



**Dublin Business School**  
excellence through learning

## **DISSERTATION**

**AN INVESTIGATION OF GREEN MARKETING STRATEGIES  
WITHIN BUSINESS-TO-BUSINESS ORGANISATIONS  
SUPPLYING WIDE RANGE OF CHEMICALS**

**The case study of VWR International and National Chemical Company**

### **MBA in MARKETING**

**Giovina Palumbella (10049150)**

**Submitted to Dublin Business School in partial fulfilment of the  
requirements for the degree of Masters of Business Administration  
(Marketing)**

## Table of Contents

Declaration .....	4
Acknowledgments .....	5
Abstract .....	6
<b><u>CHAPTER 1 – INTRODUCTION</u></b> .....	7
1.1 Introduction .....	7
1.2 Background: the concept of green marketing as business strategy .....	8
1.3 Personal interest in the research topic and importance of the study .....	11
1.4 Research Question and Objectives .....	12
1.5 Approach to Research .....	14
1.6 Research Process .....	15
1.7 Recipient of the Research.....	15
1.8 Scope and Limitations .....	15
1.9 Dispositions.....	16
<b><u>CHAPTER 2 - LITERATURE REVIEW</u></b> .....	17
2.1 Literature Introduction .....	17
2.2 Effective Green Marketing Strategies .....	18
2.3 Green Marketing Strategies in B2B organisations .....	26
2.4 Green management in the chemical sector within the International and Irish context.....	30
2.5 Environmental Legislation in Ireland.....	35
2.6 Green Marketing and Sustainable Competitive Advantage .....	37
2.7 Literature Conclusion.....	39
<b><u>CHAPTER 3 - METHODOLOGY</u></b> .....	41
3.1 Methodology Introduction.....	41
3.2 Research Design.....	42
3.2.1 Research Philosophy .....	42
3.2.2 Research Approach .....	43
3.2.3 Research Strategies .....	43
3.2.4 Case Selection .....	44
3.2.5 Research Choices .....	44
3.3 Data Collection Instruments.....	45
3.3.1 Questionnaire .....	46
3.3.2 Observation .....	47
3.3.3 Secondary Research .....	48
3.4 Sampling.....	48
3.5 Time-Horizon .....	49

3.6 Data Analysis Procedures .....	49
3.7 Research Ethics .....	50
3.8 Limitations of Methodology .....	51
3.9 Methodology Conclusion .....	52
<b><u>CHAPTER 4 - DATA ANALYSIS AND FINDINGS</u></b> .....	53
4.1 Data analysis and process introduction .....	53
4.2 Presentation of the Case Study One: VWR International .....	55
4.3 Analysis of Empirical Data .....	57
4.3.1 Analysis of VWR strategic approach towards green management .....	58
4.3.2 Analysis of how VWR is greening the marketing mix .....	61
4.3.3 Analysis of VWR competitive advantage in the market place.....	65
4.4 Presentation of Case Study Two: National Chemical Company .....	66
4.4.1 Analysis of National Chemical Company strategic approach towards green management .....	67
4.4.2 Analysis of how National Chemical Company is greening the marketing mix ..	68
4.4.3 Analysis of National Chemical Company competitive advantage in the market place .....	70
4.5 Comparison of two green marketing approaches within the two case companies: VWR and National Chemical Company .....	70
4.6 Data analysis conclusion .....	71
<b><u>CHAPTER 5 - DISCUSSION</u></b> .....	72
5.1 Introduction .....	72
5.2 Evaluation of the findings and research objectives .....	73
5.3 Limitations of the research .....	80
5.4 Conclusion .....	80
<b><u>CHAPTER 6 - CONCLUSION AND RECOMMENDATIONS</u></b> .....	81
6.1 Introduction .....	81
6.2 General Conclusions .....	82
6.3 Recommendations for VWR and National Chemical Company.....	83
6.4 Recommendations for further studies .....	84
6.5 Closing .....	85
References .....	86
Appendices .....	94
Appendix 1: Self-Reflection.....	94
Appendix 2: Informed Consent Form.....	98
Appendix 3: Questionnaire.....	100
Appendix 4: Gantt Chart .....	117

## List of Tables and Figures

Figure 1. Five Pillars of Green Management .....	20
Figure 2. The Environmental Value Chain.....	21
Figure 3. Four Strategic Approaches to Green Management .....	22
Figure 4. Environmental strategic type of a firm.....	23
Figure 5. Marketing mix tool used in Green Strategies.....	26
Figure 6. Green Marketing Activities at the Three Levels .....	28
Figure 7. Examples of Sustainability properties.....	32
Figure 8. Sustainable Supply Chain Priority Chart .....	33
Figure 9. Hierarchy of Waste Management .....	35
Figure 10. Research Onion .....	41
Figure 11. Research Choices .....	45
Figure 12. Types of questionnaires.....	47
Figure 13. Ethical Issues.....	51
Figure 14. VWR's philosophy.....	56
Figure 15. VWR's sustainability .....	57
Figure 16. Summary of VWR approach towards green management.....	60
Figure 17. Examples of some VWR products promoting sustainability .....	62
Figure 18. Marketing mix tools used in Green Strategies adapted to the case company VWR .....	65
Figure 19. Summary of VWR approach towards green management.....	68
Figure 20. Marketing mix tools used in Green Strategies adapted to the case company National Chemical Company.....	69
Figure 21. The Environmental Value Chain.....	74
Figure 22. VWR AND NCC green marketing management summary .....	79
Figure 23. Kolb Learning Style .....	95

## **DECLARATION**

I declare that all the work contained in this dissertation is entirely my own, except for texts and theories cited that are properly referenced with the original source.

No part of this work has been previously submitted for assessment either at Dublin Business School or at any other academic institution.

**Signed**.....

**Date**.....

## **ACKNOWLEDGMENTS**

I would like to start with a brief appreciation to all the lectures and academic staff involved in the MBA (Marketing stream) programme at Dublin Business School. In particular, I would like to thank my dissertation supervisor, Dr. Chantal Ladies for her encouragement, energy, expertise and support throughout the research process. Her support and inspiration pushed me to be increasingly motivated and to improve the research objectives and purposes. Thanks must also be extended to the main respondents of my qualitative study that allowed me collecting valuable data. Finally, I would like to thank my family and my friends for their unwavering support.

## ABSTRACT

The purpose of this study is to investigate how business-to-business organisations supplying a wide range of chemicals are investing in green marketing strategies and whether they are gaining competitive advantage. To answer the main research questions of the study, four researcher objectives were identified and a qualitative research was conducted. The study is based on a multiple qualitative case study of two organisations in the same industry that is the supply of wide range of chemicals. A semi-structured questionnaire was used as main instrument for collecting primary research data. It allowed the researcher figuring out what kind of green marketing strategies are implementing the two organisations and the reasons behind their decision.

The findings of the study showed that the case company object of analysis, are actually investing in sustainable initiatives and in green marketing strategies. Furthermore, they are implementing sustainable activities within their organisations and supply chain management. Therefore, they are reacting to the challenging greening environment by taking actions aimed to optimize the impact on the environment. Through this study, the researcher was able to identify the main similarities and differences between the two case company analysed: VWR and National Chemical Company. Both are reacting to the challenging greening environment by investing in green marketing practices within their organisation. However, the attitude towards the sustainability is different.

Finally, the results of this research revealed that the implementation of sustainable activities and green practises leads organisations supplying wide range of chemicals to gain competitive advantage in terms of differentiation.

**Keywords:** green marketing, green marketing strategies, green chemistry, marketing mix, sustainability, business-to-business, competitive advantage, differentiation.

# CHAPTER 1 – INTRODUCTION

---

## *1.1 Introduction*

The following chapter will explore the background of the dissertation's topic and the related research questions. It will be focused on the external circumstances that have led many companies to consider the importance of green marketing strategies as well as my personal interest in this particular subject. Furthermore, the need for this study and the specific angle of the researcher will be clearly illustrated. The main objective of this study is to figure out whether investing in green marketing could be a sustainable competitive advantage for business-to-business organisations supplying wide range of chemicals in the territory of Ireland. It involves two case study of B2B organisations, whose name are VWR and National chemical company. The findings of this study will represent the basis for further research.

---

## ***1.2 Background: the concept of green marketing as business strategy***

Several are the definitions of green marketing, in fact it is not possible identify a unique meaning for the concept.

Polonsky (1994) defined green marketing as “all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment”(Polonsky, 1994, cited in Hosseinzadeh and Azizpour, 2013, p. 115).

According to the American Marketing Association, green marketing can be defined as “the marketing of products that are presumed to be environmentally safe” (cited in Mishra and Sharma, 2012, p. 35). This means that the concept of green marketing includes a wide range of activities and processes such as product and packaging changes, modification of production processes and advertising. The emergence of green marketing resulted inevitable and indispensable in an era of changes characterized mostly by a growing interest among the consumers towards the respect and protection of the environment (Mishra and Sharma, 2012, p.35).

Over the past decades, the concept of green marketing has evolved rapidly in correlation with new social trends including the consciousness towards the environment. Nowadays, governments frequently legislate and discuss on this new issue; pressure groups act to diffuse their opinions; more and more advertisement messages are focused on the idea of sustainability; an increasing numbers of businesses are changing their attitude towards the environment by taking several actions (Emery, 2012, p.5).

According to Arseculeratne and Yazdanifard (2013, p. 130) since its first appearance in the 1980's, the concept of green marketing has increased its importance as business strategy. Several companies are recognising the relevance of investing in green marketing in order to gain competitive advantage in the market place. Therefore, an increasing number of companies is adopting business strategies that reflect directly the changing needs of the market and the new social trends. In fact, the new attitudes of consumers towards the environmental protection, have determined a significant development of the green marketing concept. Thus, the green marketing concept embodies the paradigm shift strategy adopted by many businesses that are actually changing the way to reach their customers (Arseculeratne and Yazdanifard 2013, p. 130).

A recent IMB survey found that two-thirds of executives deem that sustainability can be considered a revenue driver and a great part of them expects green activities and initiatives can give the opportunity to gain competitive advantage in the market place. It is clear that a shift in the corporate mind-set and practises is currently in act. This reflects an increasing awareness that “environmental responsibility” can represent a strategic mean for both growth and differentiation (Unruh and Ettenson, 2010, p.94-95).

As stated by Hall (2006, cited in Crassous and Gassmann, 2011, p.17) “a firm owning relevant capabilities, core competencies, and constantly adapt them to the arrays of changing environment is on the way to sustainable advantage”.

Today, the increasing consciousness towards environmental issues, is affecting the company’s attitude towards the business environment. Both, the growing stakeholders’ expectations concerning sustainability and the changing demand of consumers, are leading several businesses to take actions in order to be more sustainable (Siegenthaler, 2010, cited in Crassous and Gassmann, 2011, p.6).

Shrivastava, (2007 cited in Crassous and Gassmann, 2011, p.7) argued that in this new business landscape, environmental issues are becoming a competitive aspect for businesses. This means that through an efficient management of sustainable variables, the companies can gain competitive advantage in the market place (Shrivastava, 2007).

Previously, the implementation of green initiatives in the organizational operations was done without the primary objective of gaining competitive advantage but in order to protect the environment (Rodriguez-Ibeas, 2006, cited in Crassous and Gassmann, 2011, p.7). However, afterwards, an increasing number of organizations started acting tactically, claiming the sustainability of their products or services, in order to gain competitive advantage over their rivals (Peattie, 1995, cited in Crassous and Gassmann, 2011, p.7).

The dissertation will be an extended version of previous research regarding green marketing actions taken by B2B organisations supplying chemicals in order to reduce the negative impact on the environment.

Some discussions of the role of green marketing strategies in B2B context can be found in Fraj, Martinez and Matute (2013).

The increasing importance of environmental problems and sustainable issues has led several companies to adopt environmental positions and strategies in order to create a direct correspondence between business behaviour and market trends (Aragón-Correa and Sharma, 2003, cited in Fraj et al.2013, p.396). Nowadays, the implementation of green marketing strategies is considered essential for creating long-term relationships because of the changing demands of buyers for sustainable services (Sharma et al., 2010, cited in Fraj et al., 2013, p.397) and the potential contribute to the company's operating (Russo and Fouts, 1997, cited in Fraj et al., 2013, p.397).

A study conducted by Iles (2006) highlighted the need for innovations in sustainable marketing in the chemical sector. Anastas and Warner (1998, cited in Iles, 2006) have defined green chemistry as “the design of chemicals, processes and reactions to reduce environmental and health hazards at source and to enhance sustainability, particularly through the molecular design of chemicals”.

Even though several university and industry laboratories have started developing pro-environmental activities, companies and organisations have not yet introduced significant green chemistry innovations and technologies (Woodhouse, 2003, cited in Iles, 2006). The difficulties to integrate and internalize the environmental impacts of chemicals, the absence of regulatory norms that demand reduction of waste and pollution and the dispersion of innovations, represent the main reasons why organisations have not yet developed substantial green marketing strategies (Nissen, 2003; Wilson, 2006, cited in Iles, 2006).

According to Iles (2006), the most important issue is the lack of business strategies focusing on the value of green chemistry actions in terms of competitive advantage.

The proposed research aims to explore whether in the recent years there have been changes in terms of sustainability and green marketing strategies within the distribution chemical sector operating in the international and local context of Ireland.

### ***1.3 Personal interest in the research topic and importance of the study***

My personal interest and curiosity of green marketing strategies has developed more and more over the years. Several studies confirmed that an increasing number of companies are developing sustainable strategies in order to minimize the negative impact on the environment. However, my interest in investing the green marketing attitude of business to business organisations supplying a wide range of chemicals, has been emphasized after reading the academic article “Green marketing in B2B organisations: an empirical analysis from the natural-resource-based view of the firm” by Fray, Martinez and Matute (2013). The findings of the research confirmed that the B2B context has been affected by the influence of green marketing strategies. In fact, several are the companies that are actually integrating sustainable practises within their organisational structure and values.

Furthermore, my curiosity on organisations supplying chemicals has been emphasized after discovering that an increasing number of international companies such as Unilever, Proctor & Gamble and DuPont, are restructuring their activities and organisations in order to maximize the positive impact on the environment. A study conducted by Iles (2006) highlighted the need for innovations in sustainable marketing within the chemical sector. In particular, nowadays, consumers are changing their demands for chemistry products, avoiding products that can be risky. According to the European Social Investment Forum, in the next years, the introduction of green chemical innovations can represent a significant source to gain competitive advantage for organisations operating with chemicals. The “green credentials” can be seen as an important key component of differentiation in the market place (European Social Investment Forum, 2005, cited in Iles, 2006).

Therefore, the increasing need of adopting innovative and sustainable strategies in the distribution chemical sector has stimulated me to conduct a research topic focused on B2B organisations supplying chemicals in order to compare the attitude of two companies operating in the same industry towards sustainability.

#### ***1.4 Research Question and Objectives***

This research is guided by two central research questions:

*“How business-to-business organizations supplying wide range of chemicals are reacting to the challenging greening environment? Are they gaining competitive advantage?”*

The answer to the stated research question has been achieved by analysing four specific objectives:

1. Evaluation of the strategic approach towards green management within business-to-business organisations supplying wide range of chemicals.

The aim of the researcher is figure out whether the two organisations supplying chemicals, object of case study, are reacting to the challenging environment by investing in green marketing strategies. In order to answer the main research questions, it is essential to evaluate the strategies that the two industries are adopting in relation to their organisational culture and value chain activities. Furthermore, the overall aim is investigate what are the motives that lead the companies to take green marketing strategies. In essence, it supports the theories elaborated by Askar (2012) about the four strategic approaches to green management:

- Reactive
- Defensive
- Accommodative
- Proactive

The ultimate scope is identify what kind of green marketing strategy is implemented by the studied organisations:

- Functional strategy;
- Quasi-strategic strategy;
- Strategic strategy;

It is based on the theory elaborated by Menon and Menon (1997) about the marketing strategies that can be pursued by companies in relation to the level and efforts of them in integrating sustainable actions with environmental issues in their organisational structure.

2. Investigate how companies supplying wide range of chemicals are greening the marketing mix.

The overall intention of the author is research how the two companies supplying chemicals are greening the marketing mix in terms of product, price, place and promotion. This contribution could be beneficial to companies that are particularly interested in investing in green marketing strategies, giving them the opportunity to explore new sustainable initiatives in terms of product, price, place and promotion. It supports the green marketing strategy mix model proposed by Ginsberg and Bloom (2004). Therefore, the ultimate scope is figure out whether the case company is adopting lean, defensive, shaded or extreme strategies in greening product, price, place and promotion of the marketing mix. Ginsberg and Bloom (2004, cited in Chen and Lin, 2011) suggested the firms evaluating the characteristics of the potential green market before selecting the green marketing strategy proposed in the matrix. In particular, Lean Greens are used by businesses for publicising their sustainable activities. Defensive Greens make use of green marketing as a reaction to competitors or crisis. Shaded Greens use green as a potential opportunity for the creation of competitive advantage. Finally, Extreme Greens are more focused on holistic values.

3. Investigate whether companies supplying wide range of chemicals are gaining competitive advantage through the implementation of green marketing strategies.

Several studies concluded that by investing in green marketing, businesses could gain competitive advantage. According to Polonsky (1994) the main motivations for implementing green marketing initiatives are cost saving, leadership in the market place and differentiation that can give the companies the opportunity to gain competitive advantage.

The investment in green practices can be beneficial for companies in terms of advantages like reducing structural costs and improving the competitive position in the market over the competitors. In fact, the implementation of green initiatives enables the companies to differentiate themselves from competitors by offering additional services and advantages. Therefore, these measures increase the value of the companies in customers' eyes (Moein Nejad, 2011, cited in Shirsavar and Fashkhamy, 2013, p. 15).

Through the findings of this research, the overall intention of the researcher is investigate whether the implementation and investment in green initiatives can create competitive advantage in terms of cost saving, differentiation and leadership in the market, comparing the attitude towards green management of two B2B organizations supplying chemicals.

4. Compare and contrast two green marketing approaches within the two case companies.

Throughout the analysis of the research findings, the author aims to develop a comparative analysis of the two case company selected. The researcher will compare and contrast the two green marketing approaches, identifying the main differences between the two B2B organisations supplying a wide range of chemicals. Furthermore, the author will highlight at what level the companies are committed to environmental concerns and what are the main reasons behind the choice of developing green marketing strategies.

This contribution could be beneficial to companies that are currently investing or intend to invest in green marketing strategies, as they can evaluate benefits and limits of the two sustainable approaches, gaining knowledge about how implementing strategically green initiatives.

### ***1.5 Approach to Research***

Primary and secondary research will be used for the purpose of the following study. Through secondary research, the author is able to gain further preparation and understanding of the issues related to main research topic. Articles, academic literature, papers, existing publications and previous case studies, represent the main source of the secondary research. In depth analysis and review of previous research and studies, will be useful to guide the author for the conduction of the primary research. Self-administered questionnaire will be employed to gain knowledge and understanding of how the selected case company are investing in green marketing strategies and if they are gaining competitive advantage in the market place. Finally, the researcher draws conclusions based on both secondary and primary research findings.

### ***1.6 Research Process***

According to Bechhofer (1974, cited in Gill & Johnson, 2002) “the research process is not a clear-cut sequence of procedures following a neat pattern but a messy interaction between the conceptual and empirical world, deduction and induction occurring at the same time”. This definition of research process became understandable to the researcher during the progression of the study and it will be mentioned in the conclusion chapter of the thesis.

### ***1.7 Recipient for Research***

The researcher, who gained knowledge and wider insights about the topic area chosen, represents the primary recipient of this study certainly. Furthermore, Dublin Business School, my dissertation supervisor (Dr. Chantal Ladias), students and staff, may be considered recipients of this study. Finally, the researcher wishes that the following research might provide an academic framework essential for the development of further research in the future.

### ***1.8 Scope and Limitations***

For the determination of the research scope, the choice of the field of study was fundamental – green marketing. The scope intends to examine the concept of green marketing in a specific angle represented by the relationship between green initiatives and competitive advantage within a specific business sector that is the supply of chemicals.

The dissertation is essentially focused on multiple case study of two business-to-business organizations that distribute chemicals. The study will thus explore the attitude of the chosen companies towards green practices in order to investigate whether there is a competitive advantage by using sustainable initiatives. Furthermore, I do not intend to extend my study to further business-to-business organisations.

## ***1.9 Dispositions***

The structure of the following dissertation follows a logical sequence to facilitate the reader in the understanding of the research objectives, aims and findings. *Chapter 1*- Introduction of my intended research, objectives and purposes. This section summaries the background and foundations of the research study. *Chapter 2* – Literature Review of the green marketing theories in business-to-business context and chemical sector. It is divided in different sub-sections focusing on specific aspects of the research topic, such as the green marketing approach of chemical companies worldwide and in Ireland, case studies and the correlation between sustainable initiatives and competitive advantages. *Chapter 3* – Research Methodology introduces the proposed methodology and techniques for the primary research. Justification and clarifications of the chosen research methodology employed will be given, including data collection, analysis and coding. Furthermore, chapter 3 includes ethical issues and procedural considerations. *Chapter 4* – Data Analysis and Findings presents the outcomes of the primary research with the discussion of concepts and interpretations derived from the research process. The chapter sums up the evaluations and analyses of the research findings in relation to the literature review and research objectives. Chapter 5 – Discussion contains the review and interpretation of the findings along with the discussion of the implications of the results. In addition, this section includes an overall evaluation of the work and presents the limitations of the research.

*Chapter 6* – Conclusion and Recommendations provides a brief discussion of the research findings and their importance in the current business environment. It presents the recommendations for further research to add to the current studies and the following research.

## CHAPTER 2 - LITERATURE REVIEW

---

### *2.1 Literature introduction*

The following chapter will present theories about green marketing in B2B organisations and its role in the creation of competitive advantages. It includes several themes such as the role of green marketing strategies in the B2B context, the use of sustainable marketing to gain competitive advantage. Furthermore, this section includes a review of the current green marketing strategies implemented in the chemical sector along with the European and Irish legislation towards sustainability. The chapter will end with brief conclusions and summary of the critical literature review.

---

## ***2.2 Effective green marketing strategies***

According to Grant (2007, cited in Crassous and Gassmann, 2012, p.19) “green marketing is a creative opportunity to innovate in ways that make difference, and at the same time achieve business success”.

In addition, Grant (2007, cited in Crassous and Gassmann, 2012, p.19-20) identified five key points to develop effective green marketing strategies. He (2007) proposed the theory of the Five I’s: intuitive, integrative, innovative, inviting and informed. Intuitive green marketing initiatives make sustainable alternatives accessible and easy. Integrative refer to the integration into the strategy of different elements such as technology, ecology, social effort and economy. Innovative refers to the creation of new lifestyles and products in the business context. Inviting mean that organisations need to generate myths and codes in order to inculcate the concept of green as a positive choice and not as an obligation. Informed refer to relevant attributes of green marketing that are education and participation (Grant, 2007, cited in Crassous and Gassmann, 2012, p.19-20).

In addition, Grant (2007) stated that “green marketing is a creative opportunity to innovate in ways that make difference, and at the same time achieve business success”.

Kotler (2011, p.133) investigated the role of green marketing strategies in relation to the marketing mix paradigm. The author argued that the main marketing mix elements, product, price, promotion and place (or 4Ps) might be reconsidered in a new sustainable way. According to Kotler (2011, p.133) companies have to consider new issues for the development of products. In particular, they have to consider sustainable ways for the design, packaging and usage of the products. Regarding the price, Kotler (2011, p.133) argued that if companies are environmentally involved, customers are more willing to pay higher prices. The place plays an important role because companies have to decide carefully the location of their distribution and production in order to be environmentally friendly. Finally, regarding the promotion, companies need to emphasize their sustainability, shifting at the same from print promotional tools to the online ones (Kotler, 2011, p.133).

In a recent study, Kinoti (2011, p. 265) underlined that the majority of people consider the green marketing strategies only in relation to the advertising or promotion of products that have eco-friendly features.

Green marketing is a wider concept, which can be applied not only to consumer goods but also to business services and products (Polonsky, 1994, cited in Kinoti, 2011, p.265). In particular, green marketing strategies imply the involvement of several activities and processes within an organisation, such as green logistics, green pricing, green consumption, green-based products and green promotion. Therefore, green marketing mix strategies are not only restricted to marketing activities but influence also the business philosophy, the culture and the life-cycle process of the organisations (Polonsky et al, 1997; Ottman, 1997; Willum, 1998, cited in Kinoti, 2011, p.267).

Green logistics strategies include the reverse channel systems in which the manufacturers become the buyers and the consumers become the sellers (Zikmund and Stanton, 1971 as quoted by Fuller, 1997, cited in Kinoti, 2011, p. 268). Furthermore, green logistics strategies consist of activities including the usage of Internet with integrated transportation systems and the reduction of packaging material (Willum, 1998; Polonsky, 2001, cited in Kinoti, 2011, p.268).

Regarding the green pricing strategies, Peattie (1999, cited in Kinoti, 2011, p.269) suggested informing the consumers about the benefits of sustainable and green products in order to justify why they are often more expensive than conventional products.

According to Queensland Government (2006, cited in Kontic et al., 2010, p.20) “pricing is an important aspect of the marketing mix”. The Queensland Government argues that the majority of customers is willing to pay more for products based on green features. However, as highlighted by Polonsky and Rosenberg (2011, cited in Kontic et al., 2010, p.20) higher prices of green products can be compensated by lower run-cost in the long term.

Green based product strategies include several activities such as the usage of sustainable source of raw materials, the reduction of packaging materials, the use of recycling materials and the reconsumption of the products (Bhat, 1993; Ashley, 1993; Polonsky et al, 1997; Ottman, 1998 and Charter et al, 1999, cited in Kinoti, 2011, p. 268).

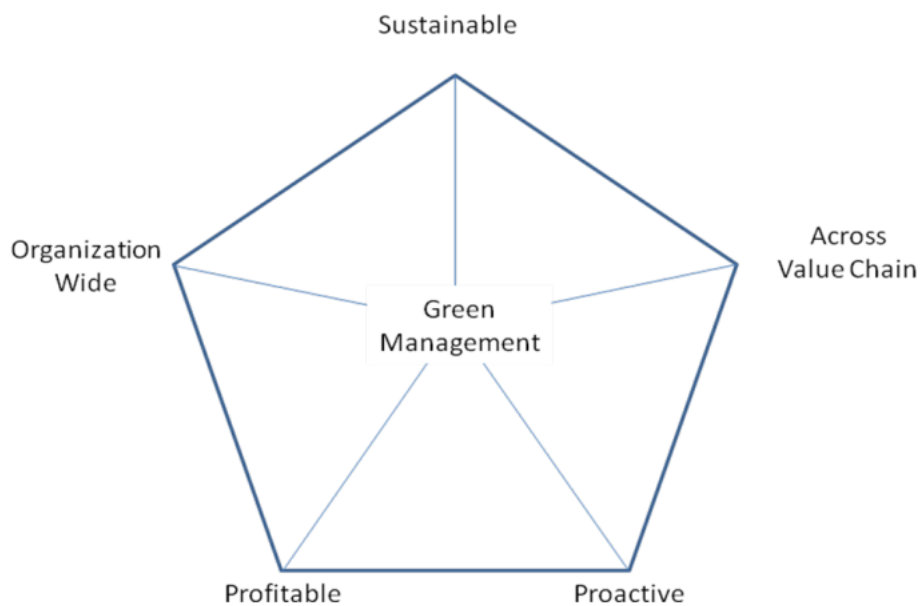
According to Ottman (1997, cited in Kinoti, 2011, p. 269), green promotion strategies aim to inform and educate consumers on the benefits of sustainable products, providing reassurance of green based products.

Ottman (1997, cited in Kinoti, 2011, p.270) argued that the application of the above green marketing strategies could create significant opportunities and advantages for the organisations.

Firstly, the usage of green-based products could improve the profitability of the company because of the reduction of the waste and the saving of energy. Moreover, it could create competitive advantage with an increase of the market share of the company.

Askar et al. (2012, p.111) conducted a recent study on the efficiency of green management with the aim to elaborate a new theory about how companies should develop business strategies based on sustainable activities that enable them to grow and be more profitable. The authors defined green management as “sustainable management of organization-wide resources across the entire value chain that achieves profitability and growth while proactively improving environmental well-being” (Askar et al. 2012, p.111). They identified five “pillar concepts” of the green management: sustainable, organisation-wide, across the entire value chain, profitability and growth and proactive (Askar et al. 2012, p.111) (Figure 1).

**Fig. 1 - Five Pillars of Green Management.** Source: Askar et al. 2012, p.112.



Sustainable – Sustainability refers to the capacity of supporting the environment meeting at the same time the changing consumer demands (Wilson 2003; Beheiry, Chang, & Haas 2006; and Siegel, 2009, cited in Askar et al. 2012, p. 112).

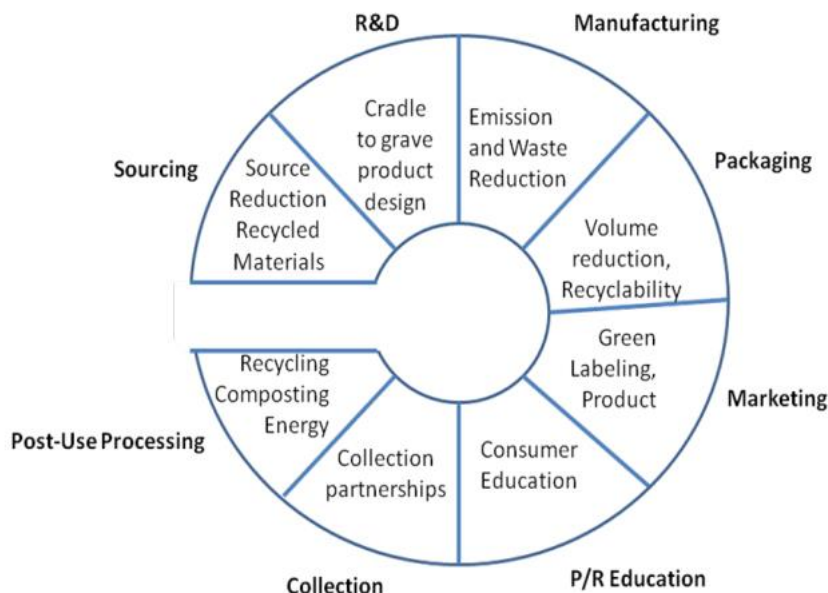
This means that companies should implement processes that optimize the resources usage and should develop products that maximize the positive impact on the environment (Askar et. al. 2012, p.112).

Organisation-wide – According to the authors (2012), green management implies organisation-wide commitment that has to be incorporated in the company’s culture. Therefore, it is essential the penetration of green values involving workers and employees in sustainable issues (Shrivastava, 1995; Ramus, 1997; Russo & Fouts, 1997, cited in Askar et. al., 2012, p.112).

When green values are accepted into the organisation, green marketing strategies can be implemented successfully. These strategies are based on a new marketing mix paradigm that involves the offering of green products at competitive prices, the packaging in sustainable manners and the communication emphasis on eco-friendly aspects (Grundy and Zaharaia, 2008, cited in Askar et. al. 2012, p.113).

Across the entire value chain – Several are the strategies that the organisations have to develop in order to establish an efficient management of the environmental value chain (Simon, 1992, cited in Askar et. al. 2012, p.113) (Figure 2).

**Fig. 2 - The Environmental Value Chain.** Source: Askar et al. 2012, p.115.



Source (Simon 1992).

According to Askar et al. (2012, p.113) companies need to manage more complex value chain, developing clear environmental standards and communicating with the partners of the whole value chain.

This implies a perfect coordination between investments, processes and strategic activities at every level composing the value chain (Cruz & Matsypura, 2009, cited in Askar et al. 2012, p.113).

Profitability and Growth – Askar et al. (2012, p.117) argued that profitability and growth can be reached by using efficiently environmental accounting standards that is the result of improved product costing. This situation leads the companies to consider the green production more cost-efficient (Epstein, 1995 and Brown, Dillard, & Marshall, 2005, Askar et al., 2012, p.117).

Proactive – As stated by Askar et al. (2012, p.118), companies dealing with environmental issues, adopt different approaches, from passive to more proactive approaches (figure 3). The most reactive strategies are represented by the reactivity, while the most aggressive are represented by the proactivity. Proactive strategies have as main priority the achievement of environmental objectives. By adopting proactive strategies, companies try constantly improving the impact on the environment (Martin, 2005, cited in Askar et al., 2012, p.118).

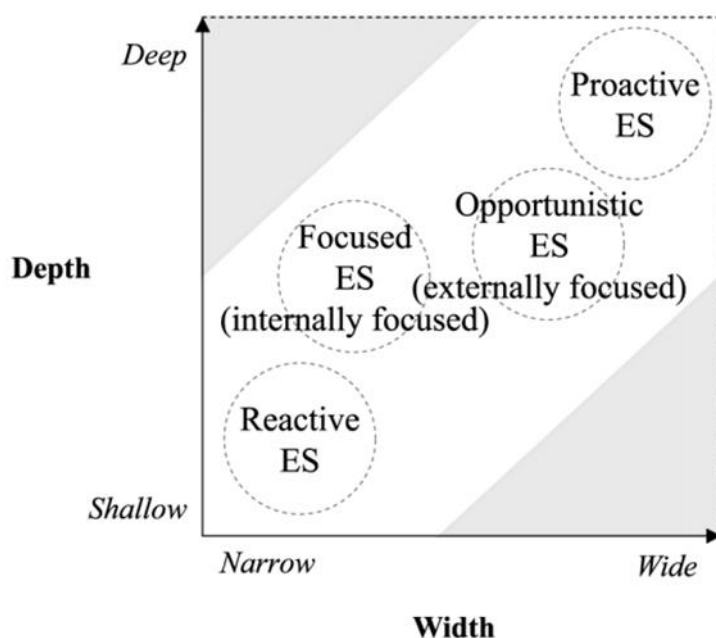
**Fig. 3** - Four Strategic Approaches to Green Management. Source: Askar et al., 2012, p.118.



Lee and Rhee (2007, p. 197) have conducted an empirical study to investigate the change in corporate environmental strategy. Their research confirmed the shift of the environmental strategies in relation to the new socio-economic trends.

Lee and Rhee (2007, p.197) defined environmental strategy as “a firm's selection of the width and depth of environmental-friendly practices and activities”. According to the authors, the organisations that decide to adopt environmental decisions should include areas such as organisation and systems, product, supply chain, external relationships and process (Rhee and Lee, 2003, cited in Lee and Rhee, 2007, p.) (Figure 4). However, the environmental strategies adopted by an organisation can differ in relation to depth and width dimensions. Therefore, a company can choose the areas in which to apply the environmental strategy.

**Fig. 4** - Environmental strategic type of a firm. Source: Lee and Rhee, 2007, p. 206.



Lee and Rhee (2007, p.198) identified four types of environmental strategic options:

- Reactive;
- Opportunistic;
- Focused
- Proactive.

The reactive environmental strategy means that the environmental responsiveness of the company is limited and it often does not consider the environmental issues.

Companies that adopt opportunistic approaches show environmental concerns in the five decision areas (organisation and systems, product, supply chain, external relationships and process), but at the same time do not apply advanced level of green management. Focused strategic approach means that companies devote themselves to high level of environmental management in the narrow decision areas. Organisations that adopt proactive strategic approaches concern themselves with environmental issues in all decision areas, deploying advanced green management practices (Rhee and Lee, 2007, pp. 198-199).

As stated by Simpson and Samson (2008 p.12) in the last years, several organisations are “greening” upstream and downstream aspects of the supply chain activities, including technologies, purchasing clauses, practises and targets. In particular, some organisations, such as DuPont and Seventh Generation have introduced innovative and revolutionary purchasing requirements in order to encourage the usage of specific materials by suppliers, reducing the impact on the environment (Simpson and Samson, 2008, p.12). According to the authors, the social pressure, the changing demands of customers, the new pro-environment legislation, the shift in the expectations for the supply chain management, determined the increasing use of environmental practises and requirements in the field of supply chain. The application of green supply chain management (GSCM) involved different activities (Simpson and Samson, 2008, p.13):

- Pro-environmental performance management;
- Certification or evaluation schemes;
- Alignment of supply chain targets for both energy-efficiency and pollution-reduction;
- Introduction of green requirements to both downstream and upstream supply chain practises.

Simpson and Samson (2008, p.13) have identified different strategies for GSCM: risk-based strategies, efficiency-based strategies, innovation-based strategies and closed-loop strategies. Generally, organisations that apply risk-based strategies retain minimal internal environmental management.

The purpose of adopting risk-based strategies is to meet the stakeholders’ expectations. However, in terms of competitive advantage the benefits of using this strategy are limited because of the absence of uniqueness and the increasing use by other supply chains.

Efficiency-based strategies can be considered more complex because consist of adopting specific manufacturing practises and requirements. Efficiency-based strategies are also known as “eco-efficiency” or “lean-and-green” approach to Green Supply Chain Management. Unlike risk-based strategy, the efficiency-based approach requires higher levels of involvement between supply chain associates in order to facilitate activities such as waste reduction and recycling (Geffen & Rothenberg, 2000; Klassen & Vachon, 2003, cited in Simpson and Samson, 2008, p. 14).

Innovation-based strategies are different from efficiency-based approach because require the development of more specific environmental requirements.

Organisations that adopt the innovation-based approach consider for the field of supply-chain management, specialized and complex technologies, and processes with higher levels of performance standards for both suppliers and consumers. These activities include reducing the use of chemicals, the adoption of specialized design and the integration of environmental resources. However, Simpson and Samson (2008, p.14) have defined the closed-loop strategies as the most complex and collaborative approaches for GSCM. Closed-loop strategies require higher levels of environmental, economic and operational performance. Furthermore, organisations adopting this approach guarantee high standard levels of control on the return, usage and capture of materials.

As highlighted by Simpson and Samson (2008, p.14), the revolutionary environmental protection legislation is leading several companies to consider the green operational performance as the norm in their organisations. In particular, they are consistently expanding their objectives in terms of environmental protection in the field of supply chain management and suppliers’ operations. The adoption of more complex green supply chain strategies is increasing the potentiality for competitive advantage in the market place. Many organisations are developing systems of green supply management, integrating high levels of economic, environmental and operational performance (i.e. Toyota, Hewlett and Packard, Ben and Jerry’s ice cream).

Therefore, GSCM strategies do not provide only high levels of performance but also an efficient capacity of approaching resources and changing legislative norms (Simpson and Samson, 2008, p. 15).

### 2.3 Green marketing strategies in B2B organisations

Recent research on green marketing strategies have highlighted the importance of building sustainable marketing strategies as reflection of the organisation's values.

Chen and Lin (2011) proposed a new point of view, that is, the combination between generic competitive strategies (Porter 1985) and the green marketing strategies (Ginsberg and Bloom, 2004). According to the authors, this combination gives the firms opportunities to develop optimal strategies to react to different business conditions and situations.

However, Chen and Lin (2011) pointed out that is not possible identify a unique green marketing strategy for all firms. In fact, strategies should be built depending on the characteristics of the market and its settings. Therefore, the researchers (2011) argued that the managers should ask two questions before building strategies for their businesses.

First, they should ask what the green consumer segment is; afterwards, they should ask whether the firm might be differentiated by incorporating green dimension. Regarding to this, Ginsberg and Bloom (2004, cited in Chen and Lin, 2011) proposed the green marketing strategy matrix (figure 5).

**Fig. 5** - Marketing mix tools used in Green Strategies. Source Chen and Lin, 2011.

	Product	Price	Place	Promotion
Lean				
Defensive				
Shaded				
Extreme				

Ginsberg and Bloom (2004, cited in Chen and Lin, 2011) suggested the firms evaluating the characteristics of the potential green market before selecting the green marketing strategy proposed in the matrix. In particular, Lean Greens are used by businesses for publicising their sustainable activities. Defensive Greens make use of green marketing as a reaction to competitors or crisis. Shaded Greens use green as a potential opportunity for the creation of competitive advantage. Finally, Extreme Greens are more focused on holistic values.

Menon and Menon (1997, cited in Rivera-Camino, 2007, p.1332) identified three kinds of marketing strategies that can be implemented by organisations:

- Functional or tactical level strategy;
- Quasi-strategic (or business-strategic level);
- Strategic level.

According to the authors, the tactical level incorporates functional, marketing and production decisions that aim to achieve detailed objectives.

The quasi-strategic level does not include big efforts to create integration between marketing strategies and environmental issues. The strategic level involves the incorporation of environmental goals within the organisational systems of the company (Rivera-Camino, 2007, p. 1332).

As highlighted by Polonsky and Rosenberg (2001), targeting, pricing, design, positioning and promotion represent the strategic actions that companies can implement in order to maximise the positive impact on the environment. According to the authors, a company should firstly consider how targeting its products. Afterwards, the organisation should establish what kind of features incorporate into processes and products. Thus, the development of green positioning for a specific product means that the company should ensure that all the activities and internal processes of the organisation must support the new product. Regarding the green promotion, Polonsky and Rosenberg argued that it cannot be considered an effective strategy unless it is correlated and supported by other initiatives taken by the organisation. The following figure shows how tactical greening strategies, quasi-strategic greening actions and strategic greening initiatives can be implemented across the 4P's areas.

**Fig. 6 - Green Marketing Activities at the Three Levels.** Source: Adapted from Polonsky and Rosenberg (2001).

	Tactical Greening	Quasi-strategic Greening	Strategic Greening
Targeting	Ads mentioning green features are run in green focused media.	A firm develops a green brand in addition to its other brands.	A firm launches a new strategic business unit aimed at the green market.
Green Design/NPD	Switching from one raw material supplier to another with more eco-friendly processes.	Life-cycle analysis is incorporated into the NPD process to minimize eco-harm.	Fuji Xerox develops its Green Wrap paper to be more eco-friendly from the ground up.
Green Positioning	A mining company runs a PR campaign to highlight its green aspects and practices.	BP Amoco redesigns its logo to a sun-based emblem to reflect its view of a hydro/solar-based future for the energy business.	The Body Shop pursues environmental and social change improvements and encourages its customers to do so as well.
Green Pricing	Cost savings due to existing energy-efficiency features are highlighted for a product.	A water company shifts its pricing policy from flat monthly rate to a per-unit-of-water-used basis.	A company rents its products rather than selling them, consumers pay only for use of the product.
Green Promotion	An oil company runs a PR campaign to highlight its green practices in order to counter an oil spill getting bad press coverage.	A company sets a policy that realistic product eco-benefits should always be mentioned in promotional activities.	As part of its philosophies The Body Shop co-promotes one or more social/eco campaigns each year with in-shop and promotional materials.

Fuller (1999, p.127) discussed the role of green marketing activities within a business environment. The author believed that the implementation of green marketing strategies could give companies the mission to pursue. This means that companies should redirect customers towards choices pro-environment, reorganise the marketing mix including green actions, redefine the organisation's system and culture incorporating sustainable principles.

Some discussion of the role of green marketing strategies in B2B context can be found in Fraj, Martinez and Matute (2013). The increasing importance of environmental problems and sustainable issues has led several companies to adopt environmental positions and strategies in order to create a direct correspondence between business behaviour and market trends (Aragón-Correa and Sharma, 2003, cited in Fraj et al.2013, p.396).

Fraj et al., (2013, p.397) noted that, since researcher demonstrated more interest in investigating how firms are able to implement and communicate environmental initiatives, the management of green strategies has been researched tremendously with particular consideration for the business-to-business context. Nowadays, the implementation of green marketing strategies is considered essential for creating long-term relationships because of the changing demands of buyers for sustainable services (Sharma et al., 2010, cited in Fraj et al., 2013, p.397) and the potential contribute to the company's operating (Russo and Fouts, 1997, cited in Fraj et al., 2013, p.397).

However, Fraj et al.,(2013, p.397) highlighted that few are the research focused on how B2B organisations use green marketing strategies and what the most evident consequences of integrating green initiatives into the business operations are. Therefore, Fraj et al., (2013) conducted a research with the aim to investigate how B2B organisations are influenced by the development of green marketing strategies.

The findings of their research, confirm that green marketing strategies determine the development of two main activities. The first, also called process-oriented, include transformations of internal procedures and processes in order to optimize the positive impact on the environment. The second, or the market-oriented activities, aim to project externally a better green commitment. These actions can be useful in building reliable relationships with industrial buyers that are more willing to build relationships with suppliers, which are environmentally responsible (Fraj et al., 2013, p. 404).

The integration of green practises into the organisations' production, design and logistics processes could initially imply high costs along with complex procedures of modification. Nevertheless, the findings of the research show that the development of green initiatives are paid off. In fact, it drives the B2B organisations to achieve a greater performance. In particular, the implementation of sustainable initiatives can give the organisations the opportunity not only to increase sales but also to gain leadership and differentiation in the market place (Fraj et al., 2013 p. 406).

#### ***2.4 Green management in the chemical sector within the International and Irish context***

A study conducted by Iles (2006) highlighted the need for innovations in sustainable marketing in the chemical sector. Anastas and Warner (1998, cited in Iles, 2006) have defined green chemistry as “the design of chemicals, processes and reactions to reduce environmental and health hazards at source and to enhance sustainability, particularly through the molecular design of chemicals”.

Even though several university and industry laboratories have started developing pro-environmental activities, companies and organisations have not yet introduced significant green chemistry innovations and technologies (Woodhouse, 2003, cited in Iles, 2006). The difficulties to integrate and internalize the environmental impacts of chemicals, the absence of regulatory norms that demand reduction of waste and pollution and the dispersion of innovations, represent the main reasons why organisations have not yet developed substantial green marketing strategies (Nissen, 2003; Wilson, 2006, cited in Iles, 2006).

According to Iles (2006), the most important issue is the lack of business strategies focusing on the value of green chemistry actions in terms of competitive advantage.

In fact, as suggested by the Porter hypothesis, companies can gain business advantage by resource efficiency strategies (Porter and van der Linde, 1995, cited in Iles, 2006). Therefore, green chemistry could represent a strategic mean for companies to achieve this efficiency. Recently, there has been a rapid development of the concept of sustainability marketing as a way to create attractive market for new pro-environment products (Wasik, 1996; Charter and Polonsky, 1999, cited in Iles, 2006).

Chemicals are used in different industrial processes such as steel and petroleum, they are also used for a vast range of products from clothes to electronics (Spitz, 2003, cited in Iles, 2006). In addition, chemicals are sold as consumer products (i.e. cosmetics and cleaning agents).

According to Iles (2006), green chemistry strategies could be applied in the following categories:

- Production: green chemistry practises can involve activities designed to achieve energy efficiency by reducing waste;
- Products: organisations can plan the production and distribution of products making use of diverse additives, chemicals or solvents. Therefore, less packaging, biodegraded products and recycling can represent a significant way for companies to develop green chemistry practises.
- Raw materials: industries can change the processes for manufacturing chemicals. They could introduce biological processes ensuring the adoption of responsible and non-toxic methods extraction methods.

The Porter theories were based on the assumption that organisation can be more competitive by introducing innovations. “Such innovations allow companies to use a range of inputs more productively – from raw materials to energy to labour – thus offsetting the costs of improving environmental impact” (Porter and van der Linde, 1995, cited in Iles, 2006). Therefore, as stated by the British Royal Society of Chemistry, “by improving resource efficiency, green chemistry should provide financial benefits from lower material usage, energy and capital expenditure costs in addition to the environmental benefits’ (British Royal Society of Chemistry, 2002, cited in Iles, 2006). Advantages and benefits include supply chain management strategies and each stage of the product life cycle (Clark, 2005, cited in Iles, 2006). Furthermore, incentives regulations for green chemicals have been approved. In particular, in terms of standards, norms and regulations, the European Union product legislation is rapidly shifting towards a supportive approach for activities that maximize the impact on the environment (Veleva, 2005, cited in Iles, 2006).

In market terms, consumers are changing their demands for chemistry products, avoiding products that can be risky. According to the European Social Investment Forum, in the next years, the introduction of green chemical innovations can represent a significant source to gain competitive advantage for organisation operating with chemicals. The “green credentials” can be seen as an important key component of differentiation in the market place (European Social Investment Forum, 2005, cited in Iles, 2006).

Therefore, marketing sustainability may be a strategic approach that requires a shift of the companies’ attitude towards green chemistry strategies.

However, in order to develop efficient green chemistry solutions, organisations have to build strong and valuable relationships across supply chains and provide more information to consumers and employees. In addition, the attention to innovative marketing and the introduction of feasible green technologies and chemicals can be considered important actions for developing new marketing approaches in the field of green chemistry (Iles, 2006) (figure 7).

**Fig. 7** - Examples of Sustainability properties. Source: Iles, 2006.

---

**Inherent Toxicity**  
*Less toxic, persistent, bioaccumulative*  
*Compatibility with biological and ecological metabolism*  
*Biodegradability*

**Impact on Environment**  
*Reduced pollution and waste*  
*Reduced mining or extraction impacts*  
*Reduced greenhouse gas emission*  
*Reduced biodiversity impacts*

**Resource Efficiency**  
*Less materials use*  
*Energy Efficiency*

**Impact on Human Societies**  
*Fewer worker and resident exposures*

**Bioinspiration**  
*Biological production processes*  
*Biomass feedstocks*

---

In the early years after the economic recession of 2008, many businesses, especially in the chemical sector, have demonstrated efforts to be environmentally efficient. In particular, they have started applying lean approaches to produce environmental benefits in terms of waste reduction, resources efficiency and pollution prevention. The rise of sustainable supply chains involved companies such as Procter and Gamble, Unilever and Johnson & Johnson (Matthews, 2011).

As noted by the author, collaboration and transparency have been integrated in the supply chain management of these industries as significant aspects of their green technological innovation.

**Fig. 8 - Sustainable Supply Chain Priority Chart.** Source: Matthews, 2011.



Since 2009, Procter & Gamble has demonstrated efforts to be more sustainable. The company adopted green approaches from the packaging to the advertisement of its products. Recycled materials, sustainable manufacturing renewable sources of energy and eco-design, represented the most significant actions taken by the company in order to promote its growth in terms of sustainability. Furthermore, in 2012, Procter & Gamble launched a new strategy incorporating sustainability goals in its business plan. The main objectives included offering customers green innovations, reducing at the same time carbon dioxide emissions along with water and energy waste (Matthews, 2012).

In 2010, the industry launched its first “green” marketing campaign in US. The aim of the company was the promotion of “sustainable innovation products” (Warc, 2010).

DuPont, an American chemical company, represents another important case of industries operating with chemical that has demonstrated efforts in adopting green marketing strategies. The main actions taken by the company are as follows:

- Green packaging (usage of renewable energy and recycled materials);
- Green incentives: consist of motivating consumers by advertising donations to “green” organisations;
- Online marketing promotion;
- Reusable grocery bags.

DuPont has also received the Green Approved Product Seal for green marketing products and services (Envirotools).

A recent study conducted by Smits et al., (2011) highlighted the importance of introducing sustainable innovations in the chemical sector. The study has defined the processes characterizing the products development within chemical industries. The outcomes of the research confirmed the increasing introduction of product innovations in the chemical sector, in terms of product usage and application. In particular, in the last years, new green chemical ingredients along with new sustainable supply chain management activities have been introduced in the development process of products of chemical firms (Smits et al., 2011). Therefore, the study confirmed the theory according to which product innovation is fundamental for chemical industries to gain competitive advantages (Heinzelbecker, 2005, cited in Smits et al., 2011).

To improve the regulation about chemicals in the European context a new legislation has been established in 2007: REACH that is the Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals. REACH aims to introduce more restrictions in terms of safety and control regarding the chemical supply, manufactory, distribution, import and export (Environmental Protection Agency). One of the largest chemicals delivering products company, Dow Chemical that is also located in Ireland, is actively participating in REACH programme. This means that the chemical substances contained inside the product to be distributed must respect the rules determined by REACH regulation (Envirocentre).

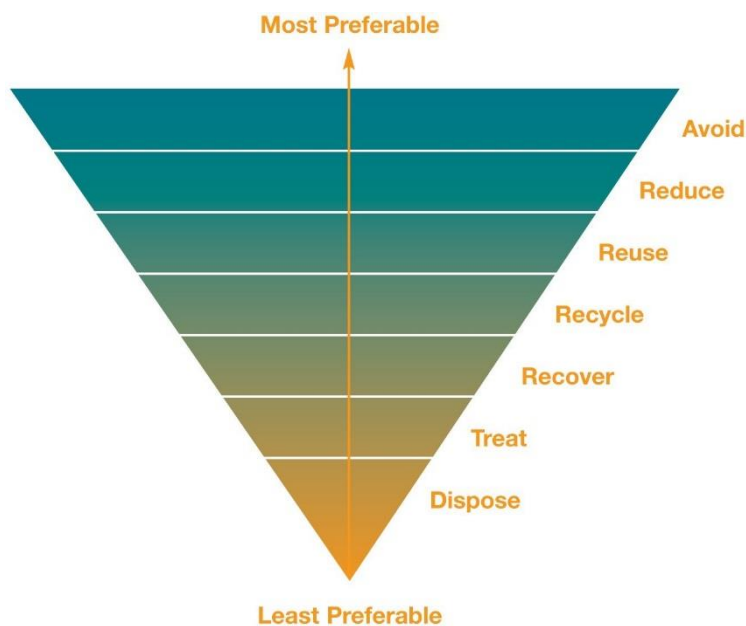
According to Scientists Paul Anastas, Green Chemistry includes several principal such as “prevention of waste, creating less-hazardous chemical syntheses, designing safer chemicals, using renewable ingredients and designing for innocuous degradation into the environment, among others”. In the last decades, many companies have introduced also the “Green Chemistry Ethic”.

For instance, Merck & Co and other pharmaceutical companies are adopting new strategies in order to be more sustainable, minimizing the negative impact on the environment. Furthermore, both, small and large chemical companies are investing in innovative research & development activities in order to reduce the impact of chemicals on human health and environment (Morson, 2007).

## 2.5 Environmental Legislation in Ireland

In the last decade, Ireland has introduced new environmental standards that reflect an important change in the management of waste and energy efficiency. The increase of environmental practises is due to the imposition of revolutionary standards promoting recycling activities and waste minimisation. The environmental national policies are mainly governed by European Union legislation. The main waste management policies are enclosed in the following DoEHLG laws: “Waste Management Changing Our Ways”, “Preventing and Recycling Waste: Delivering Change”, "Taking Stock and Moving Forward", "A Resource Opportunity - Waste Management Policy in Ireland". All these statements are based on the European “waste management hierarchy” (figure 9) (EnviroCentre, 2009).

**Fig. 9** - Hierarchy of Waste Management. Source: EnviroCentre, 2009.



The aim of the EU environmental actions programmes is the following:

“to ensure the consumption of renewable and non-renewable resources and the associated impacts do not exceed the carrying capacity of the environment and to achieve a decoupling of resource use from economic growth through significantly improved resource efficiency, dematerialisation of the economy and waste prevention” (European Commission, 2001: 31, cited in Cahill, no date).

The establishment of the environmental Protection Agency (EPA) in 1993 had a significant impact in the regulation of the Irish environmental policy. The EPA has the important role of improving and protecting the environment. The main objective is the diffusion of a new approach promoting consciousness towards natural environmental within industries such as chemical, pharmaceutical and high-tech industries. Therefore, Ireland adapted its regulations to the comprehensive body of the European environmental law and policy in different areas, nature preservation, resource efficiency, waste management, air quality and chemicals. (Cahill, no date).

Businesses located in Ireland must respect European and national environmental regulations in order to reduce the negative impact on natural environment. These laws include primarily chemicals and reducing waste. Several are the statutes and acts related to the promotion of sustainability within the business context. However, a huge proportion of the Irish environmental legislation focused on reducing and limiting the negative impact of products on the environment. The laws include regulations on packaging, packaging waste, Eco-labels, Eco-design and material consumption. The innovative approach towards the impact of products introduced is also known as “Extended Producer Responsibility” (EPR) and involves the whole lifecycle of the products, from the raw materials and production to the distribution and consumption of them. The aim of eco-design, eco-labels and sustainable packaging, distribution, is the development of products with maximized environmental performance (EnviroCentre, 2009).

## ***2.6 Green marketing and sustainable competitive advantage***

"A competitive advantage that is based on value is characterized by the benefits or qualities increasing the attractiveness of the market offer to the targeted customers" (Porter and van der Linde 1995, p.97). According to Porter and van der Linde (1995, p.101) the creation of value is essential for gaining competitive advantage. In fact, a sustainable competitive advantage gives the company the opportunity to be unique in its position, creating in this way value.

Being competitive means being different in selecting diverse and particular procedures and set of activities in order to obtain value and uniqueness (Porter and van der Linde, 1995, p.102).

Crassous and Gassmann, (2012, p.7) in their recent research, have investigated how organizations are using green marketing as a competitive advantage. Nowadays, companies operate in a business context characterized by new trends towards environmental issues. The consumers have more awareness in promoting sustainable activities and accordingly the stakeholders' expectations have shifted towards environmental support (Siegenthaler, 2010, cited in Crassous and Gassmann, 2012, p.7). Therefore, according to Crassous and Gassmann (2012, p.7) today the environment is playing an important role in terms of competition and economy. Environmental issues are changing the competitiveness for many organisations (Shrivastava, 2007 cited in Crassous and Gassmann, 2012, p.7). Several companies are taking actions by implementing green marketing tools and strategies that could represent a core competence for them (Berkhout, 2012, cited in Crassous and Gassmann, 2012, p.7).

The findings of the study conducted by Crassous and Gassman (2012, p. 55) confirm the thesis according to which the application of green marketing models within an organisation can create competitive advantage. In particular, the researcher discovered that the companies investigated for their study (Jade and Notox), by using green strategies differentiate them from the competitors. In fact, differentiation along with cost-leadership and focus, represent the generic strategies adopted by companies to gain competitive advantage (Porter, 1985, Crassous and Gassmann (2012, p. 55). Both the companies studied, Jade and Notox differentiate themselves by using the five I's, green branding, eco-friendly production and eco-labels.

Therefore, Crassous and Gassmann (2012, p. 55) concluded their study claiming that the application of different elements composing green marketing strategy enables companies to diversify and differentiate themselves gaining competitive advantage over their competitors in the market place accordingly.

Further studies conducted by Leonidou, Katsikeas and Morgan (2013, p.151) have shown that the implementation of green marketing programs has positive effects on the businesses' performance.

The findings of their analysis indicate that green products influence positively the company's product – market performance, while sustainable promotion and pricing affect positively the firm in terms of return on assets (Leonidou et al. 2013, p.151). Therefore, through their study, Leonidou et al. (2013, p.151) found that green marketing strategies have actually positive impact on companies in terms of financial performance benefits and product-market. In addition, the authors have demonstrated that these benefits can vary in relation to the different green marketing programs adopted by the company.

Leonidou et al. (2013, p.152) argued that greening every element and aspect characterizing the marketing mix can generate better insights than considering marketing strategies separately. The firms aim to achieve different kind of benefits by using sustainable programs. For instance, one of the companies studied by the researcher (2013, p.157) aimed to increase the market share, while another pursued cost savings. Based on their research, Leonidou et al. (2013, p.157) claimed that two are the reasons why green marketing programs have positive effect on a company's product-market performance. First, the adoption of environmentally friendly initiatives within the marketing mix paradigm (product, price, place and promotion) influences positively the reputation of the company among customers (Fraj-Andrés et al. 2009; Miles and Covin 2000, cited in Leonidou et al., 2013, 157). Second, if the green market programs are developed efficiently, the company can have opportunities to enter into new markets (Banerjee et al. 2003, cited in Leonidou et al., 2013, p.157). This allows the firm expanding its market share (Baker and Sinkula 2005, cited in Leonidou et al., 2013 p.157).

Furthermore, the literature identified several reasons why green marketing strategies influence positively the firms in terms of return on assets.

Considering the cost perspective, the application of green marketing programs can lower expenses by maximizing the usage of efficient resources (Miles and Covin 2000; Nidumolu et al. 2009, cited in Leonidou et al., 2013, p.157).

In addition, firms with green marketing strategies may determine an increased employee output and morale and, thus, an enhancement of the productivity (Menon et al. 1999; Peng and Lin, 2008, cited in Leonidou et al., 2013, p.157).

The concept of green marketing in terms of competitive advantage has been also developed by Shirsavar and Fashkhamy (2013). They argued that by becoming greener, a firm could gain several benefits and advantages such as the reducing of costs and the improving of its competitive position in the market place. Furthermore, being green, allows an organisation differentiating itself from its rivals by adding value in customer's eyes and increasing at the same time its overall reputation and the profitability (Moein Nejad, 2011, cited in Shirsavar and Fashkhamy, 2013, p. 15). However, in order to gain competitive advantages, the companies have to create suitable positioning and bases in the market (Hosseini and Habibi, 2010, cited in Shirsavar and Fashkhamy, 2013, p. 16). Therefore, green marketing approach is not only focused on meeting the changing customers 'needs. In fact, the application of green marketing programs requires being committed, spending time and exploiting different resources (Shirsavar and Fashkhamy, 2013, p. 16).

## ***2.7 Literature conclusions***

The literature review has provided interesting insights in relation to the impact of green marketing strategies on the companies' performance and their usage to create competitive advantage. The review, more precisely, shows how companies should develop marketing strategies to be more profitable and competitive in the market place. Several companies have been studied by researchers in order to figure out whether the implementation of green programs can generate benefits and advantages within an organisation.

In particular, Crassous and Gassmann (2012) found that both the companies studied, Jade and Notox, by using green strategies differentiated themselves from the competitors, gaining in this way competitive advantage.

The review offers also significant insights on how B2B organisations are influenced by the development of green marketing strategies.

The previous research, confirms that two are the main activities developed by B2B organisations: the first are the process-oriented activities that include transformations of internal procedures and processes in order to optimize the positive impact on the environment; the second are the market-oriented activities, which aim to project externally a better green commitment. These actions are essential for building reliable relationships with industrial buyers that are more willing to build relationships with suppliers, which are more environmentally responsible.

Furthermore, in this section has been presented the approach that many businesses, especially in the chemical sector, are applying to produce environmental benefits in terms of waste reduction, resources efficiency and pollution prevention. As highlighted by Matthews (2011), the rise of sustainable supply chains involved companies such as Procter and Gamble, Unilever and Johnson & Johnson. As noted by the author, collaboration and transparency have been integrated in the supply chain management of these industries as significant aspects of their green technological innovation.

However, the literature review does not offer theories or studies based on the attitude of B2B organisations, supplying wide range chemicals, towards green activities. Therefore, there is the need of further research in order to answer to the original research question.

## CHAPTER 3 - METHODOLOGY

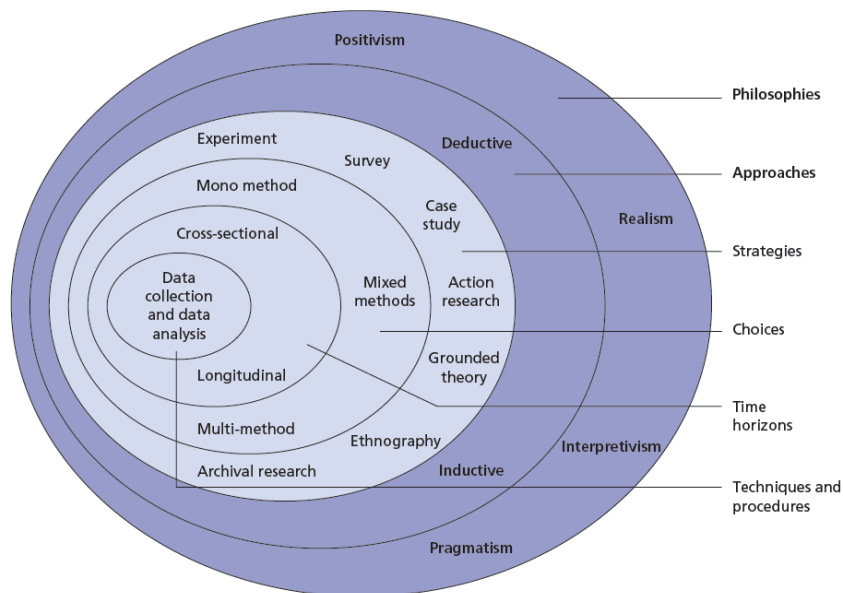
---

### 3.1 Methodology introduction

The following chapter will describe the background and structure of the methodology that will be used, providing an accurate explanation of the research strategy, design and data collection methods. The Saunders et al (2009) research onion (figure 10) has been used as foundation for designing an appropriate research methodology.

The intention of the researcher is to conduct a qualitative study about the attitude of B2B organisations supplying wide range of chemicals towards green initiatives in order to figure out how they are reacting to the challenging business environment and whether they are gaining competitive advantage in promoting sustainable activities.

**Fig. 10** - Research Onion. Source: Saunders et al., 2009, p. 138.



## ***3.2 Research Design***

### ***3.2.1 Research philosophy***

According to Saunders et al. (2009, p.108) “the research philosophy contains important assumptions about the way in which view the world”. As Johnson and Clark (2006, cited in Saunders et al., 2009, p.108) noted, the selection of the philosophy is essential for business researchers to be aware of the philosophical commitment since it has an important impact on what we are investigating.

The first research onion layer categorises four different philosophies: (see figure 10 above) positivism, realism, interpretivism and pragmatism. For this dissertation, the researcher made use of a combination between realism and interpretivism in order to be more flexible during the research.

Realism has been chosen as one of the most appropriate research philosophy for this study. Realism is a philosophical position that similarly to positivism adopts a scientific approach to the knowledge. The core of realism is based on the fact that what the senses express us as reality is considered the truth (Sanders et al., 2009, p. 114). A combination between direct and critical realism has been applied to the study. According to Saunders et al., (2009, p.115) “direct realism says that what you see is what you get: what we experience through our senses portrays the world accurately.

Critical realists argue that what we experience are sensations, the images of the things in the real world, not the things directly” (Saunders et al., 2009 p. 115).

Furthermore, in order to conduct the study with a broader view, the interpretivism philosophy was adopted. An interpretivist perspective emphasises the importance of understanding humans as “social actors” and stresses the substantial difference in conducting research among people rather than objects (Saunders et al., 2009, p.116). An interpretivist approach has been chosen for this research because the qualitative questions asked to the account manager of case company one (VWR) and the manager director of case company two (National Chemical Company), were based mainly on their understanding of green marketing and finally gave data essential to answer to the primary research question.

### **3.2.2 Research Approach**

The second research onion layer identifies two types of research approach (Fig.10): deductive and inductive. In this study, an inductive research approach is employed because of its qualitative nature and interpretivist philosophy. Differently from the deductive approach, the inductive research is more concerned with the context in which the events take place or events that tend to evolve at an incredible pace in our area of study (Saunders, 2009, p. 126).

This is the case of the Green Marketing area, which has rapidly evolved over the last years and is continuing to develop constantly. Therefore, a qualitative research has been conducted in order to develop a theory from the findings of the study.

The researchers that use this approach are more likely to analyse qualitative data and to use a several methods to collect these data (Easterby-Smith et al. 2008, cited in Saunders, 2009, p.126). In contrast, a deductive approach is more focused on the development of a research hypothesis, which employs controls to allow the testing of hypotheses (Saunders et al., 2009, p. 125).

### **3.2.3 Research strategies**

Saunders et al. (2009 p. 136) identified different research strategies that can be used: experiments, surveys, case study, action research, grounded theory, ethnography and archival research. The selection of a specific research strategy is essential because enables the researcher to answer the research questions and objectives.

Case study strategy offers the most suitable method of generating the data required for this study. According to Robson (2002:178, cited in Saunders et al., 2009, p.145), “case study is a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context”.

Furthermore, the case study strategy is suitable for study in which the researcher aims to gain a complete understanding of the context of the research and its related processes (Morris and Wood 1991, cited in Saunders et al., 2009, p.146).

The case study strategy is favourable if “how” and “why” questions are being asked. In fact, case study is usually used in exploratory or explanatory research (Saunders et al., 2009, p.145). The way in which the researcher asked the research questions reflected the purpose of conducting an explanatory research.

As defined by Saunders et al., (2009, p. 140) the explanatory studies are finalized to analyse and study a situation in order to explain the existing relationship between the selected variables. In fact, the following research aims to get a clearer understanding of the relationship between the investment in green marketing strategies and initiatives and the competitive advantage gained by business-to-business organisations supplying a wide range of chemicals in the market place.

#### **3.2.4 Case selection**

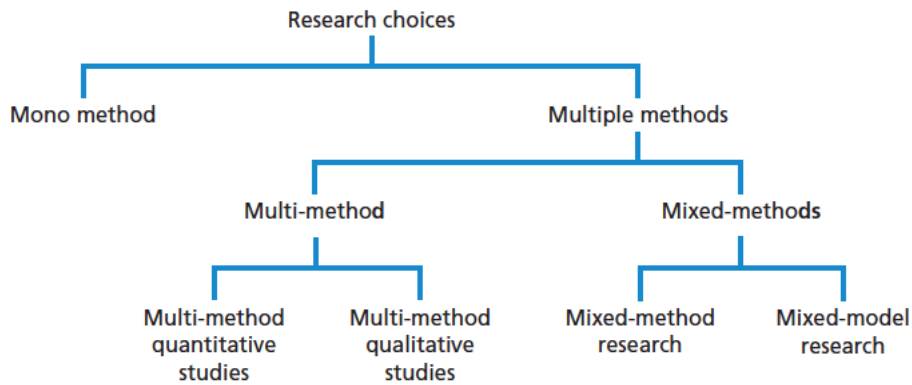
The researcher chose to examine two business-to-business organisations supplying wide range chemicals. The selection of the companies was done through an accurate judgement selection for two main reasons: firstly because of the sensitivity of the research topic; secondly because of the difficulty in getting the collaboration of businesses supplying and operating with chemicals. Therefore, I made sure that the companies chosen are actually implementing green marketing actions and the respondents were available and willing to give information about their companies. The selection of the cases was located through a meticulous and wide Internet research conducted by specific keywords directly related to the research topic. Only the companies that are currently committed in some forms of sustainable marketing strategies were selected to take part the study as that was the main element of the research. Finally, VWR International (case study one) and National Chemical Company (case study two) have been chosen as the case company to be studied. VWR is a global laboratory supplier and distributor of chemicals, life science products, consumables, equipment, instruments, furniture, e-commerce that has a location in the territory of Ireland. National Chemical Company is a leading supplier and distributor of a comprehensive range of chemicals and polymer materials that is located in Ireland.

#### **3.2.5 Research choices**

Saunders et al., (2009, p. 151) have identified three different research methods that the research can use (figure 11): mono method, mixed methods, multi-methods. The principal method for this study is represented by a self-administered questionnaire, with further qualitative data researched by using archival research and observations.

Therefore, a multi-method qualitative study is the preferred choice for this research because further data gathered can enhance the validity of the findings.

**Fig. 11** - Research choices. Saunders et al., 2009, p. 152.



### ***3.3 Data collection instruments***

Two types of research methods are the most used for the collection of data: quantitative and qualitative methods. On the one hand, quantitative refers to any data analysis procedure, such as statistics or graphs, and any data collection technique such as questionnaire, that makes use or generates numbers or numeric data. On the other hand, qualitative refers to any data analysis procedure such as categorising data or data collection technique such as interviews that makes use or generates non-numerical data (Saunders et al., 2009, p. 151).

The primary method for this study was a self-administered questionnaire, with extra data collected by using archival research and observations.

According to Saunders et al., (2009, p. 362) (figure 12) self-administered questionnaires can be administered electronically by using Internet-mediated questionnaires, intranet-mediated questionnaires, postal or mail questionnaires, delivery and collection questionnaires. For this study, mail questionnaire was used with responses given by email after completion.

### **3.3.1 Questionnaire**

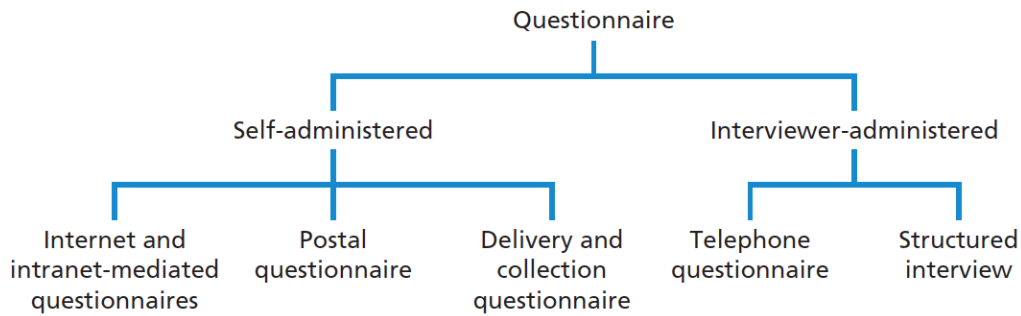
For the purpose of this study mail questionnaire was used with responses given by email after completion. Moreover, the purpose of the research was conduct and explanatory study and the self-administered and mail questionnaire was helpful not only to understand the ‘what’ and the ‘how’ but also for exploring the ‘why’. (Appendix 3). The design of questions composing the questionnaire has been determined in relation to the data that the researcher needed to collect. The questionnaire includes a combination of open and closed questions. According to Fink (2003, cited in Saunders et al., 2009, p. 374) “open questions allow respondents to give answers in their own way”.

In addition, the type of closed questions used were primary list questions by which a list of possible answers was given to the respondents. However, the choice of the questionnaire was influenced by different factors:

- Kind of questions to ask: the researcher was very careful in designing and selecting the type of questions in order to collect significant data for the primary research;
- Number of questions essential to gather data to respond the selected research questions;
- Importance of getting clear and satisfactory answers in relation to the research topic.

The validity of the questionnaire was tested by using a pilot study in order to evaluate the flow of the questions and structure. Twelve people, between friends and colleagues took part in the pilot study that helped the researcher to evaluate the fluency and clarity of the questionnaire’s structure. The questionnaire was realized in PDF format and forwarded by email to the case company studied. The creation of the final questionnaire took almost three weeks in order to ensure that questions to ask were clear, understandable and in connection with the research questions.

**Fig. 12** - Types of questionnaires. Source: Saunders et al., 2009, p. 363.



### 3.3.2 *Observation*

To answer the research questions, the researcher had to conduct an observation of the case company websites and their recent publications. According to Saunders et al., (2009, p.288) observation involves: the systematic observation, recording, description, analysis, and interpretation of people’s behaviour”. The researcher chose to use a participant observation as additional method to collect qualitative data for the primary research. Gill and Johnson (2002, cited in Saunders at al., 2009, p. 293) have identified four types of role that can be adopted by the participant observer:

- Complete participant;
- Complete observer;
- Observer as participant;
- Participant as observer.

For the following study, the researcher chose to adopt the role of complete observer, not revealing the purpose of the observation activity.

The observation method revealed useful in order to have a more complete view of the companies studied regarding their operating towards green marketing initiatives. Through the observation of the official websites, the researcher was able to figure out whether the companies are actually promoting its sustainable actions online, making them transparent and public to the audience. Furthermore, the observation was essential not only to analyse the companies’ online attitude towards the promotion of its green marketing initiatives, but also to determine the importance given by the case company to the section of sustainability in their annual reports and publications.

### ***3.3.3 Secondary research***

The researcher gathered extensive secondary data to analyse critically the current literature in relation to the chosen research topic. Saunders et al., (2009, p. 256) highlight that secondary data can be considered useful to answer partially the research questions. The secondary research is mostly based on documentary data, which include academic journals, academic literature and online newspapers. Most of the secondary data has been collected by using Dublin Business School's EBSCOhost database, Business Source Complete, Emerald. The author used several keywords to find articles and current literature addressing the research topic. Green marketing strategies, green marketing management, sustainability and competitive advantage, green marketing mix, greener, green chemistry, sustainable supply chain and many other keywords were used useful and valid sources that could address the chosen topic.

### ***3.4 Sampling***

The sampling techniques that a researcher can decide to use are probability and non-probability sampling. According to Saunders et al., (2009, p. 213) "For non-probability sampling, the probability of each case being selected from the total population is not known and it is impossible to answer research questions or to address objectives that requires you to make statistical inference about the characteristics of the population".

Due to time and budget constraints and the nature of the research to be conducted, the researcher has chosen the non-probability as the most appropriate method. There are different kinds of non-probability sampling and the purposive is the most suitable for this study. In fact, as stated by Saunders et al., (2009, p. 237) purposive sampling is used when the cases selected will allow the researcher to answer the research question.

The sample selection concerning the non-probability sample is subjective, and the researcher can choose the sample size in relation to the research question.

Furthermore, it is fundamental that the sample size gives the researcher the opportunity to gather valid and relevant data. (Saunders et al., 2009, pp.233-234).

Therefore, the researcher will use non-probability sampling because it does not implicate the use of complete list of the population. The account manager of VWR (case company one) and the managing director of National Chemical Company (case company two) represent the main respondents of the questionnaire.

### ***3.5 Time-Horizon***

For this study, the researcher has selected cross-sectional as the most appropriate time-horizon. Indeed, this research focuses on the study of a specific phenomenon at a particular time in the changing context of business-to-business organisations supplying chemicals. The researcher is interested to understand what the changes within the research area selected are. Therefore, the study is conducting at a particular moment and does not aim to investigate the development of b2b organisations attitude towards green initiatives through the time.

### ***3.6 Data analysis procedures***

After completing the data collection, the next step is the analysis. During the analysis, the qualitative data collected will most likely need to be summarised, categorised or restructured (Saunders et al., 2009, p.482). Case Studies are particularly difficult to analyse due to the absence of well-defined techniques for doing so. However, every research should refer to a general framework for how the data is analysed. (Yin 2003, cited in Saunders et al., p.484).

In addition to transcribing notes, the researcher recorded also additional contextual information by using interim summaries to write the analysis progresses.

The qualitative analysis procedure is related to using an inductive based research approach. For this study data display and data analysis have been used to analyse the qualitative data collected.

According to Miles and Huberman (1994, cited in Saunders et al., p. 503), the data display and analysis consists of three sub-processes:

- Data reduction, that is the summary and simplification of data collected;
- Data display through matrices or networks;
- Drawing and verifying conclusions.

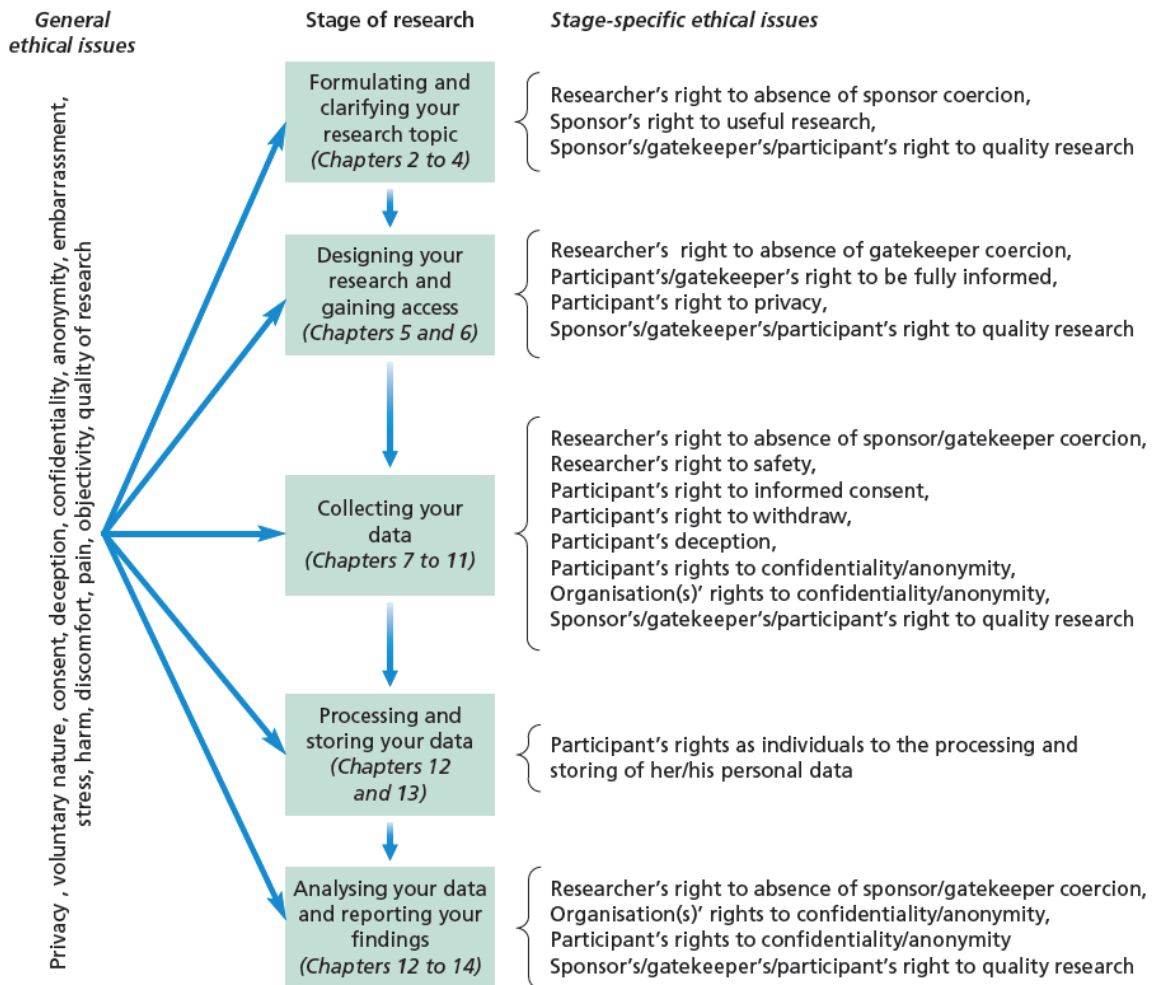
In addition, the researcher chose to make use of computer-assisted qualitative data analysis software (CAQDAS) that can be useful during qualitative analysis in terms of project management and data organisation.

### ***3.7 Research ethics***

During the research, there are ethical issues than can have importance from the initial stage of formulating the research topic to the analysis of data and reporting of findings (Saunders et al., 2009, p.187) (Figure 13). During the elaboration of the questionnaire, the researcher encountered ethical issues concerning the sensitivity of questions inserted. However, the researcher has identified as the most important issues to be considered the storage and keeping of data. It is essential the protection of the data collected and the conservation of them in a safe place.

According to Blumberg et al., (2005, p.92) research ethics address the question related to the way of using the methodology in the “right” way. Therefore, this means that the researcher should find the best solution to formulate questions and conduct interviews in an ethical manner. At this purpose, the authors assured the respondents of absolute discretion and confidentiality of the information provided through an informed consent form (appendix 2).

**Fig. 13 - Ethical Issues.** Source: Saunders et al., 2009, p. 187.



### 3.8 Limitations of Methodology

There are some limitations to consider conducting the research. Firstly, this study is restricted to the definition of the phenomenon to be investigated. The amount of literature on the topic is extremely wide and hard to synthesise. Furthermore, the time constraint represented an important limitation of this study because of the huge amount of information available about the topic. The number of the sample chosen is small, and it could represent a further limitation for the study. The research is geographically limited to the territory of Ireland.

Gaining access and selecting the right companies was very difficult due to the nature of the research topic. In addition, the researcher encountered limitations because of the restricted range of business-to-business organisations selected for the study.

There were many practical efforts involved during the research process such as gaining correspondence and access to chemical companies supplying chemicals and appropriate respondents. Limitations and difficulties were encountered in getting collaboration with the targeted companies because of the nature of the research topic and the sensitivity of it. Therefore, the researcher faced various limitations during the research. However, the author committed herself to overcome all of them, reducing every limitation to ensure the reliability of the study.

### ***3.9 Methodology conclusion***

The Saunders et al., research onion, which supported the author in the selection of the most appropriate methods to employ within the context of the following research, has guided the research process and methodology of this study. Furthermore, the methodology chosen has been helpful in meeting the requirements of the research objectives and topic. A combination between realism and interpretivism were chosen as the most appropriate research philosophies for this study. An inductive and primarily explanatory research approach was employed because of the qualitative nature and interpretivist philosophy of the research. The case study was chosen as the main research strategy offering the most suitable method of generating the data required for the study. The primary method for the collection of data was a self-administered questionnaire, with extra data collected by using archival research and observation. Finally, data display and data analysis have been used to analyse the qualitative data collected.

## CHAPTER 4 – DATA ANALYSIS AND FINDINGS

---

### *4.1 Data analysis and process introduction*

This chapter analyses and examines data and findings collected through the chosen methodology. It discusses themes and topics related to the context of the research objectives.

After reviewing previous and existing studies, the researcher has conducted a primary research that was essential to answer satisfactorily the main research questions:

*“How business-business organizations supplying wide range of chemicals are reacting to the challenging environment? Are they gaining competitive advantage?”*

The answer to the stated research question has been achieved by analysing four specific objectives:

1. Evaluation of the strategic approach towards green management within business-to-business organisations supplying wide range of chemicals.
2. Investigate how companies supplying chemicals are greening the marketing mix.
3. Investigate whether companies supplying a wide range of chemicals are gaining competitive advantage through the implementation of green marketing strategies.
4. Compare and contrast two green marketing approaches within the two case companies.

In order to achieve the research objectives and then answer the main research questions, the author has chosen to conduct a qualitative research through multiple case study as the main research strategy that offered the most suitable method of generating the data required for the study. The primary method for the collection of data was a self-administered questionnaire (appendix 3) with extra data collected by using archival research and observation. Finally, data display and data analysis have been used to analyse the qualitative data collected.

According to Hay (2005), two are the most important phases in the coding process:

- First stage: it is a rudimentary coding finalized to recognise and distinguish general themes and subjects;
- Second stage: it is a more in-depth coding process in which specific themes and patterns can be distinguished.

Furthermore, as stated by Guest et al., (2011, pp.10-11) “Generally speaking, reliability is of greater concern with thematic analysis than with word-based analyses because more interpretation goes into defining the data items (i.e., codes) as well as applying the codes to chunks of text’. In this study, coding and interpretation processes were at same stages difficult mainly due to the nature and specificity of the research topic.

---

#### ***4.2 Presentation of the Case Study One: VWR International***

As reported in the official website of the company ([www.vwr.com](http://www.vwr.com)), VWR International is an American organisation involved in the distribution and supply of a wide range of chemicals and critical products to the most important businesses in the industrial, pharmaceutical, furniture, biotech, healthcare and governmental sector. The company was established in the late 1924 by Georges Van Waters and Nat Stuart Rogers. Initially, it was created as a small chemical company, supplying few products such as paints, raw materials and cotton linters. Nowadays, they offer their customers an expansive selection of chemicals, instruments and furniture manufactured by leading scientific companies. VWR has over 8,000 associates in 35 countries around the world, demonstrating a continual expansion not only in supplying chemicals and critical products, but also in keeping the research facilities moving forwards. The company has decentralized location in the territory of Ireland, with which the researcher had the opportunity to conduct the following study.

VWR was one of the first major European laboratory supplier to obtain successfully triple certification in relation to the International Standards:

- Health and Safety - OHSAS 18001:2007
- Quality - ISO 9001:2008
- Environment - ISO 14001:2004

The philosophy and vision of the company is “We Enable Science”, therefore their mission is to continue the expansion of science worldwide. Integrity, respect and recognition, represent the open performance driven collaborative culture of VWR. The company’s competencies are focused on driving results, developing employees and customers, critical thinking, incessant improvement & innovation, co-operation & solidarity and customer focus. They adopt internal processes in order to deliver an excellent service and to improve their productivity for suppliers, distributors and customers, promoting continual innovation through cooperation and teamwork.

**Fig. 14** - VWR's Philosophy. Source: VWR.



The following is a brief summary of the topics addressed with Marta Szubert, VWR Account Manager – University & Government:

VWR is aware that developing sustainable and green initiatives can enhance the value and credibility of the company. Therefore, VWR consider the implementation of green marketing strategies essential to build strong and effective relationships with their business partners, associates, suppliers, community and customers. Furthermore, they recognise the importance that sustainability initiatives have to their customers, thus, VWR has decided to help them in the achievement of their goals in terms of sustainability.

VWR is currently taking actions that aim to minimize the negative impact of their products on the environment. They constantly monitor and improve their waste and energy balance. The company supports sustainability initiatives by encouraging customers choosing environmentally preferable alternatives. They are developing innovative recycling solutions along with sustainable products.

Moreover, in relation to sustainability and pro-environment practises, VWR committed to meet the main goals set by the UN World Commission on Environment and Development:

- Social Impact
- Environmental Protection
- Economic Growth

**Fig. 15** - VWR's Sustainability. Source: VWR.



#### ***4.3 Analysis of Empirical Data***

The following section includes the analysis of the collected empirical data. It aims to investigate whether the case company one that is a business-to-business organisation supplying chemicals is reacting to challenging greening environment, adopting green marketing strategies and whether it is gaining competitive advantage. The researcher conducted the analysis of organisational, functional and marketing activities of the case company that according to the definition of environmental marketing given by Coddington's (1993) recognises "environmental stewardship as a business development responsibility and business growth opportunity".

#### ***4.3.1 Analysis of VWR strategic approach towards green management***

The aim is to figure out whether VWR, object of case study, is actually reacting to the challenging greening environment by investing in green marketing strategies. In order to answer the main research question, it was essential to evaluate the strategies that VWR is adopting in relation to its organisational culture and value chain activities. Furthermore, the overall aim is to investigate what are the motives that lead the company to take green marketing strategies. In essence, it supports the theories elaborated by Askar (2012) about the four strategic approaches to green management:

- Reactive
- Defensive
- Accommodative
- Proactive

As declared by the main respondent of the questionnaire (Marta Szubert, VWR University & Government and Account Manager) VWR International is currently affected by concerns related to sustainability. Therefore, VWR is aware that developing sustainable and green initiatives can enhance the value and credibility of the company. The company considers the implementation of green marketing strategies essential to build strong and effective relationships with their business partners, associates, suppliers, community and customers. Furthermore, they recognise the importance that sustainable initiatives have to their customers, thus, VWR has decided to help them in the achievement of their goals in terms of sustainability.

The company is reacting to the challenging greening environment adopting green marketing policies across its organisation and value chain activities.

VWR is implementing green marketing strategies at both levels, organisational and value chain management. Regarding the adoption of sustainable initiatives within its organisation, the company encourages and promotes communication and discussions about sustainability at various levels of the organisation. VWR provides resources to engage with stakeholders including customers, employees and suppliers in order to educate them about sustainability. Furthermore, every VWR employee and associate receive a special training through e-learning courses concerning sustainability. In fact, more than 3,000 VWR associates have attended these special courses, gaining sustainability training.

In relation to VWR' value chain, the company is adopting green marketing practices across some activities composing the value chain:

- Manufacturing
- Packaging
- Marketing
- P/R Education
- Post-Use Processing
- Sourcing

However, in the next paragraph will be given detail about actions and strategies implemented by VWR within its value chain organisation.

VWR is currently adopting sustainable initiatives at strategic level, incorporating environmental goals within its organisational structure. The company constantly monitors and improves its waste and energy balance. It supports sustainability initiatives by encouraging customers choosing environmentally preferable alternatives. In addition, VWR is developing innovative recycling solutions along with sustainable products. Moreover, in relation to sustainability and pro-environment practises, VWR committed to meet the main goals set by the UN World Commission on Environment and Development:

- Social Impact
- Environmental Protection
- Economic Growth

Therefore, the company has actually incorporated sustainable and environmental objectives within its organisation, developing a program focused on environmental, social and economic performance of its operations.

The motives that guide VWR in taking green marketing strategies are essentially correlated to the creation of more efficiency in terms of processes and distributions, development of more engaged and productive workforce and better satisfaction of changing stakeholders' demands and needs. Therefore, the environmental approach adopted by VWR would be guided by reactive and accommodative reasons. The organisation is demonstrating the ability to react to the challenging environment especially in relation to the current need and demands of stakeholders.

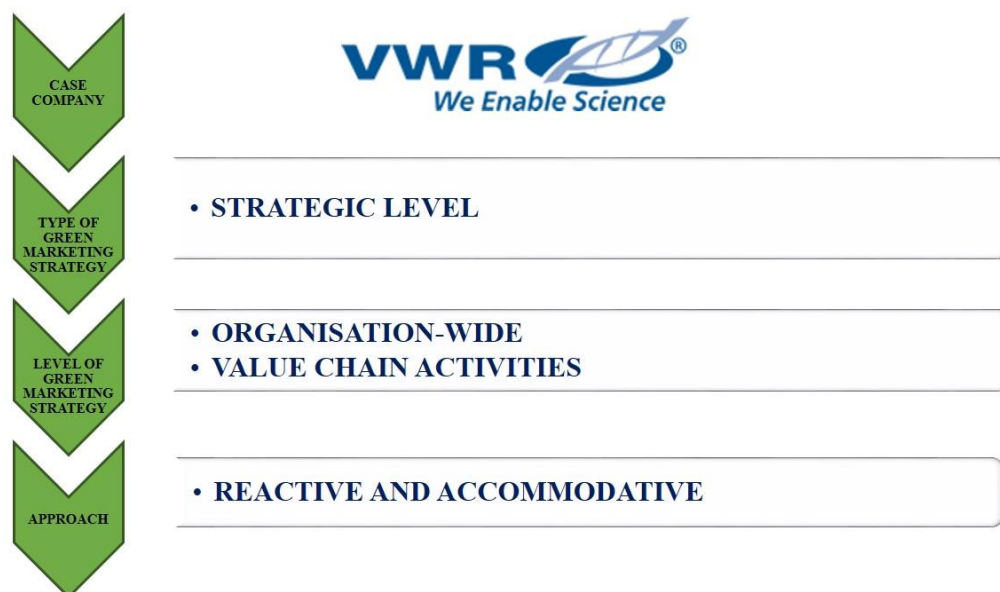
As defined by Freeman (1984, cited in Gonzales-Benito et al., 2007, p. 7) “Stakeholders are individuals and groups which can affect the company’s performance or who are affected by a firm’s actions”. Freeman and Liedtka (1991, cited in cited in Gonzales-Benito et al., 2007, p. 7) argued that primary stakeholders, generally composed by suppliers, customers and governments, play an essential role within an organisation, which is affected in its business choices by demands and expectations of stakeholders. Accordingly, a company can adopt reactive or proactive attitudes to meet such needs.

In relation to corporate environmental responsibility, Waddock et al., (2002, cited in Gonzales-Benito et al., 2007, p. 8) highlighted that stakeholders require transparency, respect, integrity and standards. This means that an organisation takes actions influenced and conditioned by the stakeholders’ pressure.

The approach adopted by VWR is a combination of reactive and accommodative attitudes towards the implementation of green marketing strategies. In fact, the company is taking green marketing strategies in order to create not only more efficiency in terms of processes and distributions and development of more engaged and productive workforce, but also to a meet the changing stakeholders’ demands and needs.

The case company approach towards green initiatives management has been summarized by the research in the following figure.

**Fig. 16 - Summary of VWR approach towards green management.**



### ***4.3.2 Analysis of how VWR is greening the marketing mix***

In this section, the overall intention of the author is research how VWR is greening the marketing mix in terms of product, price, place and promotion. The answers of the respondent related to this specific research objective, are finalized to figure out whether the case company is adopting lean, defensive, shaded or extreme strategies in greening product, price, place and promotion of the marketing mix. It is supported by theory developed by Ginsberg and Bloom (2004, cited in Chen and Lin, 2011) that suggested the firms evaluating the characteristics of the potential green market before selecting the green marketing strategy proposed in the matrix.

PRODUCT – As stated by the main respondent to the questionnaire, VWR supports sustainable activities related to the development and distribution of their products. The company is trying offering and introducing products with sustainable attributes that can limit the negative impact on the environment. In fact, they have started implementing a new process to assess the sustainability of their products. The company aims to respect several criteria:

- Recyclability of the product and packaging;
- Production of renewable energy resources;
- Lower CO2 footprint;
- Energy efficiency;
- Water efficiency.

In addition, VWR has recently introduced the “Green Leaf” that is a process to identify the products that have been evaluated in relation to the environmental criteria. Consequently, the Green Leaf label appears on products already evaluated.

VWR is also implementing green marketing strategies in order to launch innovative recycling solutions. In particular, in the U.S the company is collaborating with TerraCycle® with the aim to discover and apply new solutions in terms of waste management. VWR collaborates with TerraCycle® for the collection and recycling of pipet tip boxes from their customers. Even though the program is not yet been introduced in Ireland, the company is planning to expand this green marketing initiative in order to create further value-added services for its customers.

**Fig. 17** Examples of some VWR products promoting sustainability.

<p><b>Environmentally safe glass thermometers</b></p>	<ul style="list-style-type: none"> <li>✓ Enviro-Safe® non-toxic, non-hazardous and biodegradable;</li> <li>✓ Individually packaged in ecologically friendly Safety-Pak® packaging;</li> <li>✓ Supplied with a Statement of Accuracy traceable to NIST and DKD</li> </ul>
<p><b>Greener less toxic solvents from VWR GPR rectapur®</b></p>	<ul style="list-style-type: none"> <li>✓ Methyl 2 THF derived from corn. It replaces solvents with toxic ingredients;</li> <li>✓ 1,3 Propane diol has a lower toxicity;</li> </ul>
<p><b>VWR® VisiLight® LED 15 Cold Light Source</b></p>	<ul style="list-style-type: none"> <li>✓ Minimal costs, with consumes by 12 W;</li> <li>✓ Digital brightness control;</li> <li>✓ Passive cooling</li> </ul>
<p><b>KIMTECH SCIENCE* STERLING Nitrile Gloves</b></p>	<ul style="list-style-type: none"> <li>✓ Patented STERLING*</li> <li>✓ 50% less material;</li> <li>✓ Reduced the transportation carbon footprint;</li> <li>✓ GREENMETER calculator that calculates the environmental impact when purchasing the product</li> </ul>

VWR is also implementing green marketing initiatives in relation to energy efficiency and waste management. Constant monitoring and improvement of the company's energy and waste balance is integral part of ISO 14001 certification. VWR is taking several green marketing actions in order to improve its energy efficiency and waste management:

- **Energy saving:** The company has drastically reduced the use of energy with initiatives such as automatic light management. Furthermore, LCD base screens have replaced CRT Monitors. Recently, VWR started running campaigns to encourage its associates and partners to be conscious when using water and electricity.
- **Recycling activities:** VWR is adopting active waste management initiatives including recycling of batteries, paper, printer toner, glass and other material.
- **Reduction of printers and centralisation of computer centres:** The company aims to reduce energy consumption with the introduction centralised printers and computer centres.

PRICE – In relation to the costs that VWR had to face in order to implement green marketing strategies, there had been an increment of them. Higher costs are mainly related to the production and maintenance of sustainable products. Regarding the variations of distribution and selling prices of its products, the company noted an increment of them that has been compensated by attracting new customers.

PLACE – In terms of distribution and transport chain, VWR has the certification ISO 14001 that regulates the limitations of CO<sub>2</sub> emissions. The green marketing strategies taken by the company in order to minimize the impact of its products' distribution are the following:

- **Reduced shipments to customers in order to avoid transport:** VWR, with the consensus of customers introduced a new frequency shipments from 24h deliveries to two or three times weekly;
- **Consolidation of deliveries and shipments to limit transport:** the company adopts SAP logistics system that has been optimized for the consolidation of shipments to their customers' locations.
- **Green-Box initiative:** VWR had introduced the "Green-Box" concept that represents an alternative to the packaging material.

- **Outsourcing of VWR International distribution fleet:** this sustainable choice avoids driving to customers with empty trucks because the company does not have internal transport fleets but it uses distribution capacities of its external partners.

Furthermore, VWR has incorporated in its internal system new processes promoting green marketing strategies in terms of e-Business.

- **Use of VWR official website to avoid paper and mailings over the processing chain:** the company decided to invest more on search engine optimization to reduce the waste of paper and mailings. VWR offers the possibility through its website to submit orders avoiding in this way forwarding faxes and paper orders. In addition, electronic methods have been introduced to receive the order confirmation.
- **Electronic invoicing process:** An increasing number of customers started using digital signature that limits printing invoices.
- **Online fax solution:** VWR is currently promoting the possibility to forward faxes as electronic documents to the company's associates.

PROMOTION – VWR adopts sustainable strategies and environmentally friendly way to communicate with its customers. The main green marketing actions taken are as follows:

- **Catalogue product created respecting environmental principles and standard:** the paper used are FSC certified and the catalogues are composed by lighter weight paper that helps to reduce shipments. The printer used is FCS and ISO 14001 certified and monitored to limit CO<sub>2</sub> Emission.
- **Digital Marketing material:** VWR introduced e-newsletter and online Christmas Card.
- **Optimization of CRM database:** In this way, the company is able to target better the customers avoiding unnecessary promotion.
- **Electronic process solutions:** VWR encourages its customers to use online shop for orders and shipments with the assistance of its E-business team.

Based on the VWR green marketing mix analysis, the researcher was able to figure out at what level the company implements sustainable strategies within the four elements composing the marketing mix: product, price, place and promotion.

The VWR green marketing mix strategies can be classified as follows in the figure:

**Fig. 18** - Marketing mix tools used in Green Strategies adapted to the case company VWR.

	Product	Price	Place	Promotion
Lean		✓		
Defensive	✓			✓
Shaded	✓		✓	✓
Extreme	✓		✓	✓

#### ***4.3.3 Analysis of VWR competitive advantage in the market place***

This section aims to figure out whether the case company is gaining competitive advantage by investing in green marketing initiatives.

Several studies concluded that by investing in green marketing, businesses could gain competitive advantage.

VWR is aware that by implementing and promoting sustainable initiatives, it is enhancing the value of the company and its reputation. The adoption of different green marketing policies in the organisational system and across several value chain activities enables VWR to diversify and differentiate itself from the competitors gaining competitive advantage in the market place. Furthermore, the adoption of environmentally friendly initiatives within the marketing mix paradigm (product, price, place and promotion) is influencing positively the reputation of the company among customers.

#### ***4.4 Presentation of Case Study Two: National Chemical Company***

As reported in the official website of the company ([www.ncc.ie](http://www.ncc.ie)), National Chemical Company (NCC) is a leading supplier and distributor of a comprehensive range of chemicals and polymer materials. The company supplies chemicals and other material to a wide range of industries: construction, pharmaceutical, medial, cosmetic, engineering, plastics, electronic and textiles. National chemical company works in collaboration with its customers in order to develop improved solutions. In fact, the company has demonstrated the willingness in investing in higher standard of quality products.

In 2009, National Chemical Company celebrated forty years in business, declaring the intention to enhance its reputation in the marketplace. The organisation is ISO 9001 management system standards certified in order to meet better customer needs and be more efficient. The company is also SQAS / ESAD2 (Safety & Quality Assessment System) certified.

The following is a brief summary of the topics addressed with Alan Looney, Managing Director of the company:

National Chemical Company is aware that developing sustainable and green initiatives can enhance the value and credibility of the company. Therefore, the company considers the implementation of green marketing strategies essential to be innovative and create differentiation in the market place. For this reason, the company incorporated sustainable policies within its organisation and across some of the value chain activities by using a proactive attitude. National Chemical Company follows the rules of the REACH legislation that is new European chemical legislation regulating registration, evaluation, authorisation and restriction of chemicals (Environmental Protection Agency). The main objectives of the REACH legislation are the following:

- Safeguard human health and environment ensuring a higher level of protection from the contact with chemicals;
- Encourage businesses to be innovative and competitive within European chemical sector.
- Give more responsibilities to industries instead of the authorities (European Commission).

#### ***4.4.1 Analysis of National Chemical Company strategic approach towards green management***

The aim is to figure out whether National Chemical Company, is actually reacting to the challenging greening environment by investing in green marketing strategies. In order to answer the main research question, it was essential to evaluate the strategies that National Chemical Company is adopting in relation to its organisational culture and value chain activities. Furthermore, the overall aim is to investigate what are the motives that lead the company to take green marketing strategies.

As declared by the main respondent of the questionnaire (Alan Looney Managing Director of the company) National Chemical Company is currently affected by concerns related to sustainability.

The company is reacting to the challenging greening environment adopting green marketing policies across its organisation and value chain activities. Regarding the adoption of sustainable initiatives within its organisation, the company encourages activities related to sustainable marketing chemicals and plastics. In relation to National Chemical Company's value chain, the organisation is adopting green marketing practices across some activities composing the value chain:

- Research & Development
- Marketing
- Sourcing

However, in the next paragraph will be given detail about actions and strategies implemented by National Chemical Company within its value chain organisation.

Afterwards, the researcher investigated at what level the company is implementing green marketing strategies. The managing director of National chemical Company confirmed that they are currently adopting sustainable initiatives at a functional or tactical level. According to Menon and Menon (1997, cited in Rivera-Camino, 2007, p.1332) tactical level of strategy incorporates functional, marketing and production decisions that aim to achieve detailed objectives. Therefore, the company executes some of its decisions in order to achieve objectives such as competitive advantage, cost-saving, differentiation, high reputation etc...

The environmental approach adopted by National Chemical Company is proactive. As stated by Rhee and Lee (2007, pp. 198-199) organisations that adopt *proactive strategic approaches* concern themselves with environmental issues in all decision areas, deploying advanced green management practices.

This means that the company not only is demonstrating the ability to react to the challenging greening environment in relation to the current needs and demands of consumers and stakeholders, but it is also adopting an active attitude towards changes.

The researcher, in the following figure, has summarized the case company approach towards green initiatives management.

**Fig. 19** - Summary of VWR approach towards green management.



#### 4.4.2 Analysis of how VWR is greening the marketing mix

In this section, the overall intention of the author is to research how National Chemical Company is greening the marketing mix in terms of product, price, place and promotion. The answers of the respondent related to this specific research objective, are finalized to figure out whether the case company is adopting lean, defensive, shaded or extreme strategies in greening product, price, place and promotion of the marketing mix.

**PRODUCT** – In relation to the adoption of sustainable activities related to the development and distribution of the products, National Chemical Company is not promoting particular initiatives.

Currently, the organisation is not adopting label promoting sustainability and it is not developing initiatives to optimize the energy efficiency or the waste management. However, the company is trying offering and introducing products with sustainable attributes that can limit the negative impact on the environment through potential plans targeted to communicate and promote innovative green marketing strategies.

**PRICE** – National Chemical Company is not affected by variations related to products’ prices or costs as the organisation has not yet developed initiatives correlated to the production of sustainable products.

**PLACE** – The case company is not promoting the reduction of CO2 emission in its distribution activities. For the logistics and distribution activities, National Chemical Company is committed to ensuring high standard of environmental, health, safety and quality performance. The company is not only ISO certified for the optimization of management systems, but it has also Responsible Care® that is an international chemical initiative programme finalized to assess health, safety and environmental performance of businesses operating with chemicals. National Chemical Company achieved the score of 93%. Furthermore, the case company is using Internet to minimise negative impacts on the environment. In particular, they advert and promote the list of their products online determining in this way a reduction of activities related to the offline promotion of the products.

**PROMOTION** - The case company is using Internet to minimise negative impacts on the environment. Currently, National Chemical Company is not promoting its sustainable initiatives to the public.

The green marketing mix strategies of National Chemical Company analysis are the following:

**Fig. 20** - Marketing mix tools used in Green Strategies adapted to the case company National Chemical Company.

	Product	Price	Place	Promotion
Lean	✓			
Defensive				
Shaded	✓		✓	✓
Extreme				

#### ***4.4.3 Analysis of National Chemical Company competitive advantage in the market place***

This section aims to figure out whether the case company is gaining competitive advantage by investing in green marketing initiatives. The adoption of different green marketing policies in the organisational system and across several value chain activities enables National Chemical Company to diversify and differentiate itself from the competitors gaining competitive advantage in the market place. In fact, the adoption of environmentally friendly initiatives is not easy to be imitated by other competitors.

#### ***4.5 Comparison of two green marketing approaches within the two case companies: VWR and National Chemical Company***

The latest research objective set by the researcher was the comparison between the two case companies that are VWR and National Chemical Company. Both the organisations are implementing sustainable initiatives within their organisation-wide and value chain activities. However, the approach used is different: reactive motives guide the green marketing strategies taken by VWR and implemented at strategic level; proactive motives guide the green marketing strategies taken by National Chemical Company and implemented at functional or tactical level.

Regarding the greening of the marketing mix, VWR is developing extreme initiatives to support sustainability of product, place and promotion within its organisation. National Chemical Company is developing more shaded initiatives to support sustainability of product, place and promotion.

In terms of competitive advantage, both the companies are differentiating themselves from the other competitors in the market place through the implementation of green marketing strategies. However, a detail explanation and discussion of the research findings will be given in the next chapter.

#### ***4.6 Data Analysis Conclusion***

This chapter of the study has analysed and reported the findings of the research. The results have been presented considering the order of the research objectives. Therefore, the aim of this section was present and illustrate the findings without drawing general conclusions. Each section of the chapter addresses the main objectives of the dissertation selected by the researcher.

## CHAPTER 5 – DISCUSSION

---

### *5.1 Introduction*

This chapter of the study allowed the researcher to review and interpret the findings, discussing the implications of the results. Considering the research objectives and the existing studies about the research topic, the author outlines how the following study has contributed to the area. In addition, this section includes an overall evaluation of the work and presents the limitations of the research.

---

## ***5.2 Evaluation of the findings in relation to the research objectives***

The findings of the study addressed the main research objectives. This research was guided by two central research questions:

*“How business-to-business organizations supplying wide range of chemicals are reacting to the challenging greening environment? Are they gaining competitive advantage?”*

The answer to the stated research question has been achieved by analysing four specific objectives that are analysed in the following paragraphs:

➤ ***Evaluation of the strategic approach towards green management within business-to-business organisations supplying wide range of chemicals.***

The aim was to figure out whether the two case company, VWR and National Chemical Company, are actually reacting to the challenging greening environment by investing in green marketing strategies. In order to answer the main research questions, it was essential evaluate the strategies that the two organisations are adopting in relation to their organisational culture and value chain activities. Furthermore, the overall aim was investigate what are the motives that lead the companies to take green marketing strategies.

In essence, it supports the theories elaborated by Askar (2012) about the four strategic approaches to green management:

- Reactive
- Defensive
- Accommodative
- Proactive

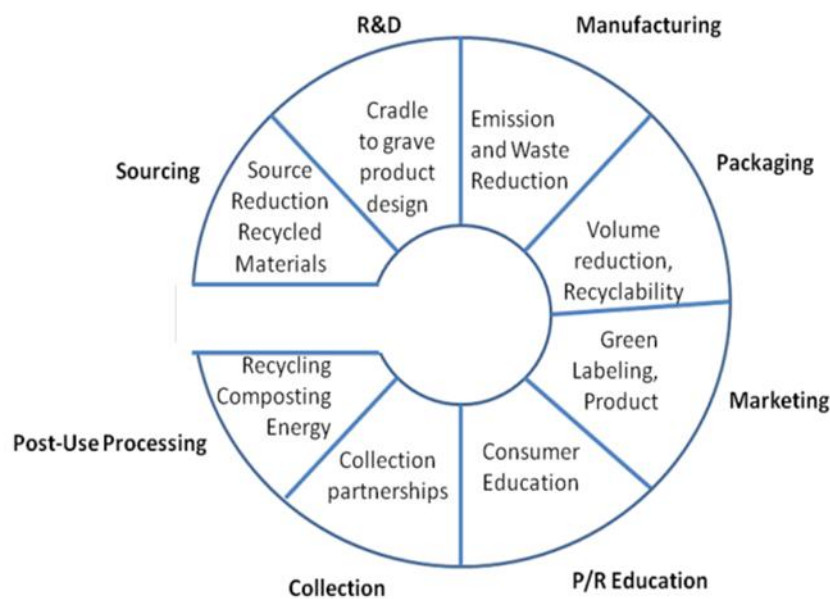
Both the companies, VWR and National Chemical Company are implementing green marketing strategies within their organisation and value chain management. In relation to value chain activities, VWR is adopting green marketing practices across some areas composing the value chain: manufacturing, packaging, marketing, P/R education, post-use processing and sourcing.

National Chemical Company is adopting green marketing practices across some activities composing the value chain: research & development, marketing and sourcing.

According to the theory elaborated by Askar et al., (2012), sustainable initiatives can be implemented at two levels within a business: organisation-wide and value chain.

- Organisation-wide – green management implies organisation-wide commitment that has to be incorporated in the company’s culture. Therefore, it is essential the penetration of green values involving workers and employees in sustainable issues Shrivastava, 1995; Ramus, 1997; Russo & Fouts, 1997, cited in Askar et. al., 2012, p.112).
- Across the entire value chain – Several are the strategies that the organisations have to develop in order to establish an efficient management of the environmental value chain (Simon, 1992, cited in Askar et. al. 2012, p.113).

**Fig. 21** - The Environmental Value Chain. Source: Askar et al. 2012, p.115.



Source (Simon 1992).

The researcher investigated at what level the two case companies are implementing green marketing strategies.

Menon and Menon (1997, cited in Rivera-Camino, 2007, p.1332) identified three kind of marketing strategies that can be implemented by organisations:

- Functional or tactical level strategy;
- Quasi-strategic (or business-strategic level);
- Strategic level.

According to the authors, the tactical level incorporates functional, marketing and production decisions that aim to achieve detailed objectives. The quasi-strategic level does not include big efforts to create integration between marketing strategies and environmental issues. The strategic level involves the incorporation of environmental goals within the organisational systems of the company (Rivera-Camino, 2007, p. 1332). VWR is currently adopting sustainable initiatives at strategic level, incorporating environmental goals within its organisational structure. The company constantly monitors and improves its waste and energy balance. It supports sustainability initiatives by encouraging customers choosing environmentally preferable alternatives. In addition, VWR is developing innovative recycling solutions along with sustainable products. National Chemical Company confirmed that it is currently adopting sustainable initiatives at a functional or tactical level. Therefore, the company executes some of its decisions in order to achieve objectives such as competitive advantage, cost-saving, differentiation, high reputation etc...

Afterwards, the author researched the approach adopted by the two business-to-business organisations supplying a wide range of chemicals. According to Lee and Rhee (2007, p.198) four are the types of environmental strategic options: reactive, opportunistic, focused, and proactive. The *reactive environmental strategy* means that the environmental responsiveness of the company is limited and it often does not consider the environmental issues. Company that adopt *opportunistic approaches* show environmental concerns in the five decision areas (organisation and systems, product, supply chain, external relationships and process), but at the same time do not apply advanced level of green management. *Focused strategic approach* means that companies devote themselves to high level of environmental management in the narrow decision areas. Organisations that adopt *proactive strategic approaches* concern themselves with environmental issues in all decision areas, deploying advanced green management practices (Rhee and Lee, 2007, pp. 198-199).

The environmental approach adopted by VWR is guided by reactive and accommodative reasons. The organisation is demonstrating the ability to react to the challenging environment especially in relation to the current needs and demands of stakeholders.

The environmental approach adopted by National Chemical Company is proactive.

This means that the company not only is demonstrating the ability to react to the challenging greening environment in relation to the current needs and demands of consumers and stakeholders, but it is also adopting an active attitude towards changes.

➤ ***Investigate how companies supplying a wide range of chemicals are greening the marketing mix.***

Through this specific objective, the overall intention of the author was to research how VWR and National Chemical Company are greening the marketing mix in terms of product, price, place and promotion. The answers of the respondents related to this specific research objective, were finalized to figure out whether the case company are adopting lean, defensive, shaded or extreme strategies in greening product, price, place and promotion of the marketing mix. It was supported by theory developed by Ginsberg and Bloom (2004, cited in Chen and Lin, 2011) that suggested the firms evaluating the characteristics of the potential green market before selecting the green marketing strategy proposed in the matrix. In particular, Lean Greens are used by businesses for publicising their sustainable activities. Defensive Greens make use of green marketing as a reaction to competitors or crisis. Shaded Greens use green as a potential opportunity for the creation of competitive advantage. Finally, Extreme Greens are more focused on holistic values. As resulted by the analysis of the findings, both the companies are greening the marketing mix using mostly shaded strategies. This means that the two organisations aim to achieve a specific objective that is the competitive advantage over their competitors in the market place.

➤ ***Investigate whether companies supplying a wide range of chemicals are gaining competitive advantage through the implementation of green marketing strategies.***

The researcher aimed to figure out whether the case company are gaining competitive advantage by investing in green marketing initiatives.

Several studies concluded that by investing in green marketing, businesses could gain competitive advantage.

According to Polonsky (1994) the main motivations for implementing green marketing initiatives are cost saving, leadership in the market place and differentiation that can give the companies the opportunity to gain competitive advantage.

The investment in green practices can be beneficial for companies in terms of advantages like reducing structural costs and improving the competitive position in the market over the competitors. In fact, the implementation of green initiatives enables the companies to differentiate themselves from competitors by offering additional services and advantages. Both the companies, VWR and National Chemical Company confirmed that by implementing and promoting sustainable initiatives they are able to diversify and differentiate themselves from the competitors gaining competitive advantage in the market place. Furthermore, in the case of VWR, the adoption of environmentally friendly initiatives within the marketing mix paradigm (product, price, place and promotion) is influencing positively the reputation of the company among customers. In conclusion, the investment in sustainability is bringing the two business-to-business organisations supplying wide range of chemicals to gain competitive advantage in the market.

➤ *Compare and contrast two green marketing approaches within the two case companies.*

Throughout the analysis of the research findings, the author was able to develop a comparative analysis of the two case companies supplying a wide range of chemicals. The researcher has compared and contrasted the two green marketing approaches, identifying the main differences between the two B2B organisations supplying a wide range of chemicals. Furthermore, the author identified at what level the companies are committed to environmental concerns and what are the main reasons behind the choice of developing green marketing strategies.

Both the organisations are implementing sustainable initiatives within their organisation-wide and value chain activities. Regarding the VWR' value chain, the company is adopting green marketing practices across the following activities composing the value chain: manufacturing, packaging, marketing, P/R education, post-use processing and sourcing. National Chemical Company is adopting green marketing practices across some activities composing the value chain: research & development, marketing and sourcing.

It is clear that VWR is taking actions in several areas of the value chain while National Chemical Company is adopting green marketing practises in three sectors of the value chain, research & development, marketing and sourcing. The approach used by the two companies towards sustainability is different: reactive motives guide the green marketing strategies taken by VWR and implemented at strategic level; proactive motives guide the green marketing strategies taken by National Chemical Company and implemented at functional or tactical level.

Regarding the greening of the marketing mix, both the companies are greening the marketing mix using mostly shaded strategies. This means that the two organisations aim to achieve a specific objective that is the competitive advantage over their competitors in the market place. However, VWR is developing also extreme initiatives within the marketing mix. VWR supports sustainable activities related to the development and distribution of their products. The company is trying offering and introducing products with sustainable attributes that can limit the negative impact on the environment. In fact, they have started implementing a new process to assess the sustainability of their products. The company aims to respect several criteria:

- Recyclability of the product and packaging;
- Production of renewable energy resources;
- Lower CO2 footprint;
- Energy efficiency;
- Water efficiency.



In relation to the adoption of sustainable activities related to the development and distribution of the products, National Chemical Company is not promoting particular initiatives. Currently, the organisation is not adopting label promoting sustainability and it is not developing initiatives to optimize the energy efficiency or the waste management. In terms of distribution and transport chain, VWR has the certification ISO 14001 that regulates the limitations of CO2 emissions. The green marketing strategies taken by the company in order to minimize the impact of its products' distribution are several, such as reduction of shipments to customers in order to avoid transport, consolidation of deliveries and shipments to limit transport, Green-Box initiatives. National Chemical Company is not promoting the reduction of CO2 emission in its distribution activities. For the logistics and distribution activities, National Chemical Company is committed to

ensuring high standard of environmental, health, safety and quality performance. The company is not only ISO certified for the optimization of management systems, but it has also Responsible Care® that is an international chemical initiative programme finalized to assess health, safety and environmental performance of businesses operating with chemicals. Regarding the promotion VWR adopts sustainable strategies and environmentally friendly way to communicate with its customers. Electronic process solutions and the development of digital marketing material. Both the case companies are using Internet to minimise negative impacts on the environment. In particular, they advert and promote the list of their products online determining in this way a reduction of activities related to the offline promotion of the products.

Through the primary research, the author was also able to figure out whether the two companies are gaining competitive advantage by investing in sustainability. Both the companies are differentiating themselves from the other competitors in the market place through the implementation of green marketing strategies. Differently from National Chemical Company, VWR is aware that by implementing and promoting sustainable initiatives, it is enhancing the value of the company and its reputation. The adoption of environmentally friendly initiatives within the marketing mix paradigm (product, price, place and promotion) is influencing positively the reputation of the company among customers.

Level of strategy, approach adopted towards sustainability and competitive advantage gained through the implementation of green marketing strategies, are illustrated in the following figure:

**Fig. 22 - VWR AND NCC green marketing management summary.**

CASE COMPANY	STRATEGY	APPROACH	COMPETITIVE ADVANTAGE
	STRATEGIC LEVEL	REACTIVE ACCOMMODATIVE	DIFFERENTIATION HIGH REPUTATION
	TACTICAL/ FUNCTIONAL LEVEL	PROACTIVE	DIFFERENTIATION

### ***5.3 Limitations of the research***

There are some limitations related to the research. Firstly, this study is restricted to the definition of the phenomenon to be investigated. The number of the sample chosen is small, and it could represent a further limitation for the study. The dissertation is focused on business-to-business organisations supplying wide range of chemicals. Two are the case companies investigated and analysed. Furthermore, the use of questionnaire to collect primary data could represent another limitation of the study, as the researcher did not have the opportunity to discuss or interact with the interviewees. However, this research could represent an important contribution for further studies in the same research topic.

### ***5.4 Conclusion***

This section of the study allowed the researcher to review and interpret the findings, discussing the implications of the results. Considering the research objectives and the existing studies about the research topic, the author outlined how the following study has contributed to the area. The researcher is satisfied by the results from the primary research analysis. In fact, the author was able to extract significant data from each of the questions composing the questionnaire. The researcher was also satisfied of the theoretical findings from the secondary research that allowed her to gain further knowledge about the research topic. In this section, the findings from primary research and secondary research have been correlated in order to create homogeneity and give consistency to the study.

## CHAPTER 6 – CONCLUSION AND RECOMMENDATIONS

---

### *6.1 Introduction*

The last chapter of the thesis is dedicated to conclusions and recommendations about the study conducted. It includes conclusions drawn by summarising the research findings. It is also highlighted how the results of the study clarify and explain concepts and issues raised in the literature review. Finally, general recommendations for future work have been included.

---

## ***6.2 General Conclusions***

The study has not only confirmed much of the theories and concepts of the literature review but has also revealed new categories that enrich previous studies about the research topic.

Business to business organisations supplying a wide range of chemicals are reacting to the challenging greening environment, recognising the increasing importance of green marketing. This positive attitude towards the promotion of sustainability reflects the emerging and changing expectations of the stakeholders, and the increasingly need of businesses to gain competitive advantage in the market place.

The respondents confirmed that their organisations are aware of issues concerning sustainability, thus, they are reacting by implementing green marketing strategies within their internal organisation and value chain activities. Strategies and actions are developed within organisations supplying chemicals. As declared by the respondents, the attitude towards sustainability is proactive, reactive and accommodative. This means that there is a tendency to react to the challenging greening environment through the adoption of green marketing strategies in different areas of the organisation from research and development to sourcing, packaging and recycling. Furthermore, more importance is given to the stakeholders' demands that are encouraging the promotion and implementation of sustainable initiative concomitantly with the changing demands and needs of customers. The organisations are ISO certified, which means that they are trying to improve the efficiency and effectiveness of business operations and management systems. Therefore, businesses supplying a wide range of chemicals are actually promoting innovativeness of their organisations, respecting specific standards and roles.

Through this study, the researcher was able to identify the main similarities and differences between the two case companies analysed: VWR and National Chemical Company. Both are reacting to the challenging greening environment by investing in green marketing practices within their organisation and value chain processes. However, the attitude towards the sustainability is different, VWR is adopting a reactive and accommodative approach and this means that the company is taking sustainable actions in order to satisfy the demands of the stakeholders creating more value for its business.

National Chemical Company is adopting a proactive approach, which means that the organisation concerns itself with environmental issues in all decision areas, deploying advanced green management practices. Comparing the two companies in relation to the greening of the marketing mix (product, price, place, promotion), the researcher discovered significant differences. In comparison with National Chemical Company, VWR develops more extreme actions to promote the sustainability of its products and distribution processes. However, both the organisations are using Internet to minimize the negative impacts on the environment.

Furthermore, B2B organisations supplying a wide range of chemicals that choose to adopt green marketing strategy, could gain competitive advantage in terms of differentiation and high reputation in the market place. The investment in green practices can be beneficial for companies within the chemical distribution sector in terms of advantages like improving the competitive position in the market over the competitors. In fact, the implementation of green initiatives enables the companies to differentiate themselves from competitors by offering additional services and advantages. Moreover, the implementation of sustainable practises in relation to the marketing mix could influence positively the reputation of the company among customers.

In conclusion, business-to-business organisations supplying wide range of chemicals have started adopting green marketing strategies and the investment in sustainability is bringing them to obtain competitive advantage in the market.

### ***6.3 Recommendations for VWR and National Chemical Company***

After completing the empirical analysis of the two case companies, the researcher was able to delineate some recommendations for both the organisations, VWR and National Chemical Company. It is suggested that the senior management of the industries discuss with researcher to identify risks and opportunities of investing in green marketing strategies. In relation to the decisions of implementing sustainable products, a recommendation is that the organisations move towards green-products as an incorporated strategy of each business division. This means that procuring green-products should be included within the organisations activities as a part of their products selection for their customers.

Two types of sustainable products are recommended: innovative and diverse green products that give the businesses the opportunity to be the first mover in the market place; more efficient products that allow consumers using less natural resources. Furthermore, the researcher suggests the companies promoting recyclable packaging with the use of recycle logo. When using sustainable way of packaging, it is recommended the respect of specific criteria and standard established by laws and regulations.

In relation to green promotion and communication, a recommendation is that the companies should create more awareness about their investment in green marketing strategies. Therefore, an integrated medium message should be delivered to consumers so that they can be make informed purchase decisions.

#### ***6.4 Recommendations for further studies***

The research question could have better answered if the study was not limited to two business-to-business organisations, VWR and National Chemical Company. Thus, the researcher suggests conducting quantitative studies in future. Quantitative research would allow collecting data from more businesses. Furthermore, the qualitative study conducted was focused on a specific industry that is the distribution of wide range of chemicals. Therefore, for a future study, the researcher suggests analysing more sectors and industries. It would be also interesting to include in a further study the customer perspective about the research topic. This dissertation was limited to the current situation, for this reason, the research suggests further studies analysing new models, concepts, changes of green marketing strategies. Finally, the research was based on the correlation between the implementation of green marketing strategies within the organisation and value chain activities and competitive advantages. Therefore, it would be interesting investigating the effects of this relationship using different concepts and theories

### ***6.5 Closing***

The research objective was figure out whether business to business organisations supplying a wide range of chemicals within the territory of Ireland, are reacting to the challenging greening environment and whether they are gaining competitive advantage by implementing green marketing strategies.

The findings of this study reveal that the implementation of sustainable activities and green practises leads organisations supplying wide range of chemicals to gain competitive advantage in terms of differentiation.

## REFERENCES

Arseculeratne, D. and Yazdanifard, R. (2013) “How Green Marketing Can Create a Sustainable Competitive Advantage for a Business”. *International Business Research*; Vol. 7, No. 1; 2014. Canadian Center of Science and Education [Online]. Available at <http://www.ccsenet.org/journal/index.php/ibr/article/view/31502> (Accessed: 09 April 2014);

Askar, M.O., Johnson, A.C., Imam, S.A. (2012) “Defining green: the next paradigm in management”. *International Journal of Business & Public Administration*; Spring2012, Vol. 9 Issue 2, p109-124, 16p, 5 Diagrams. Business Source Complete EBSCOhost [Online]. (Accessed: 17 June 2014);

Cahill, N. “The Impact of European Environmental Policy in Ireland”. *National Economic & Social Council*”. Available at [http://files.nesc.ie/nesc\\_background\\_papers/NESC\\_122g\\_bg\\_paper\\_5.pdf](http://files.nesc.ie/nesc_background_papers/NESC_122g_bg_paper_5.pdf) (Accessed: 1<sup>st</sup> June 2014);

Chen, C. & Lin, L. (2011) “A New Framework: Make Green Marketing Strategy go with Competitive Strategy”. *Journal of Global Business Issues*. Vol 7., No. 2. [Online] Available at <http://www.jgbm.org/page/20%20Chun-Shuo%20Chen.pdf> (Accessed: 16 April 2014);

Coddington, W. (1993) *Environmental Marketing - Positive Strategies for Reaching the Green Consumer*. New York: McGraw-Hill, Inc;

Crassous, T. and Gassmann (2011) “Gaining competitive advantage through green marketing. How green marketing is used as a competitive advantage?” *Marketing report* no. Mf:3:2012:037, pp 1-72. DiVA Academic Archive [Online] Available at <http://hh.divaportal.org/smash/get/diva2:536912/FULLTEXT01.pdf> (Accessed: 09 July 2014);

Emery, B (2012) *Sustainable Marketing*. Harlow: Pearson;

EnviroCentre.ie “REACH Case Story”. Available at <http://envirocentre.ie/includes/documents/Large%20Chemical%20company%20will%20register%20about%20800%20substances.pdf> (Accessed: 21 June 2014);

EnviroCentre.ie (2009) “Reducing the Environmental Impact of Products” Available at <http://www.envirocentre.ie/Content.aspx?ID=223a2f2c-43ee-4175-adaa-864204e21139&PID=518acceaeec4-4cdf-b034-78ce58eacb4d> (Accessed: 1<sup>st</sup> June 2014);

EnviroCentre.ie (2009) “Waste Legislation”. Available at <http://www.envirocentre.ie/Content.aspx?ID=96448806-bc07-4f5a-9e67-cb684d985609&PID=518acceaeec4-4cdf-b034-78ce58eacb4d#Introduction> (Accessed: 1<sup>st</sup> June 2014);

Envirotools.org “Green Marketing in DuPont”. Available at <http://www.envirotools.org/washington/green-marketing-dupont> (Accessed: 25 May 2014);

Environmental Protection Agency EPA, “REACH”, Available at [http://www.epa.ie/enforcement/reach/#.U6XJN\\_lDV80](http://www.epa.ie/enforcement/reach/#.U6XJN_lDV80) (Accessed: 21 June 2014);

European Commission, “Enterprise and Industry. REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals”. Available at [http://ec.europa.eu/enterprise/sectors/chemicals/reach/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/chemicals/reach/index_en.htm) (Accessed: 17 July 2014);

Fraj, E., Martínez, E., Matute, J. (2013) ““Green marketing in B2B organisations: an empirical analysis from the natural-resource-based view of the firm”. *Journal of Business & Industrial Marketing*, Vol. 28 Iss: 5, pp.396 – 410. Business Source Complete, Emerald insight [Online] (Accessed: 16 April 2014);

Fuller, D. A. (1999) *Sustainable Marketing: Managerial-ecological issues*. Thousand Oaks, CA: SAGE publications;

Gill, J. and Johnson, P. (2002) *Research methods for managers*. 3rd edition. London: Sage Publications;

González-Benito, J. and & González-Benito, O. (2007) “The role of stakeholder pressure and managerial values in the implementation of environmental logistics practices”, *International Journal of Production Research*, Volume 44, Issue 7, 2006, pp.1353-1373. Taylor and Francis Online [Online]. Available at <http://www.tandfonline.com/doi/abs/10.1080/00207540500435199#.U8Th1vldV80> (Accessed: 15 July 2014);

Guest, G., MacQueen, K. M., & Namey, E. E. (2011) *Applied thematic analysis*. Sage Publications. Chapter 1 available at [http://www.sagepub.com/upm-data/44134\\_1.pdf](http://www.sagepub.com/upm-data/44134_1.pdf) (Accessed: 12 July 2014);

Hay, I. (2005). *Qualitative research methods in human geography* (2nd edition). Oxford: Oxford University Press;

Hosseinzadeh, S. and Azizpour, M. (2013) “The Effect of Green Products and Green Promotion on Customers' Loyalty to the Brand of Naghshe Jahan Sugar Company”. *International Journal of Management and Social Sciences Research (IJMSSR)* Volume 2, No. 6, June 2013, pp. 114-118. i-Explore International Research Journal Consortium [Online]. Available at <http://www.irjcjournals.org/ijmssr/June2013/18.pdf> (Accessed: 10 June 2014);

Honey, P. and Mumford, A. (2006) *The learning styles questionnaire : 80-item version*. Maidenhead: Peter Honey Publications Ltd.

Iles, A. (2006) “Shifting To Green Chemistry: The Need for Innovations in Sustainability Marketing”, *Business Strategy and the Environment*, DOI: 10.1002/bse.547. University of California, Center for Occupation and Environmental Health [Online]. Available at [http://coeh.berkeley.edu/docs/news/2006\\_iles\\_green.pdf](http://coeh.berkeley.edu/docs/news/2006_iles_green.pdf) (Accessed: 18 May 2014);

Kinoti, M. W. (2011) “Green marketing Intervention Strategies and Sustainable Development: A Conceptual Paper” *International Journal of Business and Social Science* Vol.2 No.23, December 2011, pp. 262 -273 [Online]. Available at [http://ijbssnet.com/journals/Vol\\_2\\_No\\_23\\_Special\\_Issue\\_December\\_2011/32.pdf](http://ijbssnet.com/journals/Vol_2_No_23_Special_Issue_December_2011/32.pdf) (Accessed: 10 May 2014);

Kolb, D. A. (1984) *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Kontic, I. and Biljeskovic, J. (2010) “Greening the marketing mix. A case study of the Rockwool Group” (diss., Jönköping University, 2010), pp. 5-61. DiVA-portal [Online]. Available at <http://www.diva-portal.org/smash/get/diva2:329044/FULLTEXT01.pdf> (Accessed: 16 July 2014);

Kotler, P. (2011) “Reinventing marketing to manage the environmental imperative”. *The Journal of Marketing*, Vol. 75, pp. 132–135. American Marketing Association Journals [Online] Available at <http://journals.ama.org/doi/abs/10.1509/jmkg.75.4.132> (Accessed: 17 July 2014);

Lee and Rhee (2007) “The change in corporate environmental strategies: a longitudinal empirical study” *Management Decision*, Vol. 45 Iss: 2, pp.196 – 216. Emerald [Online]. (Accessed: 11 May 2014);

Leonidou, C., Katsikeas, C., and Morgan, N. (2013) “Greening the marketing mix: do firms do it and does it pay off?” *Journal of the Academy of Marketing Science*, Mar2013, Vol. 41 Issue 2, p151-170. 20p. Business Source Complete, EBSCOhost [Online] (Accessed: 17 April 2014);

Matthews, R. (2012) “Procter & Gamble Sustainability Journey”, *The Green Market Oracle*. Available at <http://www.thegreenmarketoracle.com/2011/10/rise-of-sustainable-supply-chains.htm> (Accessed: 25 June 2014);

Matthews, R. (2011) “The Rise of Sustainable Supply Chains”, *The Green Market Oracle*. Available at: <http://www.thegreenmarketoracle.com/2012/04/procter-gambles-sustainability-journey.html> (Accessed: 25 May 2014);

Mishra, P. and Sharma, P. (2012) “Green Marketing: Challenges and Opportunities for Business”. *Journal of Marketing & Communication*, May2012, Vol. 8 Issue 1, p35-41. 7p. 2 Charts. Business Source Complete, EBSCOhost [Online]. (Accessed: 09 July 2014);

Morson, K. (2007) “REACH and the Move Toward Green Chemistry”, *Stratfor Global Intelligence*. Available at [http://www.stratfor.com/reach\\_and\\_move\\_toward\\_green\\_chemistry#axzz35IB1Grbc](http://www.stratfor.com/reach_and_move_toward_green_chemistry#axzz35IB1Grbc) (Accessed: 21 June 2014);

National Chemical Company, “Home”. Available at <http://www.ncc.ie/>. (Accessed: 17 July 2014);

National Chemical Company, “REACH”. Available at [http://www.ncc.ie/default2.asp?active\\_page\\_id=36](http://www.ncc.ie/default2.asp?active_page_id=36). (Accessed: 17 July 2014);

Polonsky, M. J. (1994) “An introduction to green marketing” *Electronic Green Journal*, ISSN: 1076-7975 vol. 1, issue 2, November 1994. University of Wollongong Australia [Online]. Available at <http://www.uow.edu.au/~sharonb/STS300/market/green/article2.html> (Accessed: 10 April 2014);

Polonsky, M. J., and Rosenberg, P. J. (2001) “Reevaluating green marketing: A strategic approach”, *Business Horizons*, 40(4), pp. 21-30. ScienceDirect [Online]. Available at <http://www.sciencedirect.com/science/article/pii/S0007681301800574> (Accessed: 11 July 2014);

Porter, M. and van der Linde, C. (1995) “Toward a New Conception of the Environment-Competitiveness Relationship”, *Journal of Economic Perspectives* — Volume 9, Number 4 — Fall 1995 — Pages 97–118. The American Economic Association [Online]. Available at <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.9.4.97> (Accessed: 2<sup>nd</sup> June 2014);

Rivera-Camino, J. (2007) “Re-evaluating green marketing strategy: a stakeholder perspective”, *European Journal of Marketing*, Vol. 41 Iss: 11/12, pp.1328 – 1358. Emerald Insight [Online]. Available at <http://www.emeraldinsight.com/journals.htm?issn=0309-0566&volume=41&issue=11/12&articleid=1634368&show=html> (Accessed: 2<sup>nd</sup> June 2014);

Saunders, M., Lewis, P., Thornhill, A. (2009) *Research methods for business students*. 5<sup>th</sup> edition. Harlow: Pearson Education;

Shirsavar, H. A. and Fashkhamy, F. (2013) “Green Marketing: A New Paradigm to Gain Competitive Advantage in Contemporary Business”. *Science Road Publishing Corporation*, ISSN: 2251-6557, pp. 12-18. Science Road [Online]. Available at <http://www.sciroad.com/TASE/TASE1371/TASE-12130.pdf> (Accessed: 10 July 2014);

Simpson, D. and Samson D. (2008) “Developing strategies for green supply chain management”. *Decision Line*. Available at [http://www.decisionsciences.org/DecisionLine/Vol39/39\\_4/dsi-dl39\\_4pom.pdf](http://www.decisionsciences.org/DecisionLine/Vol39/39_4/dsi-dl39_4pom.pdf) (Accessed: 17 May 2014);

Smits, A., Vissers, G. and Ben, D. (2011) “Exploring market knowledge in product development of chemical firms”, *Journal of Business Chemistry* [Online]. Available at <http://www.businesschemistry.org/article/?article=134> (Accessed: 1<sup>st</sup> June 2014);

Unruh, G. and Ettenson, R. (2010) “Growing green: three smart paths to developing sustainable products”. *Harvard Business Review*. June 2010, Vol. 88 Issue 6, p94, 7 p. Business Source Complete, EBSCOhost [Online]. (Accessed: 09 April 2014);

VWR International, “About VWR”. Available at [https://ie.vwr.com/app/Header?tmpl=/common/who\\_is\\_vwr.htm](https://ie.vwr.com/app/Header?tmpl=/common/who_is_vwr.htm). (Accessed: 13 July 2014);

VWR International, “VWR’s Philosophy”. Available at [https://ie.vwr.com/app/Header?tmpl=/common/About\\_our\\_philosophy.htm](https://ie.vwr.com/app/Header?tmpl=/common/About_our_philosophy.htm) (Accessed: 13 July);

VWR International, “Sustainability”. Available at <https://ie.vwr.com/app/Header?tmpl=/common/sustainability.htm> (Accessed: 13 July 2014);

Warc (2010) “P&G launches major green marketing effort”. Available at: <http://www.warc.com/News/default.aspx?ID=26450> (Accessed: 25 May 2014).

## **APPENDIX 1: SELF-REFLECTION**

### ***Introduction***

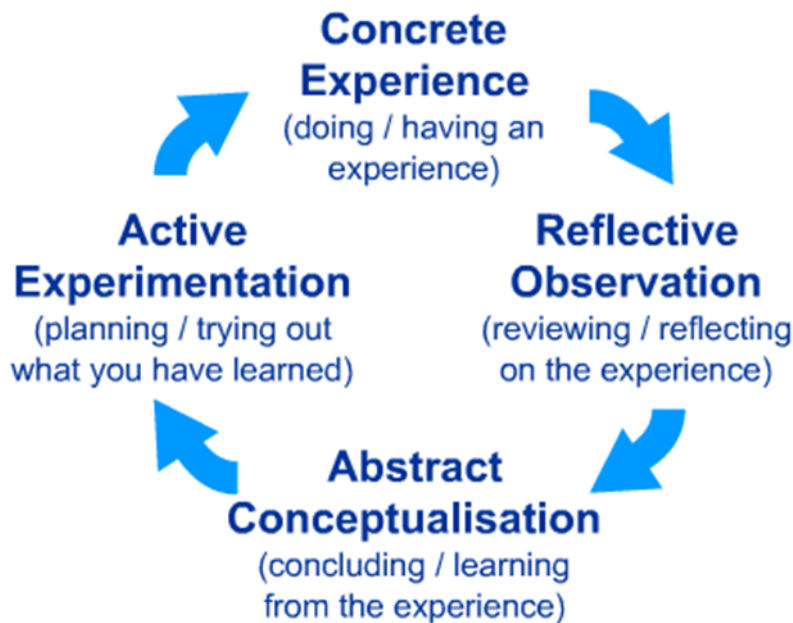
This section presents the analysis of a self-reflection on the learning experience over the MBA in Marketing programme and the dissertation period. Furthermore, the following chapter highlights the benefits gathered from this experience and the value gained for my professional career in the future.

### **Learning style**

As defined by Kolb (1984, p.38) "Learning is the process whereby knowledge is created through the transformation of experience". The processes and phases characterizing the research study gave the researcher the opportunity of enhancing the understanding of the dissertation topic. I got deep knowledge about new theories and concepts that I considered interesting and fascinating. My main objective was to conduct an investigation about the subject matter in order to gain insights about the current challenging on green marketing within a specific context that is the supply of wide range of chemicals. I chose to conduct a study about green marketing management and strategies because of my genuine interest into this topic. I believe that the deepening of the knowledge about the subject matter may potentially give me the opportunity to increase my personal career opportunities either in academia or in employment. Kolb (1984) examined the experimental learning style, identifying four-stage cycle processes (figure):

- Concrete experience (feeling - CE)
- Reflective observation (watching - RO)
- Abstract conceptualization (thinking - AC)
- Active experimentation (doing-AE)

**Fig. 23** Kolb Learning Style. Source: [www.ldu.leeds.ac.uk](http://www.ldu.leeds.ac.uk)



According to Honey & Mumford (2006), “Learning is your most important capability simply because it is the gateway to every other capability you might wish to develop”. I approached all the research process phases trying to learn new skills necessary to conclude the study. Therefore, I was aware of the importance of using a positive attitude towards the research topic in order to gain deeper knowledge about issues and changes characterizing the green marketing context. In Honey and Mumford’s learning style model, four types of learners can be identified: Activist, Theorist, Pragmatist and Reflector. In relation to the research process, my role may be considered activist, as I was enthusiastic of the idea of facing new experiences, discovering new concepts and models.

### **Self-assessment from the MBA course**

During the MBA in program, I had the opportunity to acquire practical skills that are essential for my future professional career. Integrated marketing communications, business strategy, international management, personal and professional development, financial analysis, marketing innovations, research methods and performance driven marketing, were the main coursework of the MBA course.

Each of them allowed me gaining several skills necessary for my personal and professional development. In addition, presentations, projects, case studies, exams and continual assessment, helped me to understand new academic techniques and models. Therefore, the MBA course allowed me not only enhancing my knowledge about new subjects related to marketing and management, but it also helped me to improve my cognitive, interpersonal and communication skills.

### **Self-assessment from the dissertation**

“Learning is your most important capability simply because it is the gateway to every other capability you might wish to develop” (Honey and Mumford, 2006).

The learning experience derived from the dissertation research process has enabled me to recognize capabilities and skills acquired. In the following paragraphs are outlined the skills developed throughout the researcher process.

#### **➤ Cognitive skills**

The researcher was aware of the importance of developing cognitive skills during the MBA course, in order to conduct the final dissertation work. In particular, the researcher had to acquire cognitive skills in the marketing area and more specifically in the green marketing field. At this purpose, any academic book, article and literature were used to facilitate the acquisition of this particular skill.

#### **➤ Interpersonal skills**

The researcher developed interpersonal skills within group projects and setting at Dublin Business Schools. Therefore, I had the opportunity to acquire new abilities to interact with different people in a social context, motivating, influencing and cooperating with them.

#### **➤ Critical skills**

The development of critical skills enabled the researcher to conduct the dissertation process by analysing concepts, theories and issues related to the research topic more critically.

Furthermore, the researcher developed further this skill during the dissertation period, because she had to evaluate several aspects of the study conducted by investigating in depth the various aspects characterizing the research findings.

### **Problems encountered**

I encountered few problems during the dissertation period. For me it was the first time I had to conduct such an important study. So, initially I found hard to understand aims and structure of the dissertation. In particular, I met some difficulties to understand how to reference correctly. To sort out the problem, I talked with my dissertation supervisor and I used Dublin Business School Library's documents such as "Harvard referencing" and writing a "literature review".

### **Action Plan**

Through MBA programme in Marketing, I realized the importance of using learning styles. In fact, I have decided to define an action plan that may be useful to continue acquiring new abilities and skills. I planned to read various articles and newspapers to get deeper knowledge about my business area in order to be constantly informed and updated. As I have a strong activist learning style, I will try improving my theorist learning style.

### **Conclusions**

This section of the dissertation enabled me to do a self-reflection on my performance and own learning and thus to recognise the skills developed during the MBA programme and the dissertation period. This awareness may help me to improve my abilities in the future. The chapter presents a discussion of the problem encountered during the research process, my personal achievements and the value added by the programme. Finally, I have set up an action plan that will help me to improve further my skills.

## APPENDIX 2: INFORMED CONSENT FORM

### QUALITATIVE RESEARCH

**Name: Giovina Palumbella**

**Programme: MBA Marketing**

**Questionnaire about the implementation of Green Marketing Strategies (GMS).**

**Research study: An investigation of green marketing strategies within business-to-business organisations supplying wide range of chemicals.**

Dear.....,

I am a student in MBA (Marketing) at Dublin Business School in Ireland. My personal contact information are provided below. Personally, I am very interested in green issues and I am writing my master thesis about green marketing strategies in organisations supplying wide range of chemicals. I have decided to conduct a case study and in my dissertation, I would like to discuss the company's efforts in green marketing. For this reason, I am asking if you would agree to participate in my study by answering a series of questions.

The following questionnaire is composed by nineteen questions and it will take about 30-45 minutes of your time. You are completely free to skip any question and move on the next one.

Please note that all the information you will provide will be strictly used for the purpose of my dissertation. Furthermore, you have the right to ask me to not include any specific or sensitive information you provided in my research study. This research is confidential and in case have any questions about the ethical process of the study, please feel free to contact me, or my supervisor, for further clarification.

Please, send back your answers to me by e-mail at the address [giovinapalumbella87@gmail.com](mailto:giovinapalumbella87@gmail.com) until the 24<sup>th</sup> June.

Researcher: Giovina Palumbella

Tel:

Email:

Academic Supervisor: Dr Chantal Ladas

Tel:

Email:

Respondent:

I am aware of the nature of my participation in this research as stated above, and I agree to participate in this research study.

Name of Respondent:

Date and Time:

Title and Position of Respondent:

Signature of Respondent:

Signature of Researcher:

## APPENDIX 3: QUESTIONNAIRE

1) Is your organisation affected by concerns of sustainability?

a. Yes

b. No

2) Is your company reacting to these concerns?

a. Yes  Go to question 3)

b. No

3) How is your company reacting to these concerns? Adopting green marketing policies across:

a. Your organisational culture:

- Mission statement

- Corporate values

- Other

b. Your value chain activities:

- **Research & Development**

- **Manufacturing:** Emission  Waste reduction

Other

- **Packaging:** Volume reduction  Recyclability

Other

- **Marketing:** Green Labelling  Products

Other

- **P/R Education:** Consumer Education

Other

- **Collection:** Collection Partnership

Other

- **Post-use processing:** Recycling  Composting Energy

Other

- **Sourcing:** Source Reduction  Recycled Materials

Other

4) Are you currently implementing Green Marketing Strategies?

a. Yes  Go to question 4.a

b. No

4.a If yes, at what level are you implementing Green Marketing Strategies?

- **FUNCTIONAL OR TACTICAL LEVEL:** incorporates marketing and production decisions oriented to achieving specific objectives: competitive advantage, differentiation, cost-saving, high reputation, etc.....
  
- **QUASI STRATEGIC LEVEL:** lack of uniform organization-wide strategic efforts to integrate environmental issues with the marketing strategy
  
- **STRATEGIC LEVEL:** integration of environmental goals within macro and micro organization systems of the company

5) What are your motives when using green marketing strategies?

a. Proactive

b. Reactive:

Defensive (Attention to Legislation)  Accommodative (Attention to Stakeholders)

6) Are you using metrics to measure your green actions?

a. Yes  Go to question 6.a

b. No

6.a If yes, how do you use these metrics?

- Unique Selling Proposition
- Website Traffic
- Content Marketing
- Other

**7) How do you limit the negative impacts of your products on the environment?**

**8) Are you using label promoting sustainability?**

**a. Yes**

**b. No**

**9)** Are you managing waste?

**a.** Yes  Go to question **9.a**

**b.** No  Go to question **9.b**

**9.a** If yes, how are you managing waste?

- Internally

- Externally-subcontracting

**9.b** If no, why?

**10)** Are you promoting the reduction CO2 emission in your distribution activities?

**a.** Yes  Go to question **10.a**

**b.** No  Go to question **10.b**

**10.a** If yes, how?

**10.b** If no, why?

**11)** Do you use Internet to minimise negative impacts on the environment?

**a.** Yes  Go to question **11.a**

**b.** No  Go to question **11.b**

**11.a** If yes, how?

**11.b** If no, why?

**12)** Are your Green Marketing Strategies affecting your prices or costs?

**a.** Yes  Go to question **12.a**

**b.** No  Go to question **12.b**

**12.a** If yes, how?

**12.b** If no, why?

**13)** Is your company actively promoting Green Marketing Strategies to the public?

**a.** Yes  Go to question **13.a**

**b.** No  Go to question **13.b**

**13.a** If yes, how?

**13.b** If no, why?

**14)** Do you think Green Marketing practises create sustainable competitive advantage for your company?

**a.** Yes  Go to question **14.a**

**b.** No  Go to question **14.b**

**14.a** If yes, how?

**14.b** If no, why?

**15) What problems do you see in the implementation of green strategies?**

- Government
- Public
- Consumers
- Businesses
- Other

**16) Are Green Marketing Strategies affecting your company reputation?**

**a.** Yes  Go to question **16.a**

**b.** No

**16.a** If yes, how?

**17)** Is your Green Marketing Strategy generating profit for your company?

**a.** Yes  Go to question **17.a**

**b.** No

**17.a** If yes, could you present the metrics are you using to measure the positive influence?

**18)** Are your Green Strategies easy for other companies to imitate?

**a.** Yes  Go to question **18.a**

**b.** No  Go to question **18.b**

**18.a** If yes, why?

**18.b** If no, why?

**19.** Are Green Marketing Initiatives helping your company to differentiate itself from competitors?

**a.** Yes  Go to question **19.a**

**b.** No  Go to question **19.b**

**19.a** If yes, why?

**19.b** If no, why?

## APPENDIX 4: GANTT CHART

