medium for all three regions. For the region Eastern Europe, the other forces Threat of Substitutes and Threat of New Entrants were also medium. Very adverse forces can nullify other favourable forces. Based on the ranking for the business strategy variables of the respondents, operational excellence is also the recommended business strategy for all three geographical regions. Despite the recommendation of the business strategy operational excellence, process innovations are less important than product innovations in the pet food sector.

5. Conclusions

This chapter consists of three parts. First, the results of the empirical part are discussed on the basis of the theoretical framework (Section 5.1). Second, the sub research questions 7 till 9 and the central research question are answered (Section 5.2). Third, the research is critical reflected (Section 5.3).

5.1 Discussion of the empirical results on basis of the theoretical framework

In this section, the results of the empirical part are discussed on the basis of the theoretical framework assumed relations to indicate whether there is confirmation regarding the pet food industry. In Figures 5.1 and 5.2 the arrows and variables that have impact are displayed in bold.

1. Macro-environment to industry structure

The empirical data showed that three prime categories have high to medium impact on the pet food industry. The highest impact in the three geographical regions has the economic category in particular influencing the consumer spending for pet food products. Due to the economic crisis (most frequently stated), consumers switched to cheaper pet food. Referred to this the sales of companies selling these products probably increased and moved the Competitive Rivalry towards price competition. A medium impact was found for the socio-cultural factors and for the technological factors in North America and Western Europe. Most frequently the increase of pet humanization and strengthens of human-animal relation was named as socio-cultural factor resulting in consumer demand for human-like products, new products, variations and high quality products. For technological factors, most frequent the development of new packaging was stated. The dominance of all other macro-environmental prime categories was rated as low on the pet food industry. The highly influential factors partly differed between the geographical regions. Detailed information can be found in section 4.1.

2. High competitive forces to business strategies

According to the literature, high competitive forces lead to the competition based on price and can be linked to the value discipline operational excellence (Section 2.4). High forces can reduce the favourable conditions of other forces (Porter, 1980, 1998). The empirical data showed that the forces Bargaining Power of Buyers and Competitive Rivalry are high for all three geographical regions. Based on these high forces, the pet food companies should choose operational excellence as business strategy to compete viably. The ranking of the different variables of the business strategies by the respondents agreed on this result. This means it agrees on the theoretical framework arrow 2. It was assumed that the competition is lower in Eastern Europe, due to the developing stage of the region which is not validated by the empirical data. Based on the medium and high levels for all forces Eastern Europe, it is the least attractive region of these three regions at this point in time. Based on the medium Threat of New Entrants and Substitutes, Eastern Europe is sorted into the growth phase of the industry life cycle. Western Europe and North America which have a low Threat of New Entrants and Substitutes are counted to the maturity phase. For detailed information see 4.2 and 4.3.

3. Low-medium competitive forces to business strategies

According to the empirical data, a couple of competitive forces are low or medium. Nevertheless, 2 of the 5 forces are high in each region, which can reduce the favourable conditions of the other forces. The business strategies customer intimacy and product leadership were also only on the second and third place according to the respondents ranking of the variables. It can be concluded that the business strategies customer intimacy and product leadership are not appropriate for pet food companies in the three regions based on the ranking of the respondents. For detailed information see 4.2 and 4.3.

4. Macro-environment to innovation

According to the literature, the macro-environment can support or restrain the innovations. When analysing the empirical results it can be seen that especially socio-cultural factors raised the consumer demand for new products, variations and higher quality products, thus for innovations. This impact was stated as medium for North America and Western Europe compared to Eastern Europe. The technological category was ranked as medium and only a couple of factors were stated. Some respondents stated there was no technological breakthrough regarding processes. A couple respondents stated that product innovations in the pet food sector are often changes in product composition as new variations. What was not mentioned by the respondents but could affect the innovations are new regulations such as the regulation concerning feed additives. For detailed information see 4.1 and 4.4.

5. Innovation of industry structure

The empirical results partly agree that innovation influence the competitive forces. Regarding the pet food sector innovations are mainly used to maintain, strengthens or improve the competitive position, thus impacting the Competitive Rivalry. The analysis of the Competitive Rivalry showed that the pet food companies compete on different levels also with innovations. The introduction of new products for maintaining the market share was seen as high for North America and Western Europe, but medium for Eastern Europe. The respondents stated that SMEs that have successful innovations are copied or taken over by larger companies, thus innovations can lead to counter moves by the competitors. The influence of innovation on other competitive forces cannot be confirmed by the empirical data of this research concerning the pet food sector. The impact of product innovations (depending on degree) on the pet food industry dynamic was rated higher than the impact of process innovations. In addition, the estimated investments in process innovations were also lower. For detailed information see 4.4.

6. Business strategies to innovation

Despite the recommendation of the business strategy operational excellence for pet food companies, process innovations are less important than product innovations in the pet food sector based on the respondents answers. It was assumed that process innovation should be more important than product innovations, if the strategy operational excellence is used to improve the product efficiency. A high importance of product innovations is more related to the value discipline product leadership which is

the least recommended business strategy based on the results of the respondents ratings. Therefore this arrow cannot be confirmed by the empirical results regarding the pet food sector.

7. Innovation to business strategies

The empirical results showed that the consumer needs (Market pull) is the most important source for innovation in pet food companies in North America and Eastern Europe. But the difference in the importance of consumer needs, scientific research and in-house research is the largest in Eastern Europe. The importance of consumer needs can be linked to the medium impact of socio-cultural factors on the industry in North America. For Western Europe, the scores for scientific research and consumer needs are similar. Scientific research scored on the second place for North America and third for Eastern Europe. Some respondents stated that scientific research and in-house research overlap in particular when pet food companies work together with universities. The importance of other industries as humane food industry is in all three geographical regions between 13-15%. This can be also linked to the pet humanisation which resulted in consumer demand for particular pet food products, therefore the pet food companies also have to orientated toward this industry. Some respondents and company reports stated that the pet food companies monitor the innovations, patent request of their competitors to be able to react. It is shown that pet food companies orientated on the business environment for their innovation strategy.

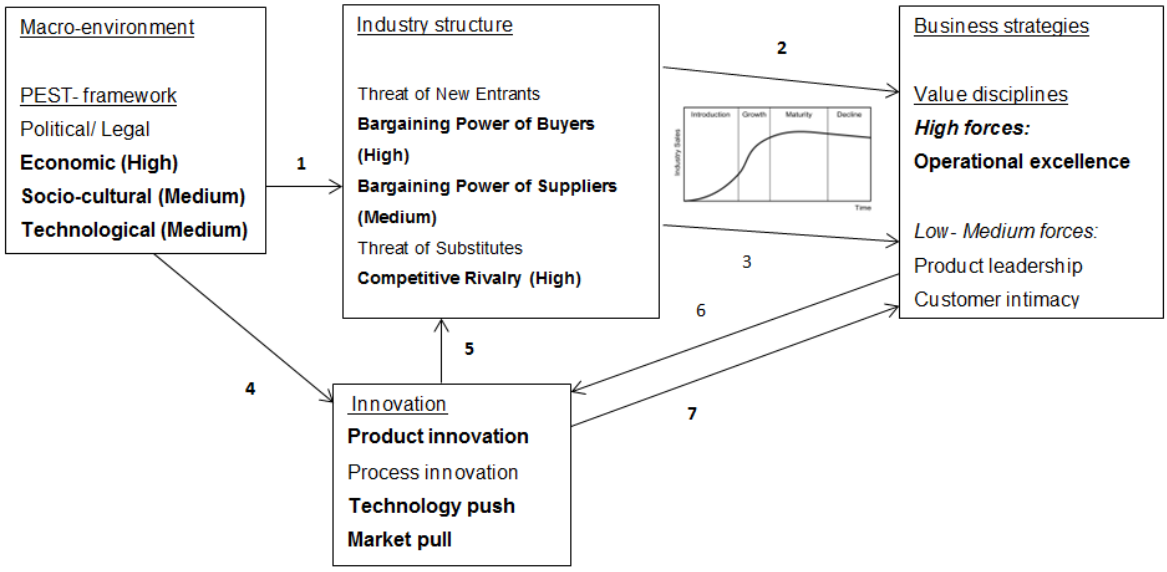

Figure 5.1 Theoretical framework for North America and Western Europe

Note: All the variables and arrows that were confirmed by the empirical results to have an impact (medium/ high) are shown in **bold.**

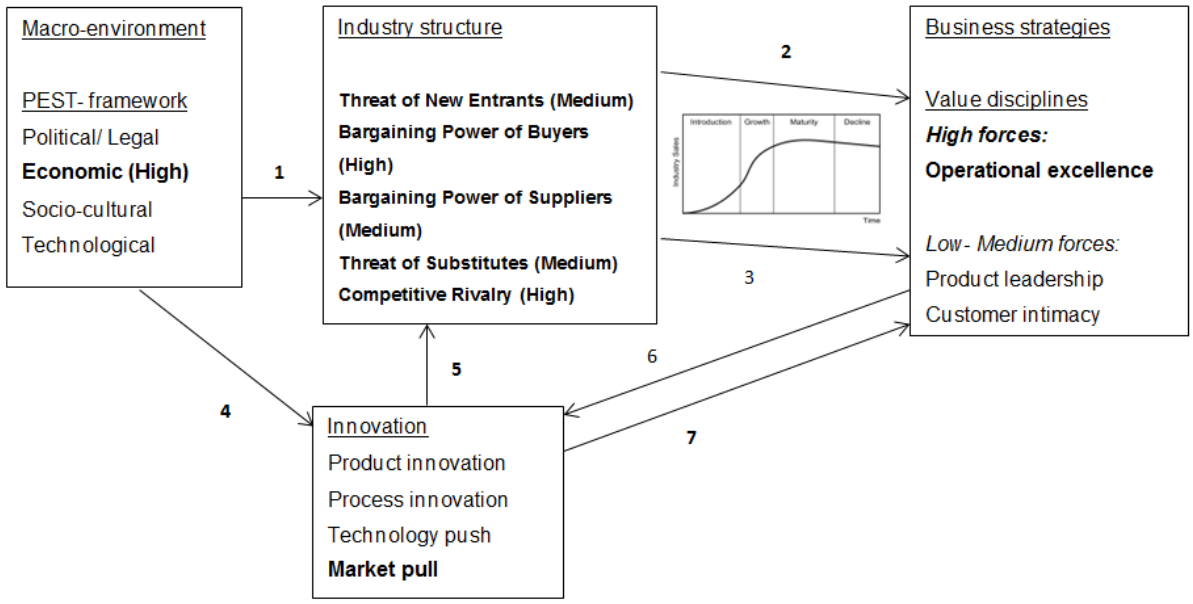

Figure 5.2 Theoretical framework for Eastern Europe

Note: All the variables and arrows that were confirmed by the empirical results to have an impact (medium/ high) are shown in **bold.**

5.2 Sub research questions (7-9) and central research question

In this chapter, the last three sub research questions (7-9) and the central research question will be answered. The answers for the other sub research questions can be found in the belonging chapter.

7. *What confirmation exists between the theoretical framework and the results of the empirical part of the study?*

There is partly confirmation between the theoretical framework and the results of the empirical study. Three prime categories of the macro-environment have a high or medium influence of the pet food sector depending on the region. The evaluation of the high competitive forces and the ranking of the respondents resulted in the business strategy operational excellence which agrees with the theoretical framework. The macro-environment has influence on the product innovations in the sector. Innovation influences the importance of innovation in the business strategy, but not vice versa. This means the importance of product innovation does not agree on the suitable business strategy operational excellence. The influence of innovation on industry structure and dynamics is used by companies to influence their competitive position. The other variables and arrows could not be confirmed by the empirical data to have an impact concerning the pet food sector. Detailed information can be found in 5.1.

8. *Which conclusions could be given concerning the factors that impact the dynamics and industrial structure of the international pet food sector?*

The empirical data showed that particular factors of the macro-environment, competitive forces and dimensions of innovations impact the industrial structure and dynamics. From the macro-environment, three prime categories, economic, socio-cultural and technological had a high or medium impact

depending on the geographical region. Regarding the competitive forces, Bargaining Power of Buyers and Competitive Rivalry are high. The Bargaining Power of Suppliers was medium for all three regions. For the region Eastern Europe, the forces Threat of Substitutes and Threat of New Entrants were also medium. Despite the high Competitive Rivalry, based on the medium Threat of New Entrants and Substitutes the geographical region, Eastern Europe, can be sorted to the growth phase of the industry life cycle. The other two regions have a low Threat of New Entrants and Substitutes, but high Competitive Rivalry thus can be count to the maturity phase. The impact of innovations, in particular product innovations, on the industry structure and dynamics depends on the geographical region. Innovations are mainly used to influence the competitive position of a pet food company, thus influencing the competitive rivalry. In the regions North America and Western Europe, technology push and market pull are important for innovations in the sector, but in Eastern Europe market pull has a stronger importance.

9. *Which conclusions could be given concerning the effect of these factors on the business strategies?*

The high and medium macro-environmental categories and the stated highly influential factors, impact in particular the price, innovations and products offered in the geographical region. Despite the importance of products innovations for the regions North America and Western Europe, the variables of the business strategy product leadership only received low scores by the respondents. A relation can be also seen between the high and medium macro-environment categories and the bases for innovation in North America and Western Europe. The impact of technological and socio-cultural factors is similar, and also market pull and technology push are both seen as important for innovations. For Eastern Europe, the respondents stated that innovations are less important till now. The business strategy operational excellence was recommended based on the rankings of the respondents for all three variables. This can be linked to the results for the competitive forces. The high strengths of the Bargaining Power of Buyers and Competitive Rivalry lead to the recommendation of operational excellence for all three regions.

Central research question: *Which factors impact the industrial structure and dynamics of the international pet food sector and how do these affect the business strategy of the pet food companies in the regions North America, Western Europe and Eastern Europe?*

From this research, it can be concluded that there are some differences between geographical regions concerning the influencing factors. The results for North America and Western Europe were similar therefore these two regions are grouped together. Regarding the business strategy it can be concluded that for all three regions operational excellence is appropriate according to the empirical data. In the following the influencing factors will be brief described for the three regions.

North America and Western Europe

The macro-environmental categories that have a high or medium influence are economic (high), socio-cultural (medium) and technological (medium) on the industry structure and dynamics. These impacts in particular the price, innovations and products offered. For instance, the socio-cultural factors pet humanization and strengthening of human-animal relationship (most frequent named) let to the

development of new products and new product variations due to the consumer demand (market pull). For these regions, in particular product innovations are important which have according to the respondents the highest influence on the industry dynamic and are used to maintain, strengthens or improve the company position. In the pet food companies also scientific research and in-house research (technology push) is of similar importance. Regarding the economic factors the economic crisis was most often stated as negatively impacting the consumer purchase decisions leading to the purchase of cheaper pet food. For technological factors new packaging was most frequent stated by the respondents. Regarding the competitive forces, the Competitive Rivalry is high on all dimensions (price, advertisement and innovations). The Bargaining Power of Buyers is also high, but the suppliers' power is medium. This makes these regions moderately attractive at this point in time. Based on the strengths of these forces and the respondents ranking the business strategy operational excellence is most appropriate for pet food companies in these regions.

Eastern Europe

For Eastern Europe only the prime category economic has high influence. The economic development is slower and the living standards are lower in this region. This results in a lower demand for product innovations and high quality products according to the respondents. In general innovations are less important compare to the other two regions according to the respondents. The basis for innovation is consumer demand, compared to lower scoring for scientific research and in-house research, however most respondents stated that innovations are not important compared to the other two regions until now. Some competitive strengths are higher compared to the other regions. The same business strategy, operational excellence, is recommended based on the empirical results. The Threat of Substitutes and New Entrants is medium, which can be explained by the industry life cycle stage of the region, growth. In this stage the entry in an industry is easier, making the industry less attractive for incumbents and more dynamic. The Threat of Substitutes can be also linked to the industry life cycle phase, meaning that the industry is developing but the consumer are not convinced from the pet food products yet. This leads to a higher competition from these products. Regarding the competitive forces, the Competitive Rivalry is high on price and advertisement level. The Bargaining Power of Buyers is also high, but the suppliers' power is medium. This makes the region least attractive of the three regions.

5.3 Critical reflection of this research

The objective of this research was to investigate which factors impact the industry structure, dynamics and business strategies in the pet food sector. The research achieved its objective by revealing factors that impact the pet food sector and indicate their impact level, if possible. Furthermore, similarities and differences regarding these factors were presented based on the empirical data. Therefore this research provides new knowledge on the influencing factors that are still barely investigated and published. The results can be also used by pet food companies to evaluated their business strategy and their strategic decisions. In the following the limitations of the research are discussed and clarified.

The first limitation of the study is the number of the respondents. In total the answers of 10 respondents and the personal comments of 1 respondent were received. Several additional people were contacted, who had no time, limited knowledge (according to their opinion) or did not respond. Some respondents stated that it is difficult to get into contact with people and, in particular, companies in the pet food sector due to the high competitiveness. For some questions the individual scoring varied, but a larger sample size does not mean that the variation concerning the answers would be reduced. The respondents and contacted people for this research were chosen based on their sophisticated knowledge about the sector. Through the selection of respondents from associations, experts and magazines which have sophisticated knowledge biased results are tried to be avoided. This increases the quality and the representativeness of this research.

The second limitation could be the use of several elements for this research. Some can argue that this makes the research too broad, since it is not focussed on a particular element. Due to the limited scientific research on the pet food sector, there was no information given about which aspects are more important. This made a focus on one aspect difficult. Therefore the indirect objective was to give an overview also related to the period of time available for this research. The research is exploratory. Based on the results of this research, further research can be conducted to investigate a particular aspect that has high influence into more detail.

A third limitation that was investigated during the empirical part is that some respondents see an division into small and large companies, brand and private label as important for the investigation of the influence of some factors. One respondent stated that the Bargaining Power of Suppliers and Buyers is different for private label companies compared to brands. Other respondents stated that some pet food companies have both brands and private label products. However it could be taken into account in future studies. But the focus of this research was the total pet food industry including all companies. Regarding the influence of SMEs in the pet food sector, this research showed that there influence is limited and often they are purchase when their influence increases, for example regarding innovations.

References

Allred, B.B. & Swan, K.S. (2005). The mediating role of innovation on the influence of industry structure and national context on firm performance. *Journal of International Management*, vol. 11, pp. 229-252.

Belleflamme, P. & Peitz, M. (2010). *Industrial Organization* – Markets and Strategies. New York, Cambridge University Press.

Bryman, A. & Belle, E. (2011). *Business Research Methods* , 3rd ed., New York, Oxford University Press.

Capitanio, F., Coppola, A., Pascucci, S. (2010). Product and Process Innovation in the Italian Food Industry, *Agribusines*s, vol. 26(4), pp. 503-518.

Carlton, D.W. & Perloff, J.M. (2005). *Modern Industrial Organization.* 4th ed., Boston etc., Pearson.

Carpenter, M.A., & Sanders, W. G. (2004). *Strategic Management A dynamic perspective concepts and cases. 2nd ed.* New Jersey, Pearson, Prentice Hall.

Eisenhardt, K.M. and Martin, J.A. (2000). Dynamic capabilities: What are they?, *Strategic Management Journal*, vol. 21, pp.1105-1121.

Grundy, T. (2006). Rethinking and reinventing Michael Porter's five forces model. *Strategic Change,* vol. 15, pp. 213-229.

Grunert, K., Hermsen, H., Meulenberg, M., Kuiper, E., Ottowitz, T., et al. (1997). A framework for analysing innovation in the food sector. In B. Traill, & K. Grunert(Eds.), *Product and process innovation in the food industry*. London: Blackie Academic and Professional.

Hoskisson, R.E., Hitt, M.A, Wan, W.P & Yiu, D. (1999). Theory and research in strategic management: Swings of a pendulum, *Journal of Management*, vol. 25, pp. 417-456.

Johnson, G., Scholes, K., Whittington, R. (2006). *Exploring corporate strategy: text and cases.* 7th ed. , Harlow etc., Financial Times Prentice Hall.

Johnson, G. Whittington, R., Scholes, K. (2012). *Fundamentals of Strategy*. 2nd ed., England, Financial Times Prentice Hall.

Klepper, S. (1997). Industry Life Cycles . *Industrial and corporate change,* vol. 6, pp. 145-181.

Kretowski, T. (2009). *Improving company's position by an industry analysis. A study on piglet feed industry segment.* Unpublished MSc thesis, Wageningen University, Wageningen, The Netherlands.

Mars (2012) *Petcare* [online] Available at: www.mars.com Retrieved on 13.01.2014.

McGahan, A. (2000). How industries evolve. *Business Strategy Review,* vol. 11, pp. 1-16.

Nelson, R.R. & Winter, S.G. (2002). Evolutionary Theorizing in Economics, vol. 16, pp. 23-46.

Panagiotou, G. (2006). The impact of managerial cognistions on the structure-conduct-performance (SCP) paradigm – A strategic group perspective. *Management Decision*, vol. 44, pp. 423-441.

Pecotich, A., Hattie, J., Low, L.P. (1999). Development of Industruct: A scale for the Measurement of Perceptions of Industry Structure. *Marketing Letters*, vol. 10, pp. 409-422.

Pet food industry (2009).*Get in-depth with the Top 10 global petfood players*. [Online] Available at: www.petfoodindustry.com Retrieved on 13.1.2014.

Pet food industry (2011a) *Update: the global petfood market for 2011.* [Online] Available at: www.petfoodindustry.com Retrieved on 15.1.2014.

Pet food industry (2011b). *Global petfood sales grow 4% in 2011.* [Online] Available at: www.petfoodindustry.com Retrieved on 15.1.2014.

Pet food industry (2012). *Emerging petfood markets continue to gain global share.* [Online] Available at: www.petfoodindustry.com Retrieved on 28.12.2012.

Pet food industry (2013a). *Top 25 Global petfood companies profiled in databases.* [Online] Available at: www.petfoodindustry.com Retrieved on 12.04.2013.

Pet food industry (2013b). *Market report: Petfood in India on the rise.* [Online] Available at: www.petfoodindustry.com Retrieved on 05.08.2013.

Pet food industry (2013c). *Hill's Science Diet pet food brand losing market share.* [Online] Available at: www.petfoodindustry.com Retrieved on 13.01.2014.

Pet food industry (2013d). *Petfood mergs and acquisitions poised to reshape the market.* [Online] Available at: www.petfoodindustry.com Retrieved on 13.01.2014.

Pet food industry (2014) *Listing of the top global petfood companies.* [Online] Available at: www.petfoodindustry.com Retrieved on 13.01.2014.

Pets International (2009) *U.S. Sales of Dog and Cat Food Holding Up Under Pressure*. Issue 5/2009 [Online] Available at: www.petsinfo.net Retrieved on 05.08.2013.

Pet product news international (2012). *Global Pet Food Sales to Approach $75 Billion by 2017*, Posted: Aug. 10, 2012, 5:05 p.m. EDT [Online] Available at: www.petproductnews.com Retrieved on 05.08.2013.

Porter, M. E. (1980). How competitive forces shape strategy. In *On competition*, 1998, Porter, M. E., Boston, MA: Harvard Business School Press.

Porter, M.E. (1998). *Competitive strategy: techniques for analyzing industries and competitors,* 1998, Porter, M.E., New York, The Free Press.

Porter, M.E. (2008). The five competitive forces that shape strategy. Special Issue on HBS Centennial. *Harvard Business Review* 86, vol. 1, pp. 1-18.

Purina (2011). *Nestlè Purina Petcare Creating Shared Value.* Corporate Responsibility Report Zone Americas [Online] Available at: www.purina.com Retrieved on 13.01.2014.

Reuters (2014). *P&G selling pet food brands to Mars for $2.9 billion,* Posted Wed Apr 9, 2014 3:10pm EDT. Available at: www.reuters.com Retrieved on: 10.04.2014.

Sirmon, D.G., Hitt, M.A. & Ireland, R.D. (2007). Management firm resources in dynamic environments to create value: Looking inside the black box. *The Academy of Management Review,* vol. 32, pp. 273-292.

Smith, D. (2010). *Exploring Innovation*. 2nd ed., McGraw-Hill Education (UK), England.

Solomon, M.R., Balmossy, G.J., Askegaard. S.T. & Hogg, M.K. (2013). *Consumer Behaviour- A European Perspective* 5th ed., England, Pearson.

Suarez, L., Pena, C. Carretón, E., Juste, M.C., Bautista-Castano, I. and Montoya-Alonso J.A. (2011). 'Preferences of owners of overweight dogs when buying commercial pet food', *Journal of Animal Physiology and Animal Nutrition*, vol. 96 (4), p.655-659.

Tesform, G. and Birch, N. (2010). Do they buy for their dogs the way they buy for themselves? *Psychology& Marketing,* vol. 27(9) p.898-912.

The Dog Daily (2013). *Global Dog Food Market Trends*, [Online] Available at: www.thedogdaily.com Retrieved on 05.08.2013.

Thomas, B., Simmons, G., Packham, G. & Miller, C. (2010) Innovation and Pet Food SMEs in the United Kingdom, *Journal of Food Products Marketing*, vol. 17,pp.46-64.

The New York Times (2014). *The Slim Down, Procter & Gamble sells most of its pet food brands to Mars*. Posted: April 9, 2014, 9:57 am, Available at: dealbook.nytimes.com Retrieved on: 10.04.2014.

Tidd, J. & Bessant, J. (2009). *Managing innovation. Integrating Technological, Market and Organizational Change. 4th ed.* West Sussex. John Wiley & Sons Ltd.

Tidd, J., Bessant, J. & Pavitt, K. (2005). *Managing innovation. Integrating Technological, Market and Organizational Change. 3rd ed.* West Sussex. John Wiley & Sons Ltd.

Tirole, J. (1988). *The Theory of Industrial Organization*. The MIT Press.

Treacy, M. & F. Wiersema (1993). Customer Intimacy and Other Value Disciplines. *Harvard Business Review*, vol. 71, pp. 84-93.

Treacy, M. & F. Wiersema (1995). *The discipline of Market leaders. Choose your customers, narrow your focus, dominate your market.* Reading etc. Addison-Wesley Publishing Company.

U.S. Securities and Exchange Commission (2014). *Form 10-K.* [Online] Available at: www.sec.gov Retrieved on 07.04.2014.

Verschuren, P. and Doorewaard, H. (2010) *Designing a research project*. 2th. ed., Eleven: International publication. The Hague.

Yip, George, S. (1995). *Total global strategy Managing for worldwide competitive advantage.* Business school edition. New Jersey. Prentice- Hall, Inc.

Weerawardena, J., O'Cass, A & Julian, C. (2006). Does industry matter? Examining the role of industry structure and organizational learning in innovation and brand performance. *Journal of Business Research*, vol. 59, pp.37-45.

Wit, B. d. & R. Meyer (2004). *Strategy : process, content, context : an international perspective.* London, Thomson Learning.