# A THREE-FOLD STUDY OF MULTI-DIMENSIONAL MODELS OF GREEN MARKETING CAPABILITIES (GMC) FOR THE ENHANCEMENT OF GREEN COMPETITIVE ADVANTAGE AND SUPERIOR PERFORMANCE: THE INSIGHTS INTO STRATEGIC-BEHAVIOUR AND STRATEGIC-GMC-FIT

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**A Three-Fold Study of Multi-Dimensional Models of Green Marketing Capabilities (GMC) for the Enhancement of Green Competitive Advantage and Superior Performance:**
**The Insights into Strategic-Behaviour and Strategic-GMC-Fit**

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# DECLARATION

I declare that this thesis comprises only my original work. It contains no material which has been accepted for the award of any other degree or diploma. To the best of my knowledge and belief, it contains no material previously published by another person, except where due reference is made in the text.

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Angsaya Siepong

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# ABSTRACT

This doctoral thesis aims to contribute to a body of knowledge by offering some insightful strategic implications and implementations of 'Green Marketing Capabilities' (GMC). In particular, it suggests three distinctive GMC-strategic types and their strategic behaviours as well as strategic-GMC fit models. Additionally, the impact of GMC-structures that lead companies to obtaining green competitive advantage (GCA) and performance effectiveness are evident. This study employs a quantitative approach with a postal-mail survey. The sample frame is based upon a broad spectrum of business types across industries of Thailand. The total numbers of 120 samples were analysed throughout the study. Meanwhile the unit of analysis is concerned with companies' managers from a wide-range positions e.g. CEO, marketing manager, environmental manager and operational manager.

The entire research consists of three sub-studies which follows through several consecutive steps and analytical frameworks. The first study postulates the concept of GMC and defines the operationalization of GMC-structures based on an integrative analytical approach concerning both theoretical literature and classification scheme, and then evaluates three different GMC-strategic types based on an empirical classification/taxonomy. The second study further explores GMC strategic-behaviour-fit model by utilising a configuration approach. The third study adopts three analysis techniques i.e. a configuration, a mediating effect and a causal influence. Given these integrated approaches, this study attempts to demonstrate and validate the viability of GMC in terms of: strategic-GMC fit models, and the salient role of GMC-structures that embodies companies' operational marketing in creating a green-based competitive advantage as well as strengthening performance effectiveness.

Collectively, the whole study reveals substantial findings which can confer on the implications of GMC by manifold empirical investigations. It also adds some significant

suggestions to both academic and managerial practices. Academically, it builds on the insight into an integrative analytical approach for the development of multi-faceted GMC model in order to explain the structures and the strategic types. Moreover, it offers up a best practice framework or a guiding model for practitioners to better understand a meaningful GMC strategic mind-map, in which could facilitate decision making process toward selecting and implementing the right strategy in achieving a greater performance outcome for companies.

# TABLE OF CONTENTS

**CHAPTER 7. DISCUSSION, RESEARCH CONTRIBUTIONS AND**

        **IMPLICATIONS**

**CHAPTER 8. CONCLUSION, LIMITATIONS OF THE PRESENT STUDY**

**AND DIRECTIONS FOR FUTURE RESEARCH**

# LIST OF TABLES

# LIST OF FIGURES

# LIST OF ABBREVIATIONS

ATT   = Attitude

AVE   = Average Variance Extracted

CFA   = Confirmatory Factor Analysis

CMV   = Common Method Variance

CR   = Composite Reliabilities

CSP   = Corporate Strategic Posture

GCA   = Green Competitive Advantage

GMC   = Green Marketing Capabilities

PBC   = Perceived-Behavioural Control

PGB   = Perceived-Green Behaviour

RBV   =Resource-based View

SN   = Subjective Norm

SEM   = Structural Equation Model

TPB   = Theory of Planned Behaviour

# CHAPTER 1                    INTRODUCTION

## 1.1 Overview of the Chapter

The aim of this chapter is to firstly lay out some of the background work of this study by introducing green marketing (section 1.2). Next, this chapter moves towards the proposition of the conceptual model of green marketing capabilities (thereafter, GMC) and its principles (section 1.3). After that, it sets out the research aims and specific research objectives of the entire study (section 1.4). It also briefly outlines the research design and methodological bases that are used for data collection and the analysis part (section 1.5). Moreover, it presents the expected contributions and key research findings of the whole study (section 1.6). In this particular section, it also discusses the research outputs including the conceptual definition of GMC (section 1.6.1), and on the basis of the classification schemes of GMC (section 1.6.2), it then discusses the four components of the GMC-structures (section 1.6.2.1) and the three types of GMC-strategies (section 1.6.2.2). Lastly, it offers up the structure of this thesis (section 1.7).

## 1.2 Introduction (Background of Green Marketing)

Global ecological crises, ever increasing concerns on a deteriorating environment and social responsibility have triggered marketers and companies to rethink their policies, strategies and marketing activities (e.g. Fraj *et al*, 2013; Kotler, 2011; Pujari *et al*, 2003; Crane, 1998; Menon and Menon, 1997). Meanwhile, the assumption that there are limited natural resources and costly-environmental damage have signified the need for changes in marketing practices. These changes must be incorporated into a consumer awareness based environmental agenda and strive towards achieving growth in a sustainable way (Kotler, 2011). The need for change has come to light because of academic research efforts in identifying issues with environmental awareness, 'green marketing' which is synonymous

with "Ecological Marketing" (Fisk, 1973, Hennison, 1976); "Greener/Green marketing" (Charter, 1992, Ottman and Herbert, 1993, Peattie and Charter, 1994); "Environmental Marketing" (Coddington, 1993), "Enviropreneurial Marketing" (Menon and Menon, 1997) and "Sustainable Marketing" (Van Dam and Apeldoorn, 1996, Fuller, 1999) has been widely studied and evidenced for more than forty years in the fields of marketing and strategic management.

'Green marketing' can also be viewed as a corporation's effort towards environmental-friendliness, in other words, an ambition to achieve the reduction of environmental impact and footprints (Kotler, 2011). Some corporations have come to the forefront of sustainability with their exemplary efforts in achieving eco-friendly marketing endeavours. An example being Unilever's senior management, who have firmly supported sustainability in their business by investing heavily in green technology, with an aim to reduce environmental impact and footprints, as well as to promote an attitude of responsible consumption (Kotler, 2011). Other companies with a product awareness and green approach strategies are BMW and Xerox, both of which have promoted recycling material within their operations and production (Kotler, 2011, Engardio *et al*., 2007). In addition, DuPont has focused on producing sustainable materials to serve their market with an aim of reducing environmental pollution (Hart, 1995, Kotler, 2011).

The broad concept of 'green marketing' has also been used as a means by which companies attempt to assimilate environmental dimensions into a wide range of business contexts to attain an environmental friendly reputation and competitive advantage (Leonidou *et al*, 2013). Moreover, numerous researchers (e.g. Chen and Tung, 2014; Fraj *et al*, 2013, Chan *et al*, 2012; Han *et al*, 2010 and Kim and Han 2010; Pujari *et al*, 2003) have built upon the potential of 'green marketing' by merging various management contexts such as marketing strategy, operational management, supply chain management, consumer purchasing

behaviour and hotel management. These studies highlight the usefulness of 'green marketing' in ways that show businesses the gains to be made from adopting an environmental friendly management structure. They not only point the way for long term investment to achieve a niche market that has great potential to increase sales and profitability (by attracting and growing an eco-friendly customer base) but also emphasise the idea of green or environmentally-oriented principles to safeguard companies' efforts in complying with their aims towards social responsibility and ecological preservation (Menon and Menon, 1997; Baker and Sinkula, 2005).

In this study, attention is drawn to the *environmental imperative* and the need to pursue some changes in marketing practices (Kotler, 2011). The manifestation of 'green marketing' can be seen as being concerned with thinking about the relationship between humans and society with the physical ecology involving critical activities that align economic advancement with environmental improvement (Varey, 2011). This argument on relationship would be best tested by an investigation into whether or not companies and their marketing practices are in line with environmentally-friendly principles. This is done to help enhance their green marketing capabilities and improve performance effectiveness, whilst minimising such negative impacts on the natural environment. Companies' strategies and their marketing practices, e.g. product development, communication and distribution (Kotler, 2011) are brought into consideration to evaluate the role of 'green marketing' within organisations' capabilities in order to address some changes towards a holistic 'green marketing capability' (GMC). Based on the above inquiry, the ability and the capabilities of companies' to truly achieve and capture the essence of 'green marketing' is still debatable. The transformation is both difficult and complex, many companies are cautious when entering new market ideas and concepts of business. The transformation and implementation difficulties could overwhelm a company's initial ambition to do so.

Bearing this in mind, this study attempts to find out the features of green marketing and how practices and implementations of green marketing strategies and a company's marketing resources and capabilities could be effectively integrated. An evaluation of green marketing on the basis of a strategic approach e.g. green design/new product development, green communication and distribution (e.g. Kotler, 2011; Pujari, 2006; Pujari *et al* 2003; Polonsky and Rosenberger, 2001; Fraj *et al*, 2013a and 2013b) are critical to companies' endeavours for change towards growth in a more sustainable way. Moreover, it aims to explore what directional strategies (strategic implications) could help companies' evaluate their operationalization of green marketing capabilities for the improvement of business competitive position and performance at the same time reducing a negative impact on the natural environment.

## 1.3  Towards Green Marketing Capabilities (GMC)

As discussed in the previous section, 'green marketing' has been widely studied in the fields of strategic management and marketing. The published literature on the subject (e.g. Fraj *et al*, 2013 and 2011; Fraj-Andres, *et al* 2009) suggests a link between green marketing strategies, the theory of resource-based view (RBV) and environmental orientation of companies that positively influence an organisation's performance. While other studies (i.e. Kotler, 2011; Leonidou *et al*, 2013) in the field of marketing indicate that, on the one hand green marketing programs are tied to eco-friendly perspectives involving the role of marketing practices (4Ps of marketing mix – product, price, place and promotion that overtly engaged in environmentally-oriented issues), on the other hand, these marketing practices are designed to attain a company's strategic and financial goals in ways that reduce a negative impact on the natural environment. What is also evident is that the implementation of green marketing strategies and practices potentially influence companies' market/product and economic performance (e.g. Leonidou *et al*, 2013a; Leonidou *et al*, 2013b).

Several studies (e.g. Morgan *et al*, 2012; Morgan *et al*, 2009; Vorhies *et al*, 2009) reveal that marketing capabilities can have a positive impact on cash flow and product/market performance. The organisation's specific capabilities and resources also have a potential effect on the implementation of green marketing strategies as well as product/market performance (Leonidou *et al*, 2013b). In addition, past studies (e.g. Leonidou *et al* 2013a; Morgan, 2012) not only highlight how an organisation's capabilities can be fundamental to their marketing capabilities, but they also reveal the impact of resources and capabilities on an organisation's performance. Given the evidence from the above studies, they also suggest that an organisation's resources and capabilities are considered to be a cornerstone of the development of companies' resource-based capabilities incorporated with the role of marketing. In this respect, the emergence of marketing-based resources capabilities is concerned with the RBV of organisations (Morgan, 2012).

To date, however, there have been few attempts on the part of scholars to bridge some major theories across the strategic management and marketing literature, and by doing so to integrate the role of green marketing practices with theory about an organisation's resources and capabilities. Moreover, very few studies have attempted to explore the interface between green marketing practices and organisations' resources and capabilities, and how green marketing capabilities could be shaped within an organisation's strategies as constituents of strategic implications to advancing business competitiveness and success.

Given the lack of general consensus in existing knowledge toward conceptualising 'green marketing capability' and its theoretical linkage, the present study endeavours to fill some research gaps. Against this background, this thesis not only spans the literature boundaries across major theories in marketing and management i.e. the RBV and organisation's marketing capabilities (Morgan, 2012), strategic marketing (Varadarajan, 2010) for a foundation of GMC but also evaluates an integrative analytical approach to assessing a

multi-dimensional GMC model and its implications. This particular approach is done by utilising a combination of classificatory methods together with a configuration approach which enables the author to capture and understand a holistic framework of GMC and its implementations.

Specifically, the 'wholeness' of GMC is a representation of a company's green marketing resources and capabilities on the basis of both *architectural* and *specialized* marketing capabilities (Morgan, 2012) which emphasises the implementation of *strategic* and *tactical* marketing at a functional/operational level (Varadarajan, 2010; Kotler, 2011). In addition, the development of GMC involves an incorporation of the role of green marketing (in terms of strategies and tactics/practices) combining it with capabilities through multi-tasking functions of individuals, groups, organisational systems, structures and skills that develop over time into the transformation of a critical source of competitive advantage and superior performance (Morgan, 2012, Teece *et al*, 1997, Barney, 1991). More discussion of the theoretical foundations of GMC can be found in chapter 2, section 2.3.

This study also extends the scope of the research framework in connection with an organisation's strategy, natural-environmental orientation and performance in order to assess some multi-dimensional models (operationalization) of GMC. With this framework, it would allow the author to gain an in-depth knowledge of what could be derived from GMC-strategic implications for the enhancement of companies' competitive advantage and performance. Next, more details of the research's aims, objectives and frameworks of the entire study are discussed in the following section.

## 1.4  Research Aims and Objectives

Having introduced theoretical background and the conceptual model of GMC in the previous sections, this section continues to discuss the research aims and objectives of the entire thesis. The overall aims of the present study are three-fold concerning three sub-

studies. These sub-studies are linked with one another on the basis of three main consecutive steps for analytical purposes, including (a) theoretical review, (b) the classification scheme (consisting of theoretical and empirical classifications) and (c) the configuration approach. (See figure 1.1: an overview of the entire study – the relationship between all sub-studies)

As stated, to fully capture the insights into the concept of GMC and its operationalization, the three sub-studies 1, 2 and 3 are inter-connected by the flow of research objectives and research frameworks. The first study aims to depict a conceptually-derived model of GMC and the principles (based on an integrative analytical approach) in order to understand a holistic framework of GMC (a representation of overall strategic green marketing capabilities at an operational level), the classification of GMC-structures and strategic types (Study-1: RO#1 and 2). The second study aims to demonstrate how well organisations realise the pertinence and the effective implementation of GMC-structures and suggest what characteristics (GMC-strategic types) create strategic implication (in terms of strategic behaviour) on the basis of a configuration approach (Study-2: RO#3). The third study aims to test whether or not the operationalization of GMC-structures leads to achieving a green-based competitive position by approaching alternative GMC-strategic types on the basis of the configuration approach (Study-3: RO#4). In addition, this particular study also examines whether or not the role of green competitive advantage or GCA and the GMC-structures work on influencing organisations' performance outcomes (Study-3: RO#5 and 6).

**Figure 1.1 Overview of the Entire Study (the Relationship between Sub-Studies)**

**Study-1:**

**RQ #1**

- **Step 1: Theoretical Review**
  - ➢ A Conceptually-Derived 'GMC' Model
- **Step 2: Classification Scheme**
  - ➢ The Classification of GMC-Structures (Theoretical Approach)

**RQ #2**
  - ➢ The Classification of GMC-Strategic Types (Empirical Approach)

**Study-2: RQ #3**

- **Step 3: Configuration Approach**
  - ➢ The Configuration Model of Fit (Hierarchical Regression Models)

**Study-3: RQ #4, 5 and 6**

- **Step 3: Configuration Approach**
  - ➢ The Configuration Model of Fit (Hierarchical Regression Models)
  - ➢ The mediating influence (SEM)
  - ➢ The direct influence (SEM)

**(RO #1)** The Conceptual Model of 'GMC' — **Chapter 2**

**(RO#1)** The Classification of GMC-Structures (Four Components) — **Chapter 4**

**(RO #2)** The Classification of GMC-Strategic Types (Three Typologies) — **Chapter 4**

**(RO #3)** Hypotheses 1 – 3 — **Chapter 5, 6**

**(RO #4)** Hypotheses 4 – 6 **(RO #5)** Hypothesis 7 **(RO #6)** Hypothesis 8 — **Chapter 5, 6**

Source: Author

To be more specific, the main aim of Study-1 is to postulate a conceptual model of GMC based on an integrative analytical approach in order to gain in-depth insights into multi-faceted GMC frameworks. This study has two main research questions which are:

- RQ1: What is a conceptual definition of GMC and what are its principles?

- RQ2: On the basis of a classificatory scheme, what characteristics of companies can be categorised by their GMC-strategic types and performance differentials?

As discussed earlier in section 1.3, little is known about what a conceptual model of GMC would look like. To achieve the research aim, this study is designed to evaluate a multi-dimensional model of GMC by utilising an integrative analytical approach (including a classificatory scheme and a configuration approach). This is also done by a procedure of reviewing a broad range of domains including strategic marketing and green marketing practices (e.g. Varadarajan, 2010; Fraj *et al*, 2013, Leonidou *et al*, 2013) and the marketing resources and capabilities (consisting of *architectural* and *specialized* marketing capabilities) (Morgan, 2012). In addition, given that the concept of GMC is relatively new in the field of marketing, the author further build on a GMC model and identify it into different categories in order to understand its structures (based on a conceptual classification scheme) and strategic types (by assessing an empirical taxonomy). Specifically, the classifications of GMC in terms of structures and strategies are designed to gain in-depth insights into what are the qualities of GMC (GMC-structures), and what are the characteristics of companies that approach different GMC strategies (GMC-strategic types which are implemented by companies). With this purpose in mind, this thesis argues that the expected outcomes could contribute to a better understanding of the GMC-structures comprising of four components and GMC-strategic types consisting of three typologies of companies. The presentation of Study-1 is partly discussed in chapter 2 (literature review of the theoretical foundation of GMC; and fully discussed in chapter 4: section 4.2 and 4.3 (developing classification schemes of GMC).

Next, study-2 builds on the outcomes from study-1. It seeks to explain how GMC could be shaped within organisations' strategies and behaviour that match with performance. Particularly, the main aim of study-2 is to explore what are companies' strategic behaviours that fit with performance when they hold distinctive positions and approach by different GMC-strategic types. This part of the thesis deals with the following research question:

- RQ3: On the basis of various companies' GMC-strategic types (that have been derived from RQ2 of study-1), how does the confluence of multiple variables i.e. alternative GMC-strategic types, the higher level corporate postures and behaviours align with performance?

This particular study is designed to examine the association of various factors i.e. alternative GMC-strategic types, corporate strategic postures (thereafter, CSP) (based on an organisation-level posture), perceived-green behaviour (thereafter, PGB) (based on a company's perceived behavioural intentions towards the development of GMC-structures), and the overall performance by performing a configuration model. With this purpose in mind, the expected outcomes will contribute to an in-depth insight into a *strategic-behaviour-fit* model (a depiction of an interaction between organisational level posture, behaviour and performance by alternative GMC-strategic types). The presentation of this study can be found in chapter 5: research framework and hypothesis, and chapter 6: analysis and results.

Lastly, the main aims of study-3 are to further investigate the influences of both GMC-strategic types and the GMC-structures that are derived from study-1. This study firstly (part-1) performs a configuration model to assess *strategic-GMC-fit* among different types of companies who possess their strengths based on different components of the GMC-structures to gaining a source of competitive advantage. It also expands the investigations on the mediating effect of GCA on the link between an overall operationalization of GMC-structures and performance (as presented in part-2), and examines the direct influence of the four components of GMC-structures on performance (as presented in part-3). In particular, study-3 deals with three research questions which are:

- RQ4: What is the association between alternative GMC-strategic types and the GMC-structures in achieving competitive advantage?

- RQ5: What is the impact of green-based competitive advantage on the relationship between GMC-structures and performance?

- RQ6: How do the GMC-structures directly influence companies' performance?

As stated earlier, the final study of the present thesis is designed to examine three different research models in order to explain: (a) how different companies' GMC-strategic types match with the GMC-structures for the achievement of a green-based competitive advantage; (b) how does the green-based competitive advantage leads to superior performance based on the development of GMC-structures; and (c) how the four components of GMC-structures directly constitute performance outcomes. With multiple purposes in mind, the expected outcomes will contribute to a better understanding of the strategic implications in terms of *strategic-GMC-fit* model to advancing business competitiveness and greater performance, as well as the salient role of the GMC-structures. The presentation of study-3 can be found in chapter 5: research frameworks and hypothesis and chapter 6: analysis and results.

To be more specific, the research objectives (RO) of the entire study are offered below.

- RO#1(study-1): to propose a *conceptually-derived model* of 'Green Marketing Capabilities' (GMC) and to identify its *structures* (Chapter 2 and 4)

- RO#2(study-1): to determine companies who are approaching different GMC-structures (or who are at different stages of GMC) to better understand and explain their GMC-strategic types and performance differentials (Chapter 4)

- RO#3(study-2): to investigate the confluence of corporate strategic postures (CSP), perceived-green behaviour (PGB) and performance with alternative GMC-strategic types in order to explain a *strategic-behaviour-fit* model (Chapter 5 and 6)

- RO#4(study-3, part-1): to assess the confluence of the operationalization of two main GMC-structures and green competitive advantage (GCA) with alternative

GMC-strategic types in order to explain a *strategic-GMC-fit* model (Chapter 5 and 6)

- RO#5(study-3, part-2): to examine the role of GCA as a mediating factor and its effect on an overall operationalization of GMC-structures and performance relationship (Chapter 5 and 6); and

- RO#6(study-3, part-3): to test the causal influence that the four components of GMC-structures have on companies' performance. (Chapter 5 and 6)

In summary, to fully understand the multi-faceted GMC model this thesis employs a variety of methodological approaches in order to depict the essence of GMC through a three-fold study. The expected findings will demonstrate the 'wholeness' of GMC in terms of *GMC-structures*, *GMC-strategic types* based on both classification schemes (i.e. conceptual classification and empirical taxonomy) (study-1), and the strategic implications in terms of *strategic-behaviour-fit* (study-2) and *strategic-GMC-fit* (study-3). Particularly, both study-2 and study-3 (part-1) give rise to research outputs in the form of strategic implications by utilising a configuration model. Moreover, an examination on the mediating effect of GCA and an assessment of the direct influence of GMC-structures on performance (as presented in part-2 and 3 of study-3) are to evaluate the potency of GMC model in which could enhance companies' competitive advantageous position and superior performance.

Next, the author provides table 1.1 which contains a summary of the research questions, objectives and the expected research outcomes of the entire study as below.

**Table 1.1 Summary of the Research Questions, Research Objectives and Expected Research Outputs of the Entire Study**

| Research Questions | Research Objectives | Research Outputs | Study (Chapter) |
|---|---|---|---|
| **RQ1.** What is the conceptual definition of GMC and what are its principles? | **RO1.** To postulate a conceptually-derived 'Green Marketing Capabilities' model (GMC) and classify its structures. | A conceptual model of GMC and the GMC-structures | Study-1 (chapters 2 and 4) |
| **RQ2.** On the basis of the classification of GMC-structures (from RQ1), what characteristics of companies can be categorised by their GMC-strategic types and performance differentials? | **RO2.** To empirically identify companies who are approaching different GMC-structures (or who are at different stages of GMC) to better understand and explain their GMC-strategic types and performance differentials. | GMC-Strategic Types | Study-1 (chapter 4) |
| **RQ3.** On the basis of classifications of GMC-strategic types (from RQ2), how does the confluence of various GMC-strategic types, corporate strategic posture and perceived-green behaviour align with performance? | **RO3.** To empirically investigate the confluence of corporate strategic postures (CSP), perceived-green behaviour (PGB) and performance with alternative GMC-strategic types in order to explain a *strategic-behaviour-fit* model | Strategic-Behaviour-Fit | Study-2 (chapters 5 & 6) |
| **RQ4.** What is the association between alternative GMC-strategic types and GMC-structures in achieving competitive advantage? | **RO4.** To empirically assess the confluence of the operationalization of two main GMC-structures and green competitive advantage (GCA) with alternative GMC-strategic types in order to explain a *strategic-GMC-fit* model. | Strategic-GMC-Fit | Study-3 (chapters 5 & 6) |
| **RQ5.** What is the impact of GCA on the relationship between GMC-structures and companies' performance? | **RO5.** To empirically assess the role of GCA as a mediating factor and its effect on an overall operationalization of GMC-structures and performance relationship. | | Study-3 (chapters 5 & 6) |
| **RQ6.** How do the GMC-structures directly influence companies' performance | **RO6.** To empirically examine the causal influence that the four components of GMC-structures have on companies' performance. | | Study-3 (chapters 5 & 6) |

Source: Author

## 1.5 Research Design and Methodological Bases

Having discussed the research questions and specific research objectives in the previous section, this section aims to briefly explain the research design and the methodological bases that are adopted for the thesis. Based on the multiple research objectives, the author endeavours to capture the breadth and depth of GMC. Bearing this in mind, this thesis adopts an integrative analytical approach consisting of a variety of methodological approaches i.e. classification schemes (both theoretical and empirical classifications), a configuration approach, a mediating effect and a causal influence for data analysis. To achieve the above purposes, specifically this study employs a quantitative research design using a cross-sectional study in combination with a mail-survey approach (see section 3.3, data collection in chapter 3 for more details). In addition, the groundwork of the main methodological bases i.e. classification schemes, clustering analysis and configuration model which are adopted into data analysis for the whole study are discussed in section 3.4 (methodological bases in chapter 3).

In light of the classification schemes, both conceptual and empirical classifications lead to the research outputs in terms of *GMC-structures* and *GMC-strategic types*. Both classification approaches are widely utilised in the fields of strategy research and organisation's study in order to gain better understanding of different strategic choices and the consequences (Hambrick, 1984). Meanwhile, the empirical classification deals with a taxonomic inquiry and clustering analysis. Specifically, a cluster analysis is a useful multivariate technique designed to help *group objects based on the characteristics they possess* (Hair *et al*, 2006, p. 508). In other words, it classifies observed data into meaningful taxonomies, groups or clusters as the finding groups in data (Halkidi, 2001). Hence, it is consistent with the configurative theory (Homburg *et al*, 2008).

Furthermore, a taxonomic approach (an empirical classification) has been widely used in multi-disciplinary research e.g. quality management systems (Yeung *et al*., 2003), strategic market segmentation (Sausen *et al*., 2005), supply chain management (Christopher *et al*., 2006, Shang *et al*., 2010), and sales and marketing interface (Homburg *et al*., 2008). Based on a broad area of strategy and organisation studies, a configuration theory creates synergy to establishing a *fit* among internal characteristics with the external contexts (Mintzberg, 1989). This approach also assists the researcher in investigating and understanding various characteristics of samples and performance differentials. More discussions of research design and methodological bases can be found in chapter 3.

## 1.6 Expected Contributions and Major Findings

This section provides a summary of expected research contributions and major findings of the entire study. Given the research purposes, this thesis attempts to contribute to a body of knowledge by explaining a conceptual model of GMC and how it can be operationalized. It also expands in-depth insights into a multi-faceted GMC model through various empirical analyses (on the basis of three sub-studies). The research outcomes are substantially derived from multiple analytical techniques i.e. the classification schemes (based on a conceptual classification and a taxonomic inquiry) along with a clustering analysis, and a configuration approach. With these analysis methods, the expected contributions and major findings are briefly discussed below.

### 1.6.1   The Conceptual Definition of Green Marketing Capabilities (GMC)

Building on a review of the pertinent theoretical literature, this study proposes a concept of GMC and defines it as:

*"An integrative process which incorporates both the strategic marketing at an operational level (evolved from the basis of an organisation's marketing system) and the marketing capabilities, knowledge-based resources, skills and practices (fully embedded in green or environmentally-friendly aspects)"* (Author).

To be more specific, the conceptually-derived model of GMC and its principles are anchored to the resource-based view (RBV), the marketing resources and capabilities literature (Morgan, 2012) and strategic marketing literature (Varadarajan, 2010). In addition, the concept of GMC builds on an integrative marketing process at an operational/functional level (strategic and tactical marketing) that is embedded in both the *architectural* and *specialized* marketing capabilities of companies. More details of the conceptualisation of GMC are discussed in chapter 2: section 2.3.

### 1.6.2 The Classification Schemes of GMC

#### 1.6.2.1 Four Components of GMC-Structures (Based on a Theoretical Classification)

Based on a conceptual model of GMC and its principles, the categorisation of GMC-structures is derived from an examination of theoretical classification. The classification schemes of GMC represent a multi-level of tactical and strategic marketing implications in order to capture a holistic green marketing capability. In light of the classification approach (based on a theoretical review), four components of GMC-structures are considered to be the cornerstones to the operationalization of GMC. The four different features of GMC-structures also represent companies' overall green marketing capability, obtained through an exhaustive configuration of marketing knowledge-based resources and capabilities on the basis of both *architectural* and *specialized* marketing functions (Morgan, 2012).

As stated earlier, this study attempts to posit the four components of GMC-structures by highlighting the development of various green marketing procedures grounded in companies' marketing knowledge-based resources and capabilities (Morgan, 2012). These are the *architectural* marketing capabilities seen as 'basic GMC-structures' (including pre-

GMC and info-driven GMC), and *specialized* marketing capabilities viewed as 'advanced GMC-structures' (including product-driven GMC and synergistic GMC). More details can be found in sections 4.2.1 and 4.2.2, chapter 4: (study-1) developing classification schemes of GMC-structures.

### 1.6.2.2 Three GMC-Strategic Types (Based on an Empirical Classification)

Based on the classification of GMC-structures which are derived from a theoretical classification approach, GMC-strategic types are further identified on the basis of empirical taxonomy using a clustering analysis. In light of the empirical classification or a taxonomic inquiry, GMC can be divided into three different groups of strategies which are derived from companies' distinctive characteristics and performance. With this process, the clustering analysis is utilised to group companies into three types by their approaches towards different GMC-strategies. Moreover, this study follows through an interpretation of clusters by comparing the three groups with the conceptual definitions of *organization's typologies* of Miles and Snow (1978) (i.e. prospector, analyzer, and defender) in order to get a broader view of literature in the domain. Owing to the robust literature concerning strategy and organisation's research, the conceptual definitions of Miles and Snow (1978)'s typologies are widely adopted into the studies in the fields of strategic management and marketing (e.g. Song *et al*, 2007; Homburg *et al* 2008). Specifically, in this study the three GMC-strategic types are meaningfully ascribed in terms of *GMC-prospector*, *GMC-analyzer* and *GMC-defender*. More details of three GMC-strategic types and characteristics are discussed in section 4.3.3, chapter 4: developing classification schemes of GMC-structures and GMC-strategic types.

### 1.7 The Thesis Structure

This section aims to summarise the organisation of this thesis. This thesis is comprised of eight chapters. The thesis structure is described below.

**Chapter One** provides an introduction of the whole thesis. It begins with the background of green marketing and moves towards the conceptual model of green marketing capabilities (GMC). It then briefly discusses the research aims and objectives of the entire study consisting of three sub-studies. It also explains research design and methodological bases that are adopted for the data analysis purpose. Lastly, it summarises some major research contributions and findings as well as the structure of the thesis.

**Chapter Two** firstly proposes positioning of the thesis. Secondly, it discusses the foundation of GMC on the basis of a theoretical linkage involving marketing knowledge-based resources and capabilities on the basis of resource-based view (RBV) as well as strategic marketing. Next, it offers up a primary conceptual framework of the entire study. It also reviews the most relevant literature in order to develop theoretical background comprising the key concepts that provide the basis for the strategy research, the natural environmental orientation (an application of theory of planned behavior –TPB), the organisation's performance and competitive environment. With this literature review, the definitions of key concepts including corporate strategic postures (CSP), perceived-green behaviours (PGB), green competitive advantage (GCA), overall company's performance and competitive rivalry are addressed. Finally, this chapter concludes by summarising the main research gaps and propositions of the present thesis.

**Chapter Three** demonstrates research design and methodological bases that are adopted in this thesis. It begins by describing the epistemology in social science. Next, it depicts how this entire research is processed by employing a quantitative research design with a mail-survey approach. It then clarifies data collection process and explains three main methodological bases that are used for the data analysis purpose including a taxonomic approach with clustering analysis and a configuration theory.

**Chapter Four** evaluates the classifications of GMC in terms of its structures and strategic types. This particular chapter represents and reports an empirical data of study-1. The main aim is to identify the classification schemes of GMC-structures on the basis of a theoretical classificatory approach and the GMC-strategic types by performing an empirical taxonomy with clustering analysis. After that, the author articulates some insights into an application of the classification schemes of GMC-structures and GMC-strategic types to Hambrick (1984)'s taxonomy building of an organisation.

**Chapter Five** reports empirical data of both studies 2 and 3. It firstly provides the research frameworks of both studies and then formulates series of research hypotheses. Particularly, study-2 posits three research hypotheses (H1 to H3) and aims to investigate the configuration model of fit among various GMC-strategic types, corporate strategic postures (CSP), perceived-green behaviour (PGB) and performance. Study-3 postulates five research hypotheses (H4 to H8) and aims to examine three different aspects which are (1) the moderating effect of GMC-strategic types have on the relationship between an operationalization of two main GMC-structures and GCA (part-1: H4 – H6), (2) the mediating effect of GCA have on the link between an overall operationalization of GMC-structures and performance (part-2: H7), and (3) the direct influence of the four components of GMC-structures on performance (part-3: H8) respectively.

**Chapter Six** starts by discussing some general data issues concerning a quantitative data analysis such as CMV, non-responses bias, check of normality and outliers. Next, it evaluates the measurement models of all adopted constructs of the entire study and presents a process of measurement purification. Furthermore, it provides data analysis and reports on the hypothesis testing and the results of both studies 2 and 3.

**Chapter Seven** mainly presents and discusses key research findings that are derived from all sub-studies (1, 2 and 3). Moreover, it highlights research contributions to academic

purpose. On the basis of an interpretation of findings it also offers some research implications which can be advised for managerial practices based on the operationalization of GMC-structures and the strategic implications of GMC (i.e. strategic-behaviour-fit, strategic-GMC-fit)

**Chapter Eight** highlights the concluding remarks of all sub-studies (1, 2 and 3). It not only summarises the whole study but also states the main propositions that emanate from the research. It also clarifies some limitations that the present study has overcome. Finally, it suggests the directions for future research.

Next, chapter 2 will discuss the foundation of GMC, present literature review of the main theories used as background of the entire study and define the adopted key constructs and their relationships based on the proposed conceptual framework.

# CHAPTER 2 LITERATURE REVIEW

## 2.1 Overview of the Chapter

The main objective of this chapter is to outline the literature review of the entire study. Firstly, this chapter provides an overview of the literature review and the positioning of the thesis (section 2.2). Next, it identifies some theoretical relationships in order to posit the concept of green marketing capabilities (GMC) (section 2.3). In this particular section, it articulates the major theories used as the literature bases i.e. strategic marketing and the link to GMC (section 2.3.1), the resource-based view (RBV) and the relationship with marketing resources and capabilities (section 2.3.2). On the basis of a combined analytical approach (including theoretical literature and a classification approach), this study proposes a conceptual model of GMC and its principles (section 2.4 and 2.4.1). Specifically, this section validates and enhances an integrative analytical approach that incorporates a review of relevant past studies into a conceptual classification scheme for the development of GMC, which partly corresponds to research question #1 (research objective 1) of this thesis.

Following on from that, the author reviews more literature in relation to strategy research and strategic orientation (section 2.5 and 2.5.1) to define corporate strategic posture (CSP) (section 2.5.2). Subsequently, the natural-environmental orientation, with an application of the theory of planned behaviour (TPB) (section 2.6, 2.6.1 and 2.6.2) and the definition of perceived-green behaviour (PGB) (section 2.6.3) are discussed. Moreover, the review of literature on an organisation's performance (section 2.7) in order to define the concepts of green-competitive advantage (GCA) (section 2.7.1) and overall performance (section 2.7.2) are followed. After that, the review of literature on a competitive environment (section 2.8) in order to define the concept of competitive rivalry (section 2.8.1) are also discussed. Lastly, the chapter is summarised (section 2.9).

## 2.2 Outline of Literature Review and Positioning of the Thesis

This section aims to outline the literature review undertaken and position this thesis within that context. First of all, the author uses a flowchart to present a literature review for the present thesis, starting with: the theoretical foundations of GMC, the review of related literature in order to address key concepts and the focus of the empirical study on the basis of a proposed conceptual framework. (See below, figure 2.1)

The primary aim of this thesis is to explain a conceptual model of GMC and its implications. With this purpose in mind, the author incorporates the environmental aspects which are assimilated into marketing strategies and practices for the enhancement of green marketing capabilities (GMC) of companies. In other words, this study positions itself by highlighting the theme of green or eco-friendly marketing that has embedded environmentally-oriented issues into marketing strategies and practices (e.g. Peattie and Charter, 1994; Fraj *et al*, 2013; Leonidou *et al*, 2013). As it is believed that GMC in turn could improve companies' environmental responsiveness and commitment towards reducing a negative impact on the environment. At the same time, it could strengthen their competitive position and performance in the market place (Banerjee *et al*, 2003; Baker and Sinkula, 2005; Kotler, 2011).

As stated earlier, this study lays out some of the theoretical literature in relation to strategic marketing (Varadarajan, 2010), the RBV and marketing resources and capabilities (Morgan, 2012) to conceptualize GMC. Specifically, GMC stems from an idea that aims to link all aspects of environmentally-friendliness with marketing strategies and practices (which encompasses companies' RBV through marketing resources and capabilities) as a foundation. More details of the theoretical foundation of GMC are discussed in section 2.3.

Next, the author outlines the literature review, key concepts and the focus of empirical study as seen in figure 2.1 below.

**Figure 2.1 Outline of Literature Review, Key Concepts and the Focus of Empirical Study**
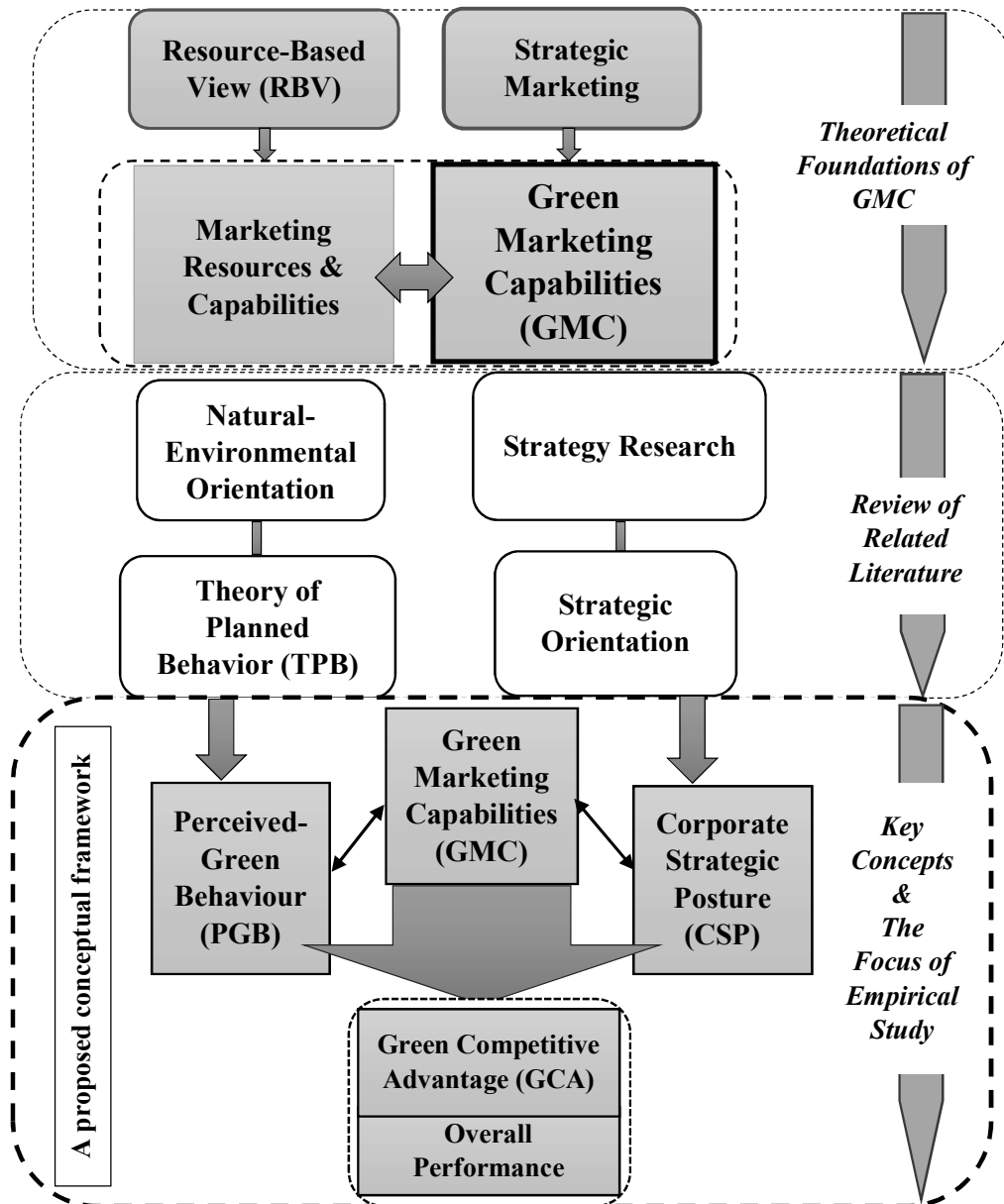


Source: Author

On the basis of the literature review (figure 2.1) set out above, this study aims to examine the link between multiple theories across disciplines in the field of management i.e. 'strategic marketing', 'resource-based view – RBV' and 'marketing resources and capabilities' in order to establish a theoretical literature for the foundation of GMC. In addition, the related literature pertaining to a natural-environmental orientation with an application of a theory of planned behaviour (TPB), the strategy research, strategic orientation and organisation's performance are also reviewed. Subsequently reviewed is the theoretical background for the key concepts (i.e. perceived-green behaviour – PGB, corporate strategic posture – CSP, green competitive advantage – GCA, competitive environment and overall performance).

Building on the insights from this literature review, the inter-relationship between key concepts i.e. GMC, PGB, CSP, and performance are grouped and outlined as the primary elements of the conceptual framework and the focus of the empirical study. Having discussed the research objectives in detail in the previous chapter, the proposed conceptual framework represents a foundation for the empirical study and for subsequent research models which will be discussed in later chapters (chapters 4 to 6). Bearing this in mind, the author offers a number of interconnected research models that stem from the proposed conceptual framework and correspond to various research questions as well as objectives to examine three empirical sub-studies:1, 2 and 3 respectively. After reviewing pertinent literature, the relationships between concepts and propositions of the study are addressed in order to fill some knowledge gaps. Consequently, the author presents an overview of key literature, research gaps and propositions of the entire study (see table 2.1, below).

Subsequent sections will present and discuss in further detail the literature and the research gaps of each proposition proposed in the study. This is started with the theoretical foundation for GMC (section 2.3), which is based on strategic marketing and the link to

GMC (section 2.3.1), the RBV and the link to marketing resources and capabilities (section 2.3.2). Following on from that, the conceptual model of GMC is defined (section 2.4, and 2.4.1).

**Table 2.1 Summary of Key Literature, Research Gaps and Propositions of the Entire Study**

| Key Literature | Research Gaps | Propositions | Study (chapter) |
|---|---|---|---|
| • Strategic marketing<br>• Resource-based View (RBV)<br>• The Marketing resources and capabilities | ▪ To date, scarce studies has assessed the link between strategic marketing, RBV and marketing resource and capabilities to conceptualising *GMC* and its principles. | ➢ The *conceptual model of GMC* and its principles<br>➢ The *operationalization of GMC* (including two main GMC-structures and four components based on an integrative analytical approach) | **Sub-study-1** (chapter 2; section 2.3 to 2.4, & chapter 4; section 4.2) |
| • Strategic Orientation | ▪ Studies to date have not yet discovered what are corporate strategic postures based on an alignment of corporate level strategy and its perceived attribute (that is shaped within an organisation). | ➢ To posit a notion of *corporate strategic postures – CSP* | **Sub-study-2** (chapters 5 & 6) |
| • Natural-Environmental Orientation with an application of TPB | ▪ Studies to date have not yet discovered what companies' perceived-behavioural intention is based on an application of TPB | ➢ To posit a notion of *perceived-green behaviour – PGB* | |
| • Organisation's performance<br>• Competitive advantage | ▪ Very few studies have addressed a green-based competitive advantage perceived by companies who are undertaking green marketing activities. | ➢ To posit a notion of *green competitive advantage – GCA* | **Sub-study-3** (chapters 5 & 6) |

Source: Author

## 2.3 Theoretical Foundations of Green Marketing Capabilities (GMC)

Having introduced earlier in chapter 1: towards the proposition of GMC (section 1.3), this section aims to clarify the theoretical foundation of GMC. In this study, the author looks for a theoretical approach which spans the literature boundaries across marketing and strategic management studies. Bearing this in mind, attention is drawn to the theoretical literature which is grounded in strategic marketing and organisation's resources and capabilities literature (which is based on the RBV theory). Specifically, the GMC emerges from a theoretical relationship between strategic marketing theories and marketing resources and capabilities (a ramification of organisation's resources and capabilities within the RBV theory) (Morgan 2012).

Given the above theoretical literature, this study offers a framework of strategic green marketing at an operational level embedded in companies' marketing resources and capabilities as a representation of a holistic GMC. To be more specific, the author comprehends the 'wholeness' of GMC model as an illustration of an overall strategic green marketing plan and capabilities at an operational level (Varadarajan, 2010). In other words, this draws upon an evaluation of marketing on the basis of *strategic and tactical approach* (e.g. Kotler, 2011; Polonsky and Rosenberger, 2001) combined with the insights into organisation's marketing resources and capabilities (Morgan, 2012) encompassed in environmentally-oriented issues at a functional level.

Based on this argument, the author proposes a theoretical relationship between strategic marketing and organisation's marketing resources and capabilities which can be regarded as a foundation of GMC. To gain an in-depth insight into what are the features of the GMC model and how can it be operationalized, this study derives GMC principles on the basis of two marketing capabilities i.e. *architectural* and *specialized* marketing capabilities (Morgan, 2012) which are fundamental to the marketing resources and capabilities within a

company (see figure 2.2 below). More discussion of developing the conceptual model of GMC can be found in section 2.4.

**Figure 2.2 Theoretical Relationship and the Foundation of GMC (including Two Principles)**

| Strategic Green Marketing At an Operational Level | Marketing Resources and Capabilities |
|---|---|
| ➢ Strategic and tactical marketing | ➢ Marketing knowledge-based resources and capabilities |

**The Conceptual model of Green Marketing Capabilities (GMC)**

**Two Principles**
- **Architectural Marketing Capabilities**
- **Specialized Marketing Capabilities**
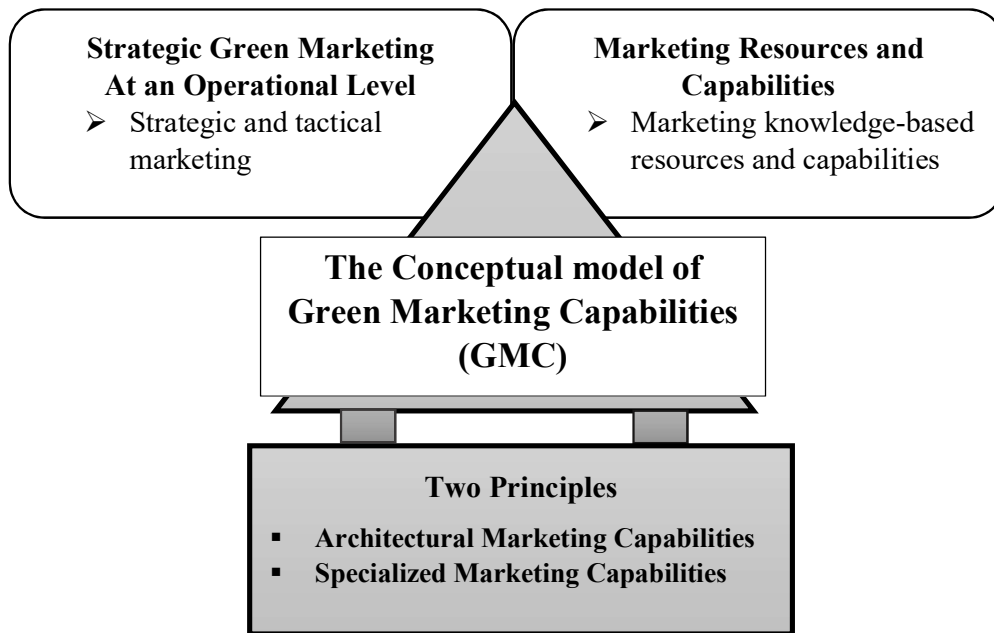
Source: Author

As discussed earlier, the theoretical foundation of a GMC model is witnessed by a link between the major theories across the fields of marketing and strategic management. Next, this study continues to explain the theoretical literature by starting with strategic marketing and the link to GMC (section 2.3.1) and the RBV theory and a relationship with marketing resources and capabilities (section 2.3.2) as follow.

## 2.3.1 Strategic Marketing and the Link to GMC

> *"Strategic marketing theory has assigned a primacy to the product and its associated marketing mix…, as guidelines for incremental product repositioning and marketing mix improvement, and spectacularly successful strategic marketing acts…" (Cova and Svanfeldt 1993, p. 297 – 310).*

According to Varadarajan (2010, p. 120), the implications of 'strategic marketing' are concerned with multi-levels of organisation's strategies complying with marketing strategy implementation. Based on this viewpoint, the implementations of marketing strategy are associated with strategic marketing issues, decisions, and problems at different organisational levels. Meanwhile Varadarajan (2010) argues:

> *"The terms 'strategic marketing' and 'marketing strategy' can be used interchangeably in reference to the field of study, and marketing strategy is also used in reference to the organisational strategy construct that is the principal focus of the field" (2010, P. 120).*

On the basis of multi-levels of an organisation's strategy implementation, the implication of 'strategic marketing' can articulate different perspectives of strategic marketing and implications at various levels within an organisation i.e. corporate, business-unit, function/operation. According to Varadarajan (2010), the distinction between diverse levels of an organisation's marketing strategy in relation to the implications of strategic marketing refers to the multi-leveled organisation's strategic marketing which involves corporate, business unit and functional/operational levels on the basis of different angles and driving purposes. For instance, at a corporate level, marketing is viewed as *culture*. At a business unit level, marketing is viewed as *strategy* focusing on market segmentation, targeting, and positioning as well as *competitive strategy*. At a functional/operational level, marketing is concerned with marketing *tactics* and the marketing-mix (Varadarajan, 2010; McCarthy, 1978).

Armed with the above insight, the author focuses on the idea of linking strategic marketing theories to the practical aspects of GMC which are in line with *strategic* and *tactical* marketing approaches of operational level within an organisation. In other words, the implication of strategic marketing at an operational level sheds some light on how GMC can be materialised in a way that helps companies' comprehend its usefulness and feasibility.

To be more precise, the author emphasises the magnitude of the GMC model that lays out the mechanics to clearly define the implications of strategic marketing at an operational level. On this basis, it concerns the development of *tactical and strategic issues* through product, distribution/channel/partnership and promotion as well as communication (Leonidou *et al*, 2013). In particular, this study builds on Leonidou, Katsikeas and Morgan (2013) and highlights the essence of environmentally-oriented issues, which may articulate an understanding of various green marketing strategies and practices through the development of green product, green distribution/channel/partner and green promotion as well as communication (Leonidou *et al*, 2013; Fraj *et al*, 2013; Kotler, 2011). As a result, these practices might contribute to an improvement of organisations' performance based on product/market and economic outcomes (Leonidou *et al*, 2013). Subsequently, the author posits a theoretical relationship that links strategic marketing and GMC. To clearly visualise the proposed relationship, figure 2.3 depicts a strategic marketing framework at a functional/operational level as an essential constituent of theoretical foundation and the link to GMC as illustrated below.

**Figure 2.3 Strategic Marketing and the Link to GMC**

```
┌─────────────────────────────────────────────────────────────────────┐
│                    ┌──────────────────────────┐                      │
│                    │    Strategic Marketing   │                      │
│                    └──────────────────────────┘                      │
│               ↓                 ↓                  ↓                  │
│    ┌──────────────┐  ┌──────────────────┐  ┌──────────────────┐      │
│    │ Corporate    │  │ Business-Unit    │  │ Functional /     │      │
│    │ Level        │  │ Level            │  │ Operational Level│      │
│    └──────────────┘  └──────────────────┘  └──────────────────┘      │
│    ┌──────────────┐  ┌──────────────────┐  ┌──────────────────┐      │
│    │              │  │ ▪ Segmentation   │  │ Marketing        │      │
│    │              │  │ ▪ Targeting      │  │ Practices        │      │
│    │ Marketing    │  │ ▪ positioning and│  │ (Strategic &     │      │
│    │ management   │  │ ▪ competitive    │  │  Tactic)         │      │
│    │              │  │   strategy       │  │ ▪ Product        │      │
│    │              │  │                  │  │ ▪ Distribution   │      │
│    │              │  │                  │  │ ▪ Promotion/     │      │
│    │              │  │                  │  │   Communication  │      │
│    └──────────────┘  └──────────────────┘  └──────────────────┘      │
└─────────────────────────────────────────────────────────────────────┘
                                              ↕
                    ┌─────────────────────────────────────────┐
                    │      The Conceptual Model of GMC         │
                    │ (A Constituent of Strategic Green        │
                    │  Marketing at a Functional/Operational   │
                    │  Level)                                  │
                    └─────────────────────────────────────────┘
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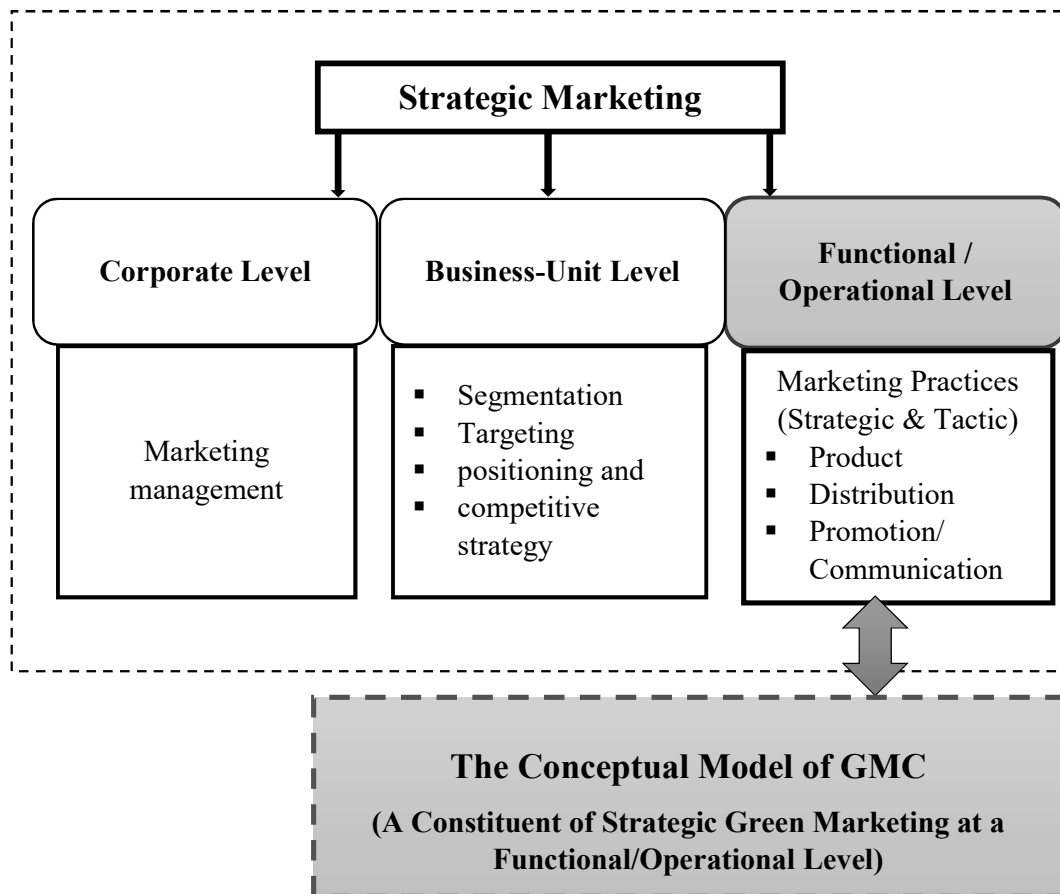
Source: adapted from Varadarajan (2010)

## 2.3.2 The Resource-Based View (RBV) and the Relationship with Marketing Resources and Capabilities

The domain of RBV and marketing theory are widely discussed across strategic management literature. It is argued by some that a company's competitive advantage and performance can be predicted and explained by the RBV or an organisation's specific resources (Morgan, 2012). As a result, the RBV could contribute to a better understanding for marketing theorists why some companies could outperform other competitors over time (Morgan, 2012).

Based on the RBV theory, Morgan (2012, p. 104) proposes a conceptual model linking marketing resources, capabilities and business performance. This framework sheds some

31

light on the adaptation of an organisation's marketing resources and capabilities which is embedded in *dynamic, cross-functional, architectural and specialized capabilities* (Morgan, 2012). On the basis of this viewpoint, why and how an organisation could attain a critical source of competitive advantage and outperform other competitors in the market place can be explained by its marketing resources and capabilities that is embedded in the RBV (or an organisation's specific resources) (Day, 1994).

Armed with the above literature, this study builds on Morgan (2012) the *framework of marketing resources and capabilities* in order to develop a theoretical foundation for a conceptual model of GMC. Specifically, it outlines the relationship between RBV, marketing resources and capabilities on the basis of two principles including *architectural* and *specialized* marketing capabilities. A combination of marketing capabilities which is comprised of: *architectural marketing* (which involves marketing planning, skills, information and knowledge of marketing to implementation) and *specialized marketing* (which considers the abilities needed to implement the specialized marketing programs) is concerned with a more practical or functional form of marketing. Whereas 'dynamic' and 'cross-functional' capabilities (e.g. marketing learning, resource configuration and relational resource) are rather broad and ambiguous to a real practice or implementation at an operational level.

In addition, literature (e.g. Helfat, 1997, Teece, 1997) on marketing highlights, companies' resources and capabilities through the resource-based perspectives (RBV) could help determine overall performance outcomes as well as differentiate organisations' performances from others. Meanwhile the resource-based of companies can be divided into tangible elements (e.g. factory, machines, land), and intangible elements (e.g. technology, human resources, reputation). These resources can also be viewed as being valuable, rare and non-substitutable (Grant, 1991, Menguc and Ozanne, 2005) which are incorporated into

an organisation's capabilities (abilities to assemble, integrate and manage these bundles of resources) and in turn may shape companies' competitive position (Wernerfelt, 1984, Barney, 1991). Given the above perspectives, the RBV which concerns the value and inimitable resources in each organisation can lead to create a source of competitive advantage, and hence enhance performance (Newbert, 2008).

Moreover, an 'organisation's capabilities' can be defined as a *complex bundle of skills* and *collective learning*, exercised through the organisational processes to ensure a superior coordination of functional activities (Day, 1994). As Collis (1995) asserts that such capabilities can be found to be more valuable whilst gaining stronger inimitability and non-substitutability characteristics and thus strengthen a company's performance over time. Armed with the above literature, the development of organisation's capabilities on the basis of a company's tangible and intangible resources, combined with its integrative processes (adding value to the resource inputs) across an organisation's functions could thus deliver a critical source of competitive advantage and superior performance (Day, 1994, Grant, 1996, Vorhies *et al.*, 1999).

In summary, based on the insights from literature the RBV theory provides groundwork for marketing researchers to understand and differentiate companies' competitive advantage and superior performance (Morgan, 2012). Owing to its dominance in the field of strategic management and marketing, the RBV can also be viewed as a cornerstone to the development of companies' marketing resources and capabilities as well as additional constituents to complete the development of a GMC model. Next, the author offers an illustration of an integrated framework of RBV and the link to GMC (see figure 2.4 below).

**Figure 2.4 Integrated Framework of Resource-Based View (RBV), the Scope of Marketing Resources and Capabilities and the Link to Green Marketing Capabilities (GMC)**



**Resource-Based View (RBV)**

**Marketing Resources and Capabilities**

Dynamic capabilities
- Market learning
- Resource reconfiguration
- Capability enhancement

Cross-functional
- Brand management
- CRM
- NPD

**Architectural**
- Information, knowledge of marketing and skills
- Strategic market planning
- Marketing strategy implementation

**Specialized**
- Product management
- Channel management / Distribution
- Marketing communications
- Promotion activities

Marketing Resources
- Knowledge
- Financial
- Human
- Legal
- Organizational
- Reputational
- Informational
- Relational

**The Conceptual Model of GMC (Based on two principles)**
- Architectural Marketing Capabilities
- Specialized Marketing Capabilities

Source: Adapted from Morgan (2012, p.104)

As discussed earlier, specifically this study focuses on the framework of marketing resources and capabilities and the combination of both *architectural* and *specialized* marketing capabilities (as two principles). The *architectural* marketing capabilities highlight an overall understanding of how marketing knowledge-based resource is framed. This aspect discusses the acquisition of marketing knowledge to implementation, as well as the marketing strategies and planning skills (Morgan, 2012). Meanwhile the *specialized* marketing capabilities encompass specific marketing functionally-based processes used

within a company to combine and transform resources into *strategic* and *tactical* marketing (Morgan, 2012; Kotler, 2011).

To sum up, this study posits the development of GMC which is grounded in two principles of marketing capabilities or a combination of *architectural and specialized* marketing capabilities (Morgan, 2012). This combination involves an integrated process of knowledge-based resources of marketing, implementation and planning skills as well as marketing functions through *tactical* and *strategic* approaches at an operational level which are fully embedded in environmentally-friendly aspects. More discussions on developing a conceptual model of GMC can be found in the next section.

## 2.4 Developing the Conceptual Model of 'Green Marketing Capabilities' (GMC) (Research Objective One: Study-1)

### 2.4.1    The Concept of GMC and its Principles (An Operationalization)

Based on the above theoretical literature, the research objective of study-1 (RO#1) is to propose a conceptually-derived model of 'Green Marketing Capabilities' (GMC) and to classify its structures. In other words, it is aimed to fill a research gap by offering a conceptualisation of green marketing capability, and find out how GMC can be put into real practice (its operationalization). Since to date, scarce studies has assessed the link between strategic marketing, RBV and marketing resource and capabilities to conceptualising GMC and its principles in order to derive an operationalization of GMC on the basis of an integrative analytical approach.

This section further provides a brief review of past studies in relation to the development of the conceptual model of GMC and operationalizes it based on two principles consisting of *architectural* and *specialized* marketing (Morgan, 2012). According to the theoretical relationships as discussed above, the origin of GMC stems from an integrated role of operational strategic green marketing embedded in an organisation's marketing resources

and capabilities. Meanwhile, the principles of GMC are concerned with an incorporation of multi-tasking and a complex bundles of marketing resources and capabilities based on *architectural* marketing capabilities (concerning a process used to choose, consolidate and manage various specialized and cross-functional capabilities and the relevant resource inputs) and *specialized* marketing capabilities (involving particular practicality based processes used within a company to integrate and transform resources) which are anchored to the RBV of an organisation (Morgan, 2012). As a result of that, the author defines the conceptualisation of GMC as:

> *"An integrative process which incorporates both the strategic marketing at an operational level (evolved from the basis of an organization's marketing system) and the marketing capabilities, knowledge-based resources, skills and practices (fully embedded in green or environmentally-friendly aspects)"* (Author).

To be more specific, the concept of GMC is grounded in the integration of multi-tasking functions between individuals, groups, organisational systems, and structures combined with marketing knowledge-based resources and skills that transform into capabilities in ways contributing to attaining marketing goals (Morgan, 2012; Mahoney and Pandian, 1992; Grant, 1996; Marino, 1996). On this basis, it represents a 'wholeness' of green marketing capabilities and complex integrated organisation's structures, skills and knowledge to develop over time (e.g. Grant, 1996, Teece *et al.*, 1997, Grewal and Slotegraaf, 2007, Morgan, 2012). In other words, it is developed based on an integrated process throughout organisations' multi-levels (including of business-unit and corporate level) and across functions/operations of their marketing capabilities (including knowledge, skills and practices) which is concerned with the cornerstone of an organisation's capabilities. These capabilities as well can be used to develop more valuable and unique capabilities in obtaining competitive advantage and superior performance (Teece *et al.*, 1997; Morgan *et al.*, 2012; Leonidou *et al.*, 2013c).

In order to capture an overall operationalization of GMC, next the author specifies its features on the basis of two principles – *architectural* and *specialized* marketing capabilities in order to identify the GMC model based on two broad aspects: (1) 'basic GMC-structures' and (2) 'advanced GMC-structures'. To be more precise, the *architectural* marketing capabilities can be simplified and operationalized as 'basic GMC-structures' which focuses on marketing planning, skills, selecting strategic marketing goals and strategic marketing decisions upon a deployment of various and inter-connected resource inputs (Morgan *et al*, 2003; Slotegraaf and Dickson, 2004; Vorhies and Morgan, 2005). Moreover, the *specialized* marketing capabilities can be simplified and operationalized as 'advanced GMC-structures' which focuses on *tactical* marketing program-related processes concerning the implementation of marketing strategy and functional marketing (Vorhies *et al*, 2009; Hunt, 1995; Vorhies *et al*, 1999). The operationalization of *basic-* and *advanced* GMC-structures is further used as part of the study's variables for the empirical analysis of study-3 which will be discussed in the latter chapters: 5 and 6.

Next, this section further evaluates a classification of GMC-structures by utilising an integrative analytical approach. With this approach, the author identifies GMC-structures on the basis of a conceptual classification scheme together with reviewing procedure for selecting the constructs of GMC. Specifically, the two main principles of GMC are deliberately evaluated in order to derive a classification of GMC-structure. After that, a procedure for selecting the constructs of GMC is followed by a review of related past studies (e.g. Fraj *et al*, 2013, Leonidou *et al*, 2013) in comparison to the two principles of GMC (the operationalization of *basic-* and *advanced GMC-structures*). With the designated proceedings, a multi-dimensional model of GMC can be established and validated. More discussions on this approach (an integration of the classification of GMC-structures and procedure for selecting the constructs of GMC) can be found in chapter 4. Next, the

following sections will discuss other related literature in order to derive the study's key concepts for further empirical analysis of both studies: 2 and 3.

## 2.5 Review of Strategy and Strategic Orientation

Based on the focus of the empirical study of the present thesis, which has already been discussed in section 2.2 (see figure 2.1), this section begins to introduce the first concept of 'corporate strategic posture' or CSP which is derived from the strategy and strategic-orientation theoretical literature (section 2.5.1). Next, it offers a definition of CSP (section 2.5.2).

### 2.5.1 Strategy and Strategic Orientation

Building on strategy research and the implementation of strategy, the implication of 'strategic orientation' is concerned with the strategy in which a company adopts and undertakes within a given setting (or environment) in order to achieve its target objectives or performance goals (Venkatraman, 1989). Meanwhile, this notion can also be recognised as *strategic fit, strategic predisposition, strategic thrust* and *strategic choice* which are related to strategic implications or the conduct of business content (in which a company uses strategy to adapt and/or change conditions of its environment for a more favourable alignment) (Manu and Sriram, 1996).

In this study, the author adopts the concept of *strategic orientation* to be reviewed as part of the related literature in order to define a notion of 'corporate strategic posture' or CSP. The concept of *strategic orientation* (Venkatraman, 1989) has been widely applied and used in a variety of management studies in order to understand what might affect companies' strategies would be expressed by their perceived-attributes (a pattern of company's unique characteristics) as a reflection on performance. Meanwhile, a number of researchers employ *strategic orientation* to investigate the influence of companies' strategies (based on different aspects as part of their attributes) (Venkatraman, 1989) on marketing and business activities.

38

For instance, an influence of strategic orientation on investing in information technology (Ginsberg and Venkatraman, 1992). Strategic orientation and the relationship with innovation and marketing strategy (Manu and Sriram, 1996). The strategic orientation and effect on marketing orientation and business performance (Morgan and Strong, 1998, Morgan and Strong, 2003). Additionally, strategic orientation is expressed in terms of *corporate mind-sets* and the impact on a new product launch strategy and market performance (Talke and Hultink, 2010). Given the evidence from past studies, it shows that the significant relationship between companies' attributes in line with strategic orientation has an influence on their marketing and business activities as well as organisation's performance.

To be more precise, this study focuses on two dimensions of strategic orientation in terms of *analytical* and *riskiness* (risk-taking) (Venkatraman, 1989). Owing to their distinctiveness and specifications, these two postures tend to expose their unique attributes with an opposite direction. Specifically, *analytical* refers to a company's quality of overall problem solving, or searching for the roots of problems, as well as creating the best possible options for its businesses (Miller, 1984). *Riskiness* (risk-taking) refers to an organisation-level trait which reflects its tendency towards risk taking upon resource allocation and the overall guide for decision-making (Baird, 1985). As such, these two dimensions may reflect companies' perceived attributes either *analytical* or *risk-taking* (which are shaped within their corporate-level postures) which have an impact on performance outcomes. Next, the definition of corporate strategic posture (CSP) can be found in the following section.

### 2.5.2   Defining Corporate Strategic Posture (CSP)

The notion of 'corporate strategic posture' (CSP) is derived from a review of a multidimensional phenomenon focusing on the corporate level trait and the extent to which it may merge with an organisation's strategies. In other words, the CSP reflects a holistic

perspective of a company's posture based on its *strategic orientation* incorporated into perceived attribute (or a pattern of its unique characteristic) (Venkatraman, 1989). Specifically, the CSP can be regarded as a critical resource of an organisation (an internal resource at a corporate/organisation's level) which is expressed through corporate-level posture (mind-set). Which in turn has an impact on performance (Talke and Hultink, 2010). Armed with the above review of literature, CSP can be defined as:

> *"A company's critical strategic posture (expressed through a corporate-level strategy) in association with its perceived attributes towards decision making which has effect on performance"* (Author).

Strictly speaking, the main focus of CSP is concerned with the implication of strategic orientation in line with a company's decisive trait that influences its decision making towards an adoption of GMC. The CSP also reflects a company's pivotal strategic posture which is developed and shaped within an organisation, as well as maintained its uniqueness as a lasting attribute (Talke and Hultink, 2010). As discussed in the previous section, this study emphasises two dimensions of CSP including: *analytical* and *risk-taking* postures, which will be used as variables for the empirical analysis in the study-2 (chapters 5 and 6). In particular, study-2 aims to demonstrate how different CSP could match with various GMC strategies which might impact on companies' performance.

## 2.6 Review of Natural-Environmental Orientation (an Application of Theory of Planned Behavior – TPB)

This section provides a review of literature on natural-environmental orientation to derive a concept of 'perceived-green behaviour' (or PGB). This conceptualization stems from an examination of a company's natural-environmental orientation with an application of theory on planned behaviour in order to capture the meaning of the perceived-green behaviour of companies. The following sections continue to discuss the natural-environmental

orientation (section 2.6.1) and theory of planned behavior (TPB) (section 2.6.2) as well as a concept of 'perceived-green behaviour' or PGB (2.6.3).

### 2.6.1    Natural-Environmental Orientation

Drawing on the importance of biophysical environment, the natural-environmental orientation has been the subject of a considerable amount of research across management and marketing disciplines. Owing to its significance, the environment orientation has been studied as an influential factor towards the adoption of green marketing strategy, environmental management practices and environmental behaviours (e.g. Menguc and Ozanne, 2005, Fraj *et al*, 2011 and 2013). Moreover, numerous past studies (e.g. Menguc and Ozanne, 2005, González-Benito and González-Benito, 2005, Paulraj, 2009) suggest that the environmental orientation and environmental motivation are found to be critical factors which have impact on organisation's practices and performance. Strictly speaking, this study attempts to comprehend the idea of environmental orientation with an application of the *theory of planned behaviour* (TPB) (Ajzen, 1985), in order to conceptualise a 'perceived-green behaviour' of companies. Next, the following sections discuss an application of TPB (section 2.6.2) and the definition of PGB (section 2.6.3).

### 2.6.2    Theory of Planned Behaviour (TPB)

The theory of planned behaviour or TPB has been used and applied in various study contexts, especially in the environmentally-friendly focus. An application of TPB is done in order to find out how a particular perceived behaviour of participants is formed within a specific situation. For instance, waste management and recycling behaviour of house-holds and industrial management are studied with an application of TPB in order to understand the behavioural intentions of house-holds as well as managerial perceptions towards adopting environmental practices (Sharma, 2000, Banerjee, 2001, Cordano and Frieze, 2000, Knussen et al., 2004). In addition, the application of TPB has also been widely used

among other studies in order to understand consumer perception toward green products across markets (Kalafatis *et al*, 1999), green purchase behaviour in a cross cultural context (Chan and Lau, 2002), attitudes towards environment and green products (Chen and Chai, 2010), consumer intention towards green hotel choice (Han *et al*., 2010b) and consumer's environmental concern towards intention to visit green hotels (Chen and Tung, 2014).

Based on the above literature, it is seen that a large body of research has incorporated TPB into green/environmentally-friendly issues within a variety of studies. However, it is surprising that little is known about the perceived behaviour of an organisation and how it could immerse in a corporate perception towards an adoption of GMC. Thus, the aim of this study is to postulate a notion of 'perceived-green behaviour' (PGB) at an organisation/corporate level. Next, this study discusses more details about TPB and its framework as follow.

As stated earlier, an application of the theory of planned behaviour (TPB) is considerably useful in explaining a company's perceived behaviour towards a particular studied context (Cordano and Frieze, 2000). In this study, the TPB framework is adopted in order to test the influence of the natural-environmental orientation on a corporation's behaviour, and to understand whether or not the perceived behaviour has an impact on the implementation of GMC. Specifically, the TPB's framework is composed of three determinants: (1) attitudes (ATT), (2) subjective norms (SN), and (3) perceived behavioural control (PBC). These factors reflect the perception that corporations have on their stakeholders' views i.e. shareholders, employees, government, customers and suppliers. All of which have an influence on their decision-making to the adoption of GMC.

On the basis of the TPB's framework, the 'attitudes' towards behaviour (ATT) can be articulated as how companies think (as a belief) towards a particular action. The 'subjective norm' (SN) is a function of an individual normative belief or *(the perceived social pressure*

*to perform or not to perform the behaviour)* (Ajzen 1991, p. 188). In this case, it refers to how a company perceives its stakeholders' views in accordance with the adoption and implementation of GMC. The last component is the 'perceived-behavioural control' (PBC) or a function of controlled belief, which can be ascribed in terms of *perceived ease or difficulty of performing the behaviour* (Ajzen, 1991, p. 122). Particularly, the PBC aims to find out how a company's perceived behavioural control (under its controlled factors whether facilitate or constrain) could constitute *perceived power* (Ajzen and Madden, 1986, Chang, 1998) in response to a particular phenomenon (Han *et al*., 2010a). Accordingly, review of past studies which are drawn from relevant literature across management studies have provided substantial guidelines to the TPB framework for the present study. Next, the author provides an overview of literature in this area (see table 2.2).

**Table 2.2 Review of Past Studies with an Application of TPB in Relation to Green/Environmental-Oriented Aspects**

| Authors (Year) | Study's Context | Investigation | Application of TPB (in relation to green issues) |
|---|---|---|---|
| Chen and Tung (2014) | Hotel management | The influence of environmental concern on consumer intention to visit green hotels | The environmental concern is positively associated with consumer intention to visit green hotels. |
| Rettie, Burchell and Kingston (2012) | Consumer perception on green marketing strategies | Examining the conception of green among consumers on the basis of sustainability marketing activities | Consumer's conception of green is consistent with dominant view on sustainability |
| Han, Hsu and Sheu (2010) | Hotel management | The effect of environmental friendly activities on consumer intention to visit green hotel choice | The TPB components provide a strong predictive consumer' intention towards decision making to visit green hotels |
| Knussen, Yule, MacKenzie and Wells (2004) | Household-recycling behaviour | Assessing the intention of recycle household waste | The TPB components contribute to better understanding of behavioural intention towards recycling of household waste |
| Chan and Lau (2002) | Green purchase behaviour in a cross cultural context | Examining consumer green purchase behaviour between Chinese and American | The TPB provides salient application to examine green purchasing behaviour in a cross cultural study. |
| Cordano and Frieze (2000) | Preference of environmental managers on pollution reduction activities | Testing behavioral preference of environmental managers on pollution reduction activities | The TPB explains environmental behaviours and managers' preferences to implement various pollution reduction activities. |

Source: Author

### 2.6.3 Defining Perceived-Green Behavior (PGB)

As discussed in the previous section, the concept of 'perceived-green behaviour' (PGB) stems from an application of the theory of planned behaviour (TPB). In this study, PGB can be defined as:

> *"A set of a company's green perceived-behavioural pattern (as a reflection of its stakeholders' view) towards decision making to the adoption and implementation of GMC"* (Author).

Specifically, the PGB is concerned with a set of specific behaviour to encounter a particular situation in order to obtain target business outcomes. In this context, it entails an organisation's perception as represented by top-management executive or manager towards decision making to the adoption of GMC. In other words, it provides an insight into a company's perceived behavioural pattern as reflected by its stakeholders' opinion towards the development of GMC. In essence, the PGB model expresses through three criteria of the TPB framework concerning *attitudes* (ATT), *subjective norm* (SN) and *perceived-behavioural control* (PBC) (Ajzen, 1985). The concept of PGB will later be used as a set of variables in data analysis of the empirical study-2 (chapters 5 and 6).

### 2.7 Review of Organisation's Performance

An organisation's performance can be viewed as an indicator in which companies aim to achieve product/market and economic results (Leonidou *et al.*, 2013a). Literature (e.g. Menguc *et al.*, 2010, Luo and Bhattacharya, 2006, Judge and Douglas, 1998) on marketing and management studies note that performance dimensions can be identified in terms of financial (economic) outcomes and product/market performance as well as customer satisfaction. Meanwhile, numerous studies (e.g. Drumwright, 1994, Banerjee *et al.*, 1995, Menon *et al.*, 1999, Banerjee *et al.*, 2003, Maignan and Ferrell, 2004, Baker and Sinkula, 2005, Pujari, 2006, Fraj-Andrés *et al.*, 2009, Leonidou *et al.*, 2013a) in the fields of marketing and management support that the implementation of green marketing strategies

and practices (e.g. green distribution policies, design and development of new products, green advertising and communication) could enhance companies' financial outcomes and product/market performance.

Likewise, on the basis of the development of GMC companies may aim towards an improvement of business performance outcomes. Due to the fact that GMC is concerned with environmentally-friendly marketing practices, its main purpose is to not only conserve the natural environment by reducing a negative impact on the environment but also sustain financial and product/market performance for companies (Leonidou *et al*., 2013a; Morgan *et al*, 2012). Accordingly, the adoption and implementation of GMC could be able to increase companies' economic outcomes (profitability) and product/market effectiveness (e.g. Menguc *et al*., 2010, Luo and Bhattacharya, 2006, Judge and Douglas, 1998) as an end a result.

Next, the following sections discuss another two concepts i.e. 'green competitive advantage' (section 2.7.1) and 'overall performance' (section 2.7.2).

### 2.7.1 Defining Green Competitive Advantage (GCA)

Having discussed the outcomes of an organisation's performance in the previous section, this section aims to define a 'green competitive advantage'. Specifically, this study focuses on whether or not the perception of green-based competitive advantage and superior performance can be achieved by companies who develop and implement GMC. With this in mind, the author posits the notion of 'green competitive advantage' (GCA) as:

> *"A perception of green-based advantageous competitive positioning that could be gained by companies from the implementation of GMC" (Author).*

As stated earlier, a competitive advantageous position could be attained by a company who develop and implement GMC. The implications of which would imply: a significant saving of costs, environmental improvement and a differentiation of product/service. (Leonidou *et*

*al*, 2013). Other benefits (concerning the aspects of competitive advantage by adopting green marketing strategies) can also be found in terms of improving waste management and energy saving processes through the operational development, as well as the differentiation of products to be recyclable materials (Porter and van der Linde, 1995, Leonidou *et al*., 2013c, Chang, 2011). In addition, through an exploitation of organisation's resources (in terms of tangible and intangible) on the basis of GMC (which is concerned with a constant reconfiguration or reconsolidation among various types of resources within a company's marketing resources and capabilities) could transform existing marketing capabilities into a creation of critical source of competitive advantage (Eisenhardt and Martin, 2000). Owing to its significant implication, GCA could also lead companies to gain a business leader in the green product/market with new eco-friendly technologies (Leonidou *et al*, 2013).

### 2.7.2 Defining Overall Performance

In this study, the 'overall performance' is defined as:

> *"A company's overall performance that constitutes several aspects of product-market and financial outcomes"* (Author).

To be more specific, this study focuses on how companies could achieve performance outcomes by developing and implementing GMC. The overall performance can be viewed in terms of companies' increase in sales margins of green product investment, and growth based on the return on investment (ROI) (Leonidou *et al*., 2013a, Fraj *et al*., 2013, Morgan *et al*., 2012). Moreover, reaching green product investment financial goals is regarded as an important criteria on the basis of the economic performance effectiveness (Morgan *et al*., 2009). By implementing GMC, companies could also be able to satisfy and meet the demands of target green consumers as well as increase consumer bases who are willing to pay higher prices for green products/services (Leonidou *et al*., 2013c).

## 2.8 Review of Competitive Environment

A setting of a competitive environment may reflect how businesses compete in a particular market place. In such competitions, the situation might determine how companies adopt and deploy appropriate marketing strategies to encounter in a particular market environment. However, a lack of competition in the market place may cause companies to rethink the viability of entering an unknown territory. This circumstance could result in fewer product choices on offer in the marketplace (Leonidou *et al*, 2013). In contrast, if the competitive situation is intense, there would be more impetus for businesses to enter the market and give customers a wider choice of products (Leonidou *et al*, 2013). In other words, this situation may stimulate more opportunities for businesses to grow. In the case of a green product/market trend, a competitive pressure may in turn work as a motivator pushing companies towards considering the implementation of green marketing programs in order to be capable to compete more effectively (Leonidou *et al*., 2013a).

### 2.8.1 Defining Competitive Rivalry

According to literature (e.g. Leonidou *et al*, 2013) on marketing, this study adopts the definition of 'competitive rivalry' as:

> *"The degree to which a company faces competition in a specific product market"*
> *(Jaworski and Kohli, 1993, Leonidou et al., 2013c).*

In the context of green product/market competition, competitive rivalry would challenge companies to persistently compete in the marketplace in order to meet the customers' needs and requirements, as well as to outperform other competitors (Auh and Menguc, 2005, Leonidou *et al*., 2013a). Owing to current business competition, it is likely that the competitive environment might have a great influence on companies, or management decision making towards an adoption of green marketing strategies and practices as well as performance (e.g. Leonidou *et al*, 2013; Fraj *et al*, 2013). Bearing this in mind, towards the

adoption and implementation of GMC it is believed that 'competitive rivalry' could also be found as an influential factor, which have an impact on corporate decision making in whether to embark on green product/market competition or not. Hence, this study adopts this notion as another variable which will be used in the empirical analysis for both studies 2 and 3 (chapters 5 and 6).

## 2.9 Chapter Summary

This chapter provides a review of literature that outlines the theoretical foundations of GMC. It starts by reviewing pertinent theories used as literature bases i.e. strategic marketing, the resource-based (RBV) and the marketing resource and capabilities. On the basis of this literature background, the author develops a conceptual model of GMC and its principles. Following on from that, other relevant literature in relation to the study's key concepts are discussed including the strategy research and strategic orientation, the natural-environmental orientation with an application of theory of planned behaviour (TPB) and the organisation's performance as well as the competitive environment. After the review of literature, the definitions of key concepts (major variables) e.g. 'GMC', 'CSP', 'PGB', 'GCA', 'overall performance' and 'competitive rivalry' are postulated. These variables will later be used in both empirical studies 2 and 3.

Next, chapter 3 will present the research design and methodological bases as adopted into the current study.

# CHAPTER 3

# RESEARCH DESIGN AND METHODOLOGICAL BASES FOR DATA ANALYSIS

## 3.1 Overview of the Chapter

The main objectives of this chapter are to describe the research design of the present study and determine the most appropriate research paradigm and methodological bases used for data collection and analytical purposes. This chapter begins with a discussion about the research design (section 3.2, and 3.2.1) and research paradigm (section 3.2.2) with quantitative approach and cross-sectional study (section 3.2.3). It also describes the data collection process (section 3.3), sampling (section 3.3.1) and a survey method (section 3.3.2) with a mail-survey approach (section 3.3.2.1). Later, it continues to discuss the theoretical and methodological bases used for data analysis purposes (section 3.4), including a taxonomic approach (section 3.4.1), a clustering analysis (section 3.4.2) and a configuration theory (section 3.4.3). Finally, it presents the chapter summary (section 3.5).

## 3.2 Research Design

### 3.2.1 Research Design of the Entire Study

This section introduces the research design of the entire study. The research design is concerned with the sequential steps that deal with *what the research questions are*, *what data is relevant*, *what data is to be collected* and *how to analyze* the data (Yin, 1994). The whole process of research design is to link the empirical study to the primary research questions and eventually to draw upon its conclusions. Owing to its importance, the research design represents a set of guidelines that connect all logical steps starting from the purpose of the study, research strategies (philosophical position/paradigm), methods, analysis, evaluation, ethics and outcomes.

This seven-stage study is adapted from Denscombe (2010, p. 111) (see table 3.1). At first, the purpose or aim of this study is to conduct an explanatory research design (or a theory testing basis). Second, this study takes an in-depth look at the research strategy and research paradigm which is based on an epistemological position of a positivist worldview. Third, the research method is followed through by a quantitative approach with a cross-sectional study. Fourth, data analysis is based on several methodological approaches e.g. theoretical review, taxonomic inquiry, clustering analysis and configuration theory. Fifth, the evaluation of data is concerned with several process of validity checks and analytical techniques. Sixth, the ethical issue is concerned with the confidentiality and an anonymity of the respondents. Finally, the outcomes of the research can be used as advisory guidelines for business practitioners as well as advanced research knowledge for academic researchers.

**Table 3.1 Research Design and Presentation of the Entire Study**

| Steps | Problems | Research Design | Presentation |
|---|---|---|---|
| 1. **Purpose and Aims** | • What is the research trying to achieve?<br>• Research aim | ➢ Explanatory research<br><br>➢ To conduct an empirical study | Chapter 1 |
| 2. **Strategy and Philosophy** | • What are the underlying assumptions?<br>• Which approach will best meet the aims of the research? | ➢ On the basis of a positivist worldview<br>➢ Theoretical approaches and literature review<br>➢ Quantitative research design with a cross-sectional study | Chapter 2 & 3 |
| 3. **Methods** | • Who/what will be included in the study?<br>• How will the data be collected? | ➢ Methodological bases<br>➢ Sampling (companies' managers and/or their representatives) as target respondents<br>➢ A mail-survey method | Chapter 3 |
| 4. **Analysis** | • How will the data be interpreted? | ➢ To employ multiple methodological approaches e.g. theoretical review, taxonomic approach, clustering analysis, configuration theory, etc. | Chapter 4, 5 & 6 |
| 5. **Evaluation** | • What confidence can we have in the findings? | ➢ Validity and reliability test | Chapter 6 |
| 6. **Ethics** | • How will people rights be protected? | ➢ Protection of confidentiality and anonymity | Chapter 3 |
| 7. **Outcomes** | • What will be the end-products of the project? | ➢ Practical guidelines and advances in knowledge | Chapter 7 & 8 |

Source: adapted from Denscombe (2010, p. 111)

In addition, specifically this research project is constructed by following eight consecutive steps on the basis of a quantitative research process as adapted from Neuman (2006) including: (1) topic selection; (2) review of literature; (3) research design; (4) development of a questionnaire; (5) data collection; (6) data analysis; (7) interpretation of data and (8)

writing-up the thesis. The author illustrates the whole process of this research project (see figure 3.1). Firstly, selecting the topic of interest for this thesis is the starting point. This study focuses on green marketing capabilities (GMC). The research aim is to empirically investigate a multi-dimensional model of GMC, and classify its structures and strategic types. This project is built on the research enquiry to explain what green marketing capabilities are, and how the role of marketing is embedded in marketing resources and capabilities that could enhance companies' performance. Next, the review of literature is largely based upon theoretical foundations in connection with the concept of GMC, and other related literature as theoretical background in relation to the key concepts (e.g. corporate strategic posture, green-perceived behaviour and organisation's performance). As stated earlier, this research is designed to utilise a quantitative approach with a cross-sectional study. The questionnaire is taken and adapted from past studies in the relevant areas of green marketing strategies and practices, as well as marketing capabilities.

Following on from that, the data collection is undertaken through a mail-survey (postal mail) approach by targeting sample levels of managers or equivalent representatives from a diverse range of companies across the industry as a unit of analysis. Then, the data analysis is performed by employing several methodological approaches i.e. taxonomic inquiry, clustering analysis and configuration approach. Afterwards, the results are discussed. Finally, key research findings and implications for both business practitioners and academic researchers are addressed.

**Figure 3.1 Process of the Entire Research Project**

**Processes**

| | |
|---|---|
| 1. Selecting the Topic & Research Question | ➢ To posit the concept of Green Marketing Capabilities (GMC)<br><br>➢ To empirically investigate a multi-dimensional model of GMC and its implications |
| 2. Literature Review | ➢ Strategic marketing<br>➢ Resource-based theory (RBV)<br>➢ Marketing resources and capabilities<br>➢ Other related literature in relation to the key concepts of the study |
| 3. Research Design | ➢ Quantitative Method |
| 4. Development of Questionnaire | ➢ Developing Questionnaire<br>➢ Pre-testing |
| 5. Data Collection | ➢ Mail-survey Approach |
| 6. Data Analysis | ➢ Analysis Methods:<br>o Taxonomic Inquiry (Clustering analysis)<br>o Configuration approach<br>o Software packages (SPSS & STATA) |
| 7. Interpreting Data | ➢ Contributions:<br>o Practical and Theoretical Implications |
| 8. Writing-up Thesis | |

Source: adapted from Neuman (2006)

### 3.2.2    Research Paradigm

*"The abstract contents in philosophy can be linked to concrete research techniques" Neuman (2006, p. 93)*

According to Denscombe (2010), there are three worldviews used to understand the social world which are: *ontology, epistemology* and *paradigm*. These worldviews can be simplified to *what* phenomena should be applied, *how* one is to approach phenomena, and *how* the phenomena are to be analysed (Neuman, 2006). Against this backdrop, the author briefly provides an overview of the philosophical worldviews that matter to *what* and *how* to gain knowledge in reality.

1.  *Ontology.* What can be said to exist. It is concerned with a viewpoint of the researcher to the nature of the world.

2.  *Epistemology.* The study or a theory of the nature and grounds of knowledge especially with reference to its limits and validity. It is concerned with the belief to get the knowledge.

3.  *Paradigm.* This is the proposed framework that links theory to research. It is concerned with basic assumptions, key issues, models of quality research, and methods for seeking answers (Neuman, 2006)

In this study, the research paradigm can be explained by a *post-positivist* worldview. *Post-positivism* in the social sciences is usually characterised by quantitative approaches or scientific methods in order to obtain knowledge (Denscombe, 2002). Based on this view, it deals with several aspects: (1) a singular reality (the ontology) i.e. research hypotheses and whether or not to accept or reject hypotheses; (2) the researchers objective (the epistemology) i.e. objectively collect data based on instruments; (3) a deductive research process (the methodology) i.e. test on *a priori* theory. Accordingly, this research project employs a quantitative approach in an attempt is to gain knowledge through the following

bases i.e. determinism (cause and effect), reductionism (narrow and focus on particular set of variables), observation (measurable variables) and theory testing (Slife, 1995). Subsequently, this study provides a brief summary of the philosophical position (see Table 3.2).

**Table 3.2 Philosophical Position of the Present Study**

| **Philosophical worldviews** | **Post-positivism** |
|---|---|
| Ontology | Singular reality |
| Epistemology | Distance and objective |
| Methodology | Deductive |

Source: Adapted from Neuman (2006)

### 3.2.3   Quantitative Approach and Cross-Sectional Study

In principle, a quantitative research tends to be associated with *realist ontology* and a *positivist epistemology* (Descombe, 2010). It deals with a basic belief of the required data or in a form of numbers. The focus is on the measurement of external realities emphasising *'the way that the world shapes people'* (Descombe, 2010). In other words, it aims to determine human activity through scientific research by utilising numerical data that considers the notion of science. Specifically, the quantitative data requires a test of hypothesis or hypotheses. With this approach, the measurement scales must be validated prior to running data analysis. (The details of measurement development can be found in section 6.3 of chapter 6).

Moreover, the quantitative data can be represented and viewed in surveys that involve actual samples. Strictly speaking, it is concerned with the probability of samples by employing statistical methods to generalise beyond the sample with a known probability to generalizability (Della Porta and Keating, 2008). Both cross-sectional and longitudinal studies are used in surveys. The cross-sectional study is the idea to measure some variables

at a single time, while longitudinal design (or multiple cross-sectional research) is the idea that used in measuring samples for a period of time (Bernard, 2012). Nevertheless, the choice of study depends upon the researchers' objectives.

Having taken in to account the aforementioned, this study uses the method of quantitative data with a cross-sectional study, due to a limited timeframe. With this aim in mind, it is to address its generalizability through the expected results. Nonetheless, there are some differences on the basis of quantitative and qualitative research methods in accordance with the goals of a particular study. The author summarises the differences between a quantitative and qualitative approach (see below, table 3.3). Next, the following section discusses about a data collection process.

**Table 3.3 Comparison between Quantitative vs Qualitative Research Methods**

| Goals | Quantitative method | Qualitative method |
|---|---|---|
| Objects of measurement | • Objective facts (verifiability) | • Construct social reality, cultural meaning |
| Methods of measurement | • Empirical study | • Interpretive text studies, grounded theory |
| Focus | • Variables | • Interactive processes, events |
| Main point of the research | • Reliability | • Authenticity |
| Theory and data | • Theory and data are separate | • Theory and date are blended |
| Context | • Independent context | • Situational constrained |
| Expected number of case | • Many cases | • Few cases |
| Analysis method | • Statistical analysis | • Thematic analysis |
| Relations between researcher and the object of research | • Researcher is detached from the object of research | • Researcher is mainly engaged with the object of research |
| Building of hypothesis | • Hypothesis testing | • Capturing meaning of data |
| Concepts | • In a form of different variables | • In a form of themes |
| Data | • In a form of numbers with precise measurement | • In a form of words and images drawn from observations and transcripts |
| Theory | • Largely causal and deductive | • Can be causal or non-causal and inductive |
| Procedures | • Procedure is standard, and replication is frequent | • Procedure is in particular, and replication is uncommon |
| Analysis result expression | • Utilising statistics, tables, grasps, charts, and discussions to relate hypothesised testing | • Proceed with extracting themes or generalise from evidence with consistent data |

Source: adapted from Neuman (2006, p. 13, 157)

### 3.3 Data Collection

Building on a quantitative research method, the data collection has been undertaken by selecting the targeted population, the sampling frame and the unit of analysis. The population of this study is concerned with companies represented by management level executives (e.g. CEOs, managing director and managers) from various industry types and organisation's sizes. Generally it was believed that the target participants are at a level of management that requires them to possess an adequate understanding of corporate policy and strategy to be able to disseminate and implement across their organisations (Leonidou *et al*, 2013).

### 3.3.1   Populations, Sampling and Unit of Analysis

To be more precise, the population of this study are companies with ranging industrial classifications whose names were obtained through a database from the Industry Authority of Thailand in autumn 2013. The benefits of using this database is a list of names and classifications with their contact details. Owing to its variety, this database provides a mixture of company sizes and types of industries which allows the author to capture the 'wholeness' and the state of the companies within different industrial sectors. With this in mind, our sampling can be drawn from a probabilistic representation of larger populations of Thailand's industrial sector.

In the sampling procedure, the author randomly selected companies from the database with their contact details. The following steps were undertaken in order to obtain data. At first, companies were contacted via telephone and managers were asked for permission to enable them to participate in this research project. Next, invitation letters outlining the research purpose, including the survey details as well as important information, were provided to the respondents (e.g. their answers would be treated confidentially and not to be used for any commercial purpose). In order to ensure an appropriate level of knowledge in regard to the

marketing and the organisation's strategies, the unit of analysis is considered at the level of corporate management executives or managers (i.e. top management executives/CEOs, marketing manager, financial manager, operations manager, sales managers) as target respondents which is suggested by past research in marketing (e.g. Leonidou *et al*, 2013a & 2013b).

### 3.3.1.1 Characteristics of Sample

Having discussed the sampling and unit of analysis in the previous section, this section provides details about the characteristics of the samples. The total number of validated samples are equal to120 (N = 120). Notwithstanding, the study has followed through some steps (techniques) of data cleaning and detecting of outliers (by removing the extreme samples). More details of this particular process on the basis of general data issues are discussed in chapter 6, section 6.2.3. With this process, the author reports the characteristics of samples as follow.

Table 3.4 contains the characteristics of samples (companies) across a diverse range of industries. There are a wide range of industry representations in the samples, ranging from food and beverage 10%; chemicals 11.7%; wood/furniture/households 16.7%; electrical 13.3%; consumer goods 2.5%; garment 0.8%; steel/metals 2.5%; and others 42.5%.

Table 3.5 shows the respondents' positions within the managerial structure of a company, ranging from top management, i.e. CEO/MD which accounted for 16.7%; finance managers 3.3%; marketing managers 12.5%; operations managers 20%; sales managers 4.2% and others (relevant to management level) 43.3%.

In addition, table 3.6 displays the sizes of companies as well as their operational life (numbers of years) which ranges from 0 – 5 years accounted for 6.7%, 6 – 10 years 6.7%, 11 – 15 years 4.2%, 16 – 20 years 7.5%, and >20 years 75%. In the same table, the

company's sizes (numbers of employees) are ranging from less than 10 employees 7.5%, <15 employees 15%, <250 employees 15.8% and from 250 employees or more 61.7%.

According to the characteristics of the samples, it is noticeable that the largest proportion of respondents (with the highest percentage) fall in the category of 'others' in both tables 3.4 and 3.5. Based on the author's observation, it is assumed that those participants tend to be represented by other departmental management levels and companies from other industry types aside from the provided choices in the questionnaire. These observed use of 'others' would indicate a wider representation of samples across industries in Thailand.

**Table 3.4. Characteristics of Samples (Companies)** *(n = 120)*

**Industry types**

| | |
|---|---|
| Food &Beverage | 10.0% |
| Consumer goods | 2.5% |
| Garment | 0.8% |
| Chemicals | 11.7% |
| Steel/Metals | 2.5% |
| Wood/Furniture/Households | 16.7% |
| Electrical | 13.3% |
| Others | 42.5% |

Source: Author

**Table 3.5 Positions of Respondents**

| | |
|---|---|
| CEO/MD | 16.7% |
| Finance manager | 3.3% |
| Marketing manager | 12.5% |
| Operations manager | 20.0% |
| Sales manager | 4.2% |
| Others | 43.3% |

Source: Author

**Table 3.6 Sizes of Companies and Number of Operational Years of the Business**

| Company's age (Number of years) | | Company's size (Number of employees) | |
|---|---|---|---|
| 0 – 5 | 6.7% | <10 | 7.5% |
| 6 – 10 | 6.7% | <50 | 15.0% |
| 11 – 15 | 4.2% | <250 | 15.8% |
| 16 – 20 | 7.5% | 250 or more | 61.7% |
| >20 | 75% | | |

Source: Author

### 3.3.2    Survey Method

Survey research is a technique predominantly employed in social science data collection (Neuman, 2006). The benefits of surveys are evident when researchers aim to involve a large scale sampling through a series of questions (Malhotra, 2008). The survey approach can be related to four methods for collecting questionnaire data: (1) personal, face-to-face interviews; (2) self-administered questionnaires; (3) telephone interviews; and (4) web-based interviewed (also known as internet-based interviews or online interviews (Bernard, 2012). In fact, each method has its own advantages and disadvantages. The choice of method is dependent upon the nature of the questions and the researcher's judgment on the basis of cost and convenience. Specifically, this study deploys a self-administered questionnaire method for data collection.

In addition, according to Neuman (2006), there are many categories or areas that can be questioned in a survey, including: (1) behaviour; (2) attitudes/beliefs/opinions; (3) characteristics; (4) expectations; (5) self-classification; and (6) knowledge. Due to the fact that surveys generate information, the benefit of survey research seems to provide evidence through statistical power of analyses. Owing to its importance, this method is generally used for exploratory, descriptive or explanatory research (2006). Based on the above logic, this

study adopts a survey method and follows through the steps by conducting a survey as adapted from Neuman (2006) (see below, figure 3.2).

The survey process (see figure 3.2) is briefly explained as follows. In step 1: prior to conducting a piece of research, the questionnaire survey must be developed and the style of the survey must be deemed appropriate. During this stage, a *pre-testing* has been conducted with seven managers (selected from the representatives of the samples). The purpose of *pre-testing* is to verify and ensure the appropriateness of the questions asked. In this study, the only *pre-testing* process was undertaken by a face-to-face interview with the participants. This approach allowed the author to check and assure that all content throughout the questionnaire were comprehensible.

Originally this study's questionnaire was printed in English, and was later translated into Thai. In this case, the technique of *back-translation* was used (Bernard, 2012) in order to check the correctness of its meanings before starting the survey as suggested by Leonidou *et al* (2013). Next, in step 2 is the plan on how to record the data and to decide on the target population; step 3 is sampling and then sample sizing is followed up. Combining step 2 with step 3, gives the study plan for collecting data through a questionnaire survey by accessing the database from the authority of industry of Thailand. After having randomly selected sampling, the author sent out a large number of questionnaires (approximate 850 questionnaire sets) in order to get an appropriate sample size in return.

In step 4 the author keeps the collected data in a safe place. During this stage, the author also followed up the questionnaire with a phone call to the represented companies in order to check the validity of their responses. In step 5, after collecting all the data, when all the questionnaires were returned, the author put each questionnaire through an initial data screening process before starting to key-in the data into a SPSS software package. Lastly, in step 6, once the data was analysed and evaluated, the findings had been reported. In this

study, it employs multiple methodological analyses with different techniques (see section 3.4 for more details). Afterwards, the findings were presented and discussed at the final stage.

**Figure 3.2 Steps in Conducting a Survey**

**Step 1:**
- Develop hypotheses
- Decide on type of survey (self-administrated questionnaire with a mail-survey approach)
- Decide on response categories
- Pre-testing (with face-to-face interview)

**Step 2:**
- Plan how to record data
- Decide on target population

**Step 3:**
- Get sampling frame
- Decide on sample size
- Select sample

**Step 4:**
- Locate respondents
- Carefully record data

**Step 5:**
- Enter data into computers (software package: SPSS)
- Recheck all data
- Perform statistical analysis on data

**Step 6:**
- Describe methods and findings in research report
- Present findings to others for critique and evaluation

Source: adapted from Neuman (2006, p. 320)

### 3.3.2.1 A Mail Survey Approach

Having explained the survey method in the previous section, this study was carried out by employing a (postal) mail-survey approach. Based on both academic and business research, a mail-survey approach is considered as one of many popular research methods (Greer *et al.*, 2000). This method provides various advantages and critical techniques for industrial researchers with a relatively low expenditure. Owing to its advantages, the researchers would be able to gain a large amount of information from a large sample size whilst keeping anonymity and confidentiality of the target respondents. In addition, a large body of research was successfully undertaken by employing a mail survey with an alternative design i.e. Dillman (1991)'s survey design (Diamantopoulos and Schlegelmilch, 1996).

According to Dillman (1991, p. 226), there are two principle reasons with regard to a wide acceptance of a mail survey approach which are: First, the cost is much lower for conducting a piece of research. Second, procedures for mail surveys are often considered simple enough that individuals and organizations are able to carry out their own study rather than relying upon other research organisations. This method is also widely implemented by diverse groups such as professors (universities), graduate students, government, schools, and businesses as well as the national survey.

In this study, the author adopts the guidelines for industrial mail survey design and implementation as suggested by Dillman (1991). In order to improve the mail survey method and overcome critical sources of error issues and reduce non-response, Dillman (1991) suggests the 'Total Design Method' (TDM). Meanwhile Dillman (1991) points out that this approach could guide the careful integration of specific procedures and techniques which are found necessary for both qualitative and quantitative assessments. In addition, three design considerations upon the questionnaire development and survey implementation process (Dillman 1991, p. 233) are suggested as follows. First, the reduction of perceived

costs: to make the questionnaire appear easier and less time-consuming to complete. Second, increasing perceived rewards: to make the questionnaire itself interesting to fill out by adding interest-getting questions. Lastly, increasing trust: the use of official stationery and sponsorship combined with promised rewards of recognition for target respondents (Dillman, 1978, Dillman, 1983).

Drawing on the insights into industrial mail survey and marketing research e.g. Greer, Chuchinprakarn and Seshadri (2000); Diamantopoulos and Schlegelmilch (1996); Cobanoglu, Warde and Moreo (2001), this study adapts the procedure of mail survey and implementation from Diamantopoulos and Schlegelmilch (1996, p. 527) (see below, table 3.7). This process can be briefly described as follows. First, the author had an approval letter from the university to conduct a PhD research as a survey sponsorship. Second, a covering letter was issued in order to provide information about the research project to be sent out to target respondents. Third, prior to sending out questionnaires the author contacted target respondents via the phone in order to inform them about the objectives of the mail survey as well as to ask for the managers' permission to participate. Fourth, a clear statement of being anonymous and confidential for all responses was explicit in the covering letter. Fifth, the author pre-notified target respondents through a phone call before sending out the questionnaire. Lastly, a self-addressed envelope was included in the questionnaire packet for the respondents to return. In this study, approximately 850 questionnaire packets were dispatched. The survey process lasted for 8 months (between November 2013 and June 2014).

**Table 3.7 Guidelines for Mail Survey Design and Implementation as Adopted into this Study**

| Guidelines | Procedures | The author's conducts |
|---|---|---|
| **Survey sponsorship** | • Having study approved by an organisation valued by the respondents | ➢ University of East Anglia approved letter |
| **Cover letter** | • Personalising the cover letter by having it individually typed and signed, personally addressed to respondent and stating the researchers' job | ➢ Covering letter issued by the University for a PhD research purpose |
| **Questionnaire** | • Requesting information of personal interest of respondent, preferably easily accessible and not of a confidential/controversial/ sensitive nature | ➢ Contacting the target respondents in order to inform about the objectives/purposes of this research; and ask for participation |
| **Anonymity / Confidentiality** | • Providing assurances that anonymity/confidentiality will be maintained | ➢ A clear statement of anonymity and confidentiality is provided in the covering letter based on the purpose of this research |
| **Contacts** | • Pre-notifying the respondent by telephone | ➢ Contacting target respondents via phone calls before sending the survey pack |
| **Postage** | • Providing a stamped addressed return envelope | ➢ Including returning envelopes in the survey package |

Source: adapted from Diamantopoulos and Schlegelmilch (1996, p. 527)

In total, the author received a gross number of 158 survey-questionnaires returned before the data screening process. The respondent rate was 18.5 % of the total sent questionnaires However, after performing data screening the total number of usable questionnaires was 120 (N = 120). With regard to the sample size issue, past empirical studies with the sample sizes of 113 and 110 respectively (i.e. Talke and Hultink, 2010; Bergeron *et al*, 2004) had sufficient evidence to perform an adequate statistical analysis for their research. Given the

above information, it is believed that by utilising appropriate analytical methods this study could be able to overcome the effect of sample-size sensitivity on the empirical data. In particular, this study follows the guidelines of strategy research and performs a measurement model in order to validate all the adopted constructs before undertaking multiple analysis methods (e.g. a taxonomic inquiry with clustering analysis and a configuration approach with a regression model) (Homburg *et al*, 2008). With this process, accordingly, the empirical data has remained testable with significant results without any serious concerns of the sample size received (based on the empirical findings of both sub-studies: 2 and 3 which have meaningfully witnessed throughout).

Next, the following sections discuss the three main methodological bases i.e. a taxonomic approach (section 3.4.1), a clustering analysis (section 3.4.2) and a configuration method (section 3.4.3).

### 3.4 Methodological Bases for Data Analysis

This section aims to articulate the main methodological bases that are adopted for data analysis purposes of the entire study. The three methodological approaches are: a) taxonomic approach, b) clustering analysis and c) configuration theory. Based on the research purpose of this study, it is to empirically investigate some multi-dimensional models of GMC through the classification of GMC-structures and the strategic types, as well as strategic implications through a configuration approach. With this aim in mind, it is necessary to understand the essence of three methodological bases that are being used with different objectives in order to obtain the expected outcomes.

In this thesis, the author demonstrates an overview of how three empirical sub-studies: 1, 2 and 3 are linked by the sequential steps based on the adopted methodological approaches. According to figure 3.3 (see below), the main methodological approaches are designated and used in different empirical-studies 1, 2 and 3. The empirical-study 1 (chapter 2 and 4)

refers to the research objective 1. This study posits a conceptual model of GMC (step 1) and classifies its structures on the basis of theoretical approach (step 2). In addition, study-1 (chapter 4) also utilises a classificatory scheme through an empirical taxonomic approach with a clustering analysis (step 3 refers to research objective 2). With this particular methodology, a classification of GMC-strategic types on the basis of GMC-structures is derived from a data reduction technique (numerical classification).

Next, empirical-study 2 (chapters 5, 6) refers to the research objective 3. This study utilises a configuration approach (step 4) in order to examine the configuration model of fit among multiple variables i.e. GMC-strategic types, PGB, CSP and performance. After that, empirical-study 3 (chapters 5, 6) refers to the research objectives 4, 5 and 6. This framework employs several analysis techniques i.e. configuration approach (research objective 4: step 4), the mediating effect and the causal influence (research objectives 5 and 6: step 5). To be more specific, both empirical-study 2 and 3 are developed and tested on the basis of hypothesised relationships as presented in chapter 5 (research framework and hypothesis) and chapter 6 (data analysis and results).

**Figure 3.3 Illustration of Methodological Approaches of the Entire Study**

| | | |
|---|---|---|
| **RO #1 (Study-1)**<br>**Step 1: A Conceptually-**<br>**Derived Model of**<br>**'GMC'**<br>**Step 2: A Classification of**<br>**GMC-Structures**<br>(Four Components)<br>➢ **Theoretical Approach** | The Conceptual Model of 'GMC' | **Chapter 2** |
| | ⬇ **Chapter 4** | |
| | Pre-GMC ◦ Info-driven GMC ◦ Product-driven GMC ◦ Synergistic GMC | |
| **RO #2 (Study-1)**<br><br>**Step 3: Empirical**<br>**Taxonomy**<br>(Data Reduction)<br><br>➢ **Clustering Analysis**<br> • Hierarchical clustering<br> • Non-hierarchical clustering | **GMC-Strategic Types** | **Chapter 4** |
| | GMC-Prospector ◦ GMC-Analyzer ◦ GMC-Defender | |
| **RO #3 (Study-2)**<br>**RO #4 (Study-3)**<br>**Step 4: Configuration Approach**<br>➢ **Hierarchical Regression Models** | **RO #3**<br>H1 – H3<br>(Study-2)    **RO # 4**<br>H4 – H6<br>(Study-3) | **Chapter 5, 6** |
| **RO #5 and 6**<br>**Step 5: Causal Influences**<br><br>➢ **The mediating influence** (SEM model)<br>➢ **The direct influence** (SEM model) | **RO #5:** H7<br>**RO #6:** H8<br>(Study-3) | **Chapter 5, 6** |

Source: Author

71

### 3.4.1 Taxonomic Approach

*"Taxonomic inquiry is emerging as an important type of research in the field of strategy" Hambrick (1984, p. 27)*

To the best of the author's knowledge, the originality of taxonomic inquiry stems from the field of strategy research by Miller and Friesen (1978). Taxonomy as based on a classification is also critical to the study of organisational strategies (Hambrick, 1984). On the basis of this classification, it is necessary to understand two different approaches including: taxonomies and typologies which are discussed as follow.

Due to the advantages and potentials of a classification, taxonomies and typologies have received attention among past research scholars in the strategy as well as organisation studies (e.g. McKelvey, 1975, Miles *et al.*, 1978, Miller and Friesen, 1978, Porter, 1980). The classification approach is also widely used to examine and quantify data into archetypes (e.g. strategic content and strategic process) on the basis of a study phenomenon across disciplinary research (e.g. organisation, strategic management and marketing strategy) (McDaniel and Kolari, 1987, Speed, 1993, Morrison and Roth, 1994, Ketchen and Shook, 1996). Hambrick (1984: p. 28) defines *taxonomy* as "a method that is numerical derived"; whereas, *typologies* are demonstrated in ways that researchers attempt to make sense out of non-numerical observations. In addition, the term *taxonomy* is also known as an *empirically-derived scheme* or *empirically-derived hierarchical system* based on numerical defined data (e.g. McKelvey, 1982, Sneath and Sokal, 1973, Rich, 1992). This approach can be drawn from inductive thinking to numerical taxonomy or quantitative method (Hambrick, 1984, Bunn, 1993). The term *typology* is concerned with a *conceptually-derived scheme* (Miles et al., 1978, Porter, 1980). This approach represents an effort to which researchers aim to make sense and make use of a non-quantified method. To be more precise, *typology* involves several different procedures in which considers a deductive method of classification or named as *logical partitioning* to *conceptually-derived typologies* (Rich, 1992).

Moreover, the implication of taxonomy/classification can reflect a multi-dimension of the strategy study. For instance, Hambrick (1984) sets out the classifications of an organisation as follows: business level, strategic process and managerial behaviour, he clearly defines these profiles within the study phenomenon. Furthermore, the implication of typologies is well-known based on Miles and Snow (1978)'s four typologies (defenders, analyzers, prospectors and reactors), and Porter (1980)'s strategic marketing (cost-leadership, differentiation and focus) which stems from a systematic empirical observation. Thus, both taxonomy and typology greatly contribute to strategy research, and still remains popular across the management disciplinary research.

Besides, the idea of classification is built on the insights into what should be classified and what classification process should be needed. Bearing this in mind, this study provides an overview of classification process as illustrated in figure 3.4. The classification process is adopted from Rich (1992) which can be divided into three major schemes including: traditional, theoretical and empirical classification. The typologies and taxonomies are clearly represented in two distinctive approaches of classification. While typologies are employed by means of both traditional and theoretical classifications to derive nominal definition, the taxonomies are based on both theoretical and empirical classifications that derive numerical taxonomy. Next, figure 3.4 depicts an overview of the classification process as suggested by Rich (1992) as below.

**Figure 3.4 Overview of the Classification Schemes**
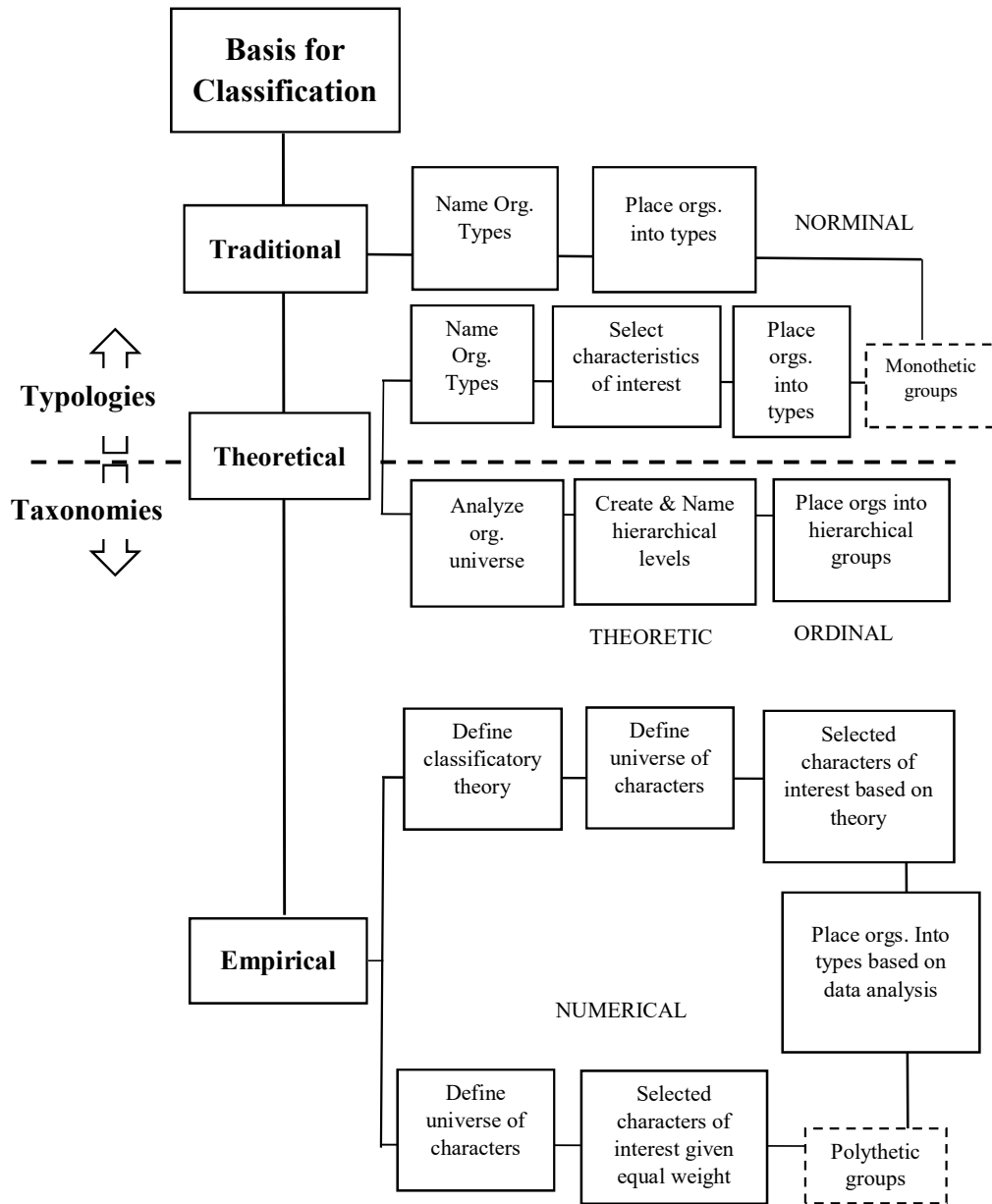


Source: adopted from Rich (1992, p. 766)

Having discussed the classification schemes including taxonomy and typologies earlier, the robust past studies in relation to strategy and organisation research also provide substantial insights for this study to follow the ideas and some guidelines. Accordingly, the author summarises the review of classification schemes from past studies in the area of strategy and organisation research as shown in table 3.8 below.

**Table 3.8 Review of Classification Schemes Used in the Strategy and Organisational Studies (As Guidelines)**

| Authors / Year | Focus | Outputs | Methods |
|---|---|---|---|
| McKelvey (1975) | Classification of organisation | Guidelines of organisational classification | Empirical-derived |
| Miles, Snow and Meyer (1978) | Organisation strategy, structure and process | Strategic typologies | Conceptually-derived typologies |
| Miller and Friesen (1978) | Archetypes of strategy formulation | Archetypes of organisational strategy makings | Empirical-derived |
| Porter (1980) | Generic competitive strategy | Competitive strategic typologies | Conceptually-derived |
| Hambrick (1984) | Taxonomic approaches in strategy research | Treatments and techniques for numerical classification | Recommendations for empirical study |
| Rich (1992) | Organisational typologies/classifications | Classification processes and hierarchical taxonomy of organisation types | Recommendations for empirical study |

Source: Author

In addition, Rich (1992) suggests the essence of classification process which follows through seven principles (or requirements) (See figure 3.5 as below).

**Figure 3.5 Classification Principles (The Requirements)**

| Principle | Description |
|---|---|
| 1. Breadth | ➢ Classification must be defined as either a typology or a taxonomy |
| 2. Meaning | ➢ Building on philosophical foundation, classification of groups must provide meaning in a broad social context |
| 3. Depth | ➢ Through multivariate analysis would provide a polythetic system to meet the requirement of depth |
| 4. Theory | ➢ Theoretical background must serve as powerful guide for considering both the breadth and depth of the system |
| 5. Quantitative Measurement | ➢ Numerical procedures should serve and support the modification of the theoretical basis of the classification |
| 6. Completeness And Logic | ➢ The classification must be detail-oriented and comprehensive to its inclusion of organisations and types |
| 7. Recognisability | ➢ The classification system must mirror the real world as well as reflect the complex environment |

Source: Adopted from Rich (1992, p. 776 – 777)

According to figure 3.5, it starts by defining the breadth. It means that the classification system must be defined as either a typology or a taxonomy in order to match the process through character selection and the creation of type in which taxa are grouped. Next, the meaning is of importance, in other words, the emerging classifications or groups must be named and provided with meaningful definitions. After that, the depth, this is where a multivariate analysis is needed in order to provide a polythetic system of classification. Later, theory must be served as a powerful guide for determining both the breadth and depth

of the system. Then, a quantitative measurement must be undertaken through numerical procedures in order to derive a specific classification, which is grounded in both quantitative and theoretical (qualitative) bases. Afterwards, the classification must be comprehensive and detail-oriented with completeness and logic. Lastly, the recognisability of classification must stand in the real world as well as being practical for business practitioners and academic researchers.

As discussed above, the requirements for the classification process suggested by Rich (1992) (which are equipped with the insights into taxonomies and typologies through the classification scheme), have been adopted and fully utilised. Given the primary purpose of the present study, it is to postulate a conceptualization of green marketing capabilities or GMC. What should be classified in this study is the conceptual model of GMC. Next, the researcher further investigates a breadth and depth or multi-dimensional models of GMC by employing a classificatory approach based on a theoretical classification and an empirical taxonomy (which involves clustering analysis) in order to gain in-depth insights into the GMC structures and the strategic types.

To be consistent with the robust process, the author also develops an empirical taxonomy as adapted from Bunn (1993, p. 40) with a clustering analysis (see below, figure 3.6).

**Figure 3.6 Development of an Empirical Taxonomy of the Present Study**

| **Steps** | **Methods** |
|---|---|
| 1. Specification | • Review of theoretical literature |
| 2. Measure Development | • Assess psychometrics properties<br>• Perform item purification<br>• Compute scales scores |
| 3. Cluster Analysis | • Perform initial cluster analysis<br>• Select number of clusters<br>• Apply purification procedure |
| 4. Interpret Cluster Solution | • Describe cluster membership<br>• Compute means for clustering variables |
| 5. Relate Cluster Membership to Situational Characteristics | • Perform discriminant analysis<br>• Compute means for criterion variables |
| 6. Describe Categories | • Test for differences among means<br>• Create summary table |

Source: adopted from (Bunn, 1993: page 40)

According to figure 3.6, the details of Bunn's development of empirical taxonomy are suggested as follows. An empirical taxonomy is developed in order to get an appropriate and adequate numerical taxonomy through the following steps: First, the conceptual scheme is used to specify different dimensions or principles of GMC based on review of pertinent literature (on the basis of theoretical literature as discussed in chapter 2). This procedure is called deductive method of classification to logical partitioning of the conceptual model of GMC. Next, an assessment on the psychometric properties is performed in order to purify the measurement tools. To be consistent with a taxonomic inquiry through empirical data, a clustering analysis is further employed in order to derive meaningful cluster descriptions. In this study, the first thing to do is to explain what is GMC, how it is conceptualised, what are the principles of GMC and the classifications of GMC-structures and strategic types.

Thus, a combined process of both theoretical-derived and numerical-taxonomic procedures is considered as appropriate methodology for empirical investigation of GMC in this thesis.

Moreover, this study bases the insights into a framework of multi-tiered taxonomy building as adapted from Hambrick (1984, p. 30) (See below, figure 3.7). According to Hambrick (1984), there are four tiers of taxonomy building for all businesses including 1) environment, 2) position, 3) strategic choices and, 4) structure/process. Building upon the framework of Hambrick (1984), this study develops an investigation on a two-tiered taxonomy building in the level of structure/process and strategic choices of all businesses. In light of the classification schemes, the multi-dimensional models of GMC (GMC-structures and strategic types) are derived from both theoretical approach and empirical taxonomy. To be more specific, in this study the taxonomy building can be applied under the GMC setting, therefore the research outputs are anticipated to be applicable to the framework of the GMC-structures and the GMC-strategic types.

**Figure 3.7 Framework of Multititer Taxonomy Building**

Framework for Multitier Taxonomy Building (Hambrick, 1984)

```
                                    ┌─────────────────────┐
                                    │   ALL BUSINESSES    │
                                    └─────────────────────┘
                                              │
                          ┌───────────────────┼───────────────────┐
                          │          Environment                   │
                          ▼                    ▼                    ▼
                    ┌───────────────────────────────────────────────────┐
                    │                  Position                          │
                    ▼           ▼                    ▼           ▼

┌────────────────────┐ ┄ ┄ →    ┌───────────────────────────────────────┐
│ Scope of this Study│          │          Strategic Choices            │
└────────────────────┘          └───────────────────────────────────────┘
          ┊                                    │
          ▼        ┌──────────────┐            ▼
          └──→     │ Three GMC-   │ ═►
   ┌─────────────┐ │ Strategic    │
   │  Research   │ │ Types        │
   │  Outputs    │ └──────────────┘  ┌──────────────────────────────┐
   └─────────────┘                   │         Structures           │
          ┊       ┌──────────────┐   └──────────────────────────────┘
          └──→    │ Four         │ ═►
                  │ Components   │
                  │ of GMC-      │
                  │ Structures   │    ▼       ▼        ▼       ▼
                  └──────────────┘
```
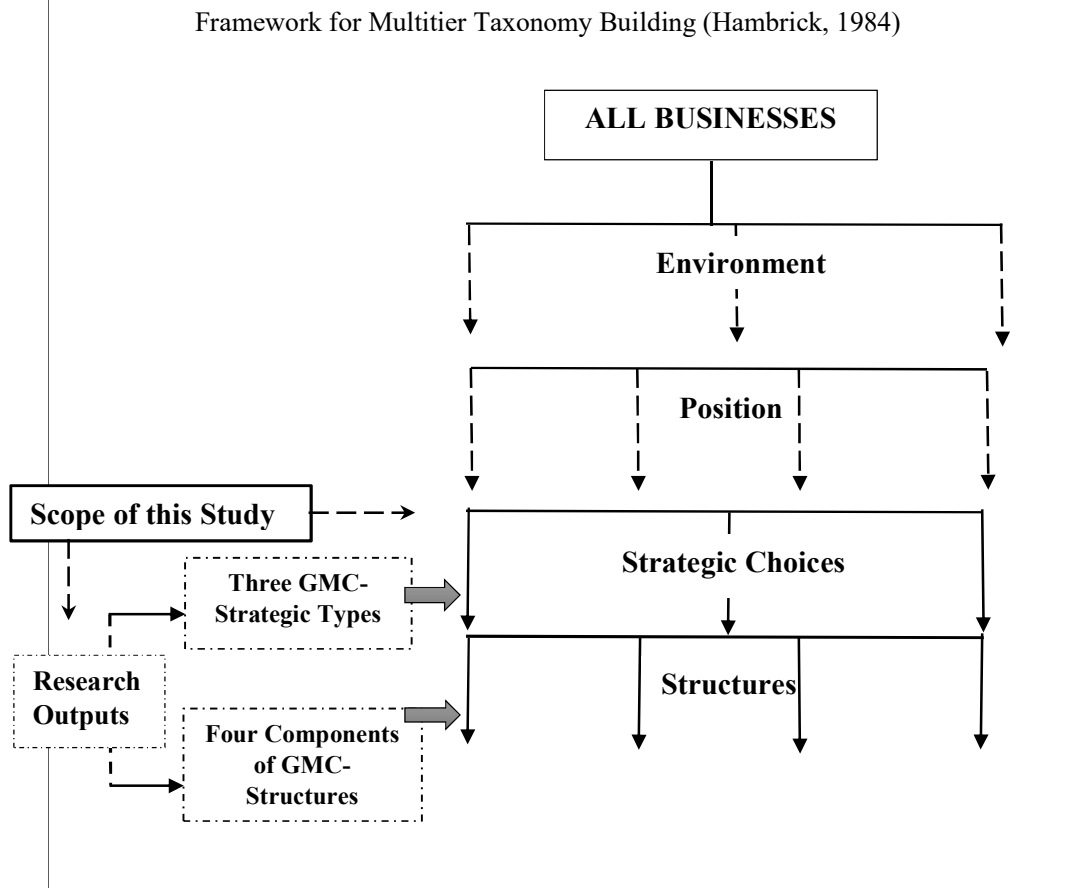
Source: adapted from Hambrick (1984, p. 30)

Furthermore, on the basis of the classificatory schemes (i.e. taxonomy and typology), this study utilises a taxonomic approach with a clustering analysis (a classification scheme that utilises an empirically-derived-hierarchical system) in the empirical sub-study 1 (see chapter 4). At the same time, the author compares different clusters of GMC strategies with the *organization typologies* of Miles and Snow (1978). This was done due to the fact that the Miles and Snow's (1978) conceptual typologies have been widely studied across the fields of strategic management and marketing in relation to product/market for a better understanding of their different organisations' characteristics and performances (e.g. Slater *et al*, 2010 and 2006; Olson *et al*, 2005; Morgan and Strong, 2003). Both approaches also

enable the author to classify the conceptual model of GMC into various GMC-strategic types by naming/labelling them in accordance with the three typologies of Miles and Snow (1978) (This discussion can be found in section 4.3 of chapter 4). In addition to that, the author develops two more research models (of studies 2 and 3) and employs a configuration method (based on a regression model) for the analysis. More discussions can be found in both empirical-studies 2 and 3 (chapters 5 and 6).

To sum up, this study adopts and follows the process of taxonomy based on several robust studies as discussed above. Given the above procedures and guidelines, the author attempts to produce a rigorous piece of research, as well as derive the most meaningful research outputs by developing a taxonomy/classification of GMC. With this in mind, the author summarises the taxonomic/classification approach as adapted into this entire research (see below, figure 3.8).

**Figure 3.8 Overview of Taxonomic Approach as Adapted into This Research**

| | |
|---|---|
| **The Classification Guidelines (Requirements) (7 principles)** | Source: Adopted from Rich (1992) As shown in Figure #3.5 |
| **The Development of Empirical Taxonomy (6 steps)** | Source: Adopted from Bunn (1993) As shown in Figure #3.6 |
| **A Framework of Multi-tiered Taxonomy Building of All Businesses** | Source: Adopted from Hambrick (1984) As shown in Figure #3.7 |

Source: Author

### 3.4.2 Clustering Analysis

According to Hair, Black, Babin, Anderson and Tatham (2006, p. 508), "clustering analysis is a group of multivariate techniques, which aims to group objects based on their close characteristics". This technique is concerned with an exploratory data analysis mechanism and a useful function in data mining process for classifying observed data into meaningful taxonomies, groups or clusters (Halkidi, 2001). It is generally employed to classify objects (e.g. participants, products, brands, companies or other organisms, etc.) by examining high internal (within-group) homogeneity and high external (between-group) heterogeneity based on a user chosen characteristics (Hair *et al*, 2006).

In addition, clustering analysis is a process to partition a data set based on the specific criteria used for clustering (Halkidi, 2001). According to Fayyad, Piatetsky-Shapiro and Smyth (1996), the principal steps to develop clustering process concern the following features: (1) Characteristic selection: the goal is to properly choose the features on which clustering is to be carried out in order to encode as much information as possible based on the assignment of interest. (2) Clustering algorithm: this process refers to the option of algorithm that results in the definition of a good clustering scheme for a data set to consider a proximity measure (similarity) and a clustering criterion (partitioning) that well-fit the data set. (3) Validation of the results: the correctness of clustering algorithm outcomes must be verified using appropriate criteria and techniques. (4) Interpretation of the results: this process is to consolidate the clustering results with other experimental evidence and analysis in order for researchers to draw the right conclusion.

Owing to its specific usefulness, clustering is widely utilised across the field of business and science (Halkidi, 2001). As such, it is used as a major tool in contributing to the following applications: (1) Data reduction: clustering is a technique for data compression which can be used to partition data sets into a number of interesting clusters. (2) Hypothesis generation:

cluster analysis is used in order to infer some hypotheses concerning the data in a particular context. (3) Hypothesis testing: cluster analysis is used for the verification and the validity of a specific hypothesis. In such cases of hypothesis generation and testing, researchers can formulate hypotheses and test by using the cluster results on the basis of cluster differentials. (4) Prediction based on groups: cluster analysis is applied to the data set while the resulting clusters can be classified by the characteristics of the arrangements that group these clusters (summarised from Theodoridis and Koutroubas, 1999).

Armed with the above insights, the author employs a clustering analysis in order to explore a taxonomy (classification) of GMC in accordance with companies' characteristics on the basis of the GMC-structures. To get the most meaningful outcomes, the cluster descriptions are interpreted and compared with the *organization's typologies* of Miles and Snow (1978). As stated earlier, Miles and Snow (1978)'s typologies are widely acceptable and used in the voluminous studies across the fields of strategic management and marketing in relation to product/market for a better understanding of their different organisations' characteristics and performances (e.g. Hughes and Morgan, 2008; Slater *et al*, 2010 and 2006). In light of this comparison, it allows the author to get a meaningful cluster of organisations and applicability to a broader review of literature. Furthermore, this study follows the guidelines of clustering analysis as suggested by Hair and colleagues (2006). (More discussions of the classification schemes can be found in chapter 4: section 4.2 and 4.3; and the details of clustering analysis used in the empirical study-1 can be found in section 4.3.1). Next, this study summarises the cluster analysis process as below (see figure 3.9).

**Figure 3.9 Overview of Cluster Analysis Process**

**Stage 1:** Objectives of Cluster Analysis

- To select the objective(s) of clustering analysis which depends upon the research questions

**Research Problem**

Objectives of Cluster Analysis

- Taxonomy description
- Data simplification
- Relationship identification

**Stage 2:** Research Design in Cluster Analysis

- To consider sample size
- To detect outliers
- To measure the object similarity
- To standardize the data

**Research Design Issues**

- Detecting outliers
- Standardizing the data

**Measuring Similarity**

- Correlational measure
- Distance measure
- Comparison to correlational measures

**Check of Multicollinearity**

**Stage 3:** Assumptions in Cluster Analysis

- Representativeness of the sample
- Impact of multicollinearity

**Stage 4:** Deriving Clusters and Assessing Overall Fit

- To select clustering procedures
- To respecify clusters
- To form clusters

**Selecting a Clustering Algorithm**

- Hierarchical method
- Non-hierarchical method (*k-means*)
- Combination of methods

**Cluster Analysis Respecification**

- Were any observations deleted?
  - Outliers?
  - Members of small clusters?

**Stage 5:** Interpretation of the Clusters

- To examine clusters based on multivariate technique
- To name clusters accurately by describing the nature of the clusters

**Interpreting the Clusters**

- Examining cluster centroids
- Name clusters based on clustering variables

**Stage 6:** Validation and Profiling of the Clusters

- To validate the cluster solution (establish criterion validity)
- To profile the cluster solution

**Validating and Profiling the Clusters**

- Validation with selected outcome variables
- Profiling with additional descriptive variables

Source: adapted from Hair et al (2006)

### 3.4.3   Configuration Theory

*"Configurational thinking allows people to order and make sense out of their worlds by sorting things into discrete and relatively homogeneous groups". Meyer, Tsui and Hinings (1993, p. 1179)*

A configuration approach has been subjected to a considerable amount of research across multiple disciplines such as psychology, behaviour, physiology as well as the management science particularly in organisation's study (Carper and Snizek, 1980; Meyer *et al*, 1993; Mintzberg, 1989), and strategy research (Ketchen and Shook, 1996; Venkatraman, 1989, Miller, 1986). As Miller (1996, p. 506) describes "configurations as a representation of common alignments of components". Dess, Newport and Rasheed (1993, p, 775) define "configuration as the relationship among various *constructs of interest*". While Ketchen, Thomas and Snow (1993, p. 1278) state "configuration is frequently arisen clusters of *attributes of organisational strategies*, *structures* and *processes*". Owing to its effectiveness, the configuration theory is a critical approach to taxonomy, typology and study of organisation's strategies (e.g. Hambrick, 1984, Miller, 1996). As such, these studies have witnessed the importance of the configuration theory in the domain.

In addition, the configuration approach exposes a nonlinearity (variables that are found causally-related in one configuration which may be unrelated or even inversely related in another), a holistic view and an affirmation that takes meaning as a whole (Meyer *et al*, 1993). On the basis of strategy research, the configuration of strategies is concerned with a classification scheme to which exhibits principal cognitive support to strategy researchers that helps classify and bring parsimonious justifications of the study. Accordingly, the concept of 'equifinality' can be created on the basis of the idea that diverse patterns are equally affective (Meyer *et al,* 1993, p. 1178).

Strictly speaking, this study performs a configuration approach in order to capture various patterns among different types of companies, strategic intent and contextual elements (e.g.

GMC-structures and GMC-strategic types). Thus, the assessment of 'fit', 'equifinality' and 'organisational effectiveness' (Doty *et al*, 1993) are evaluated and analysed based on the designated empirical studies 2 and 3 of the entire thesis. Specifically, the *fit* means an investigation of fit among elements in multiple domains which provides a better alignment within the organisation (Dess *et al*, 1993). It can also refer to a confluence of a chosen strategy to the characteristics of an organisational occurrence or contingencies (Venkatraman, 1989).

Meanwhile the *equifinality* means "the idea that different forms can be equally effective" (Meyer *et al* 1993, p. 1178). In a particular setting, it is believed that there exists more than one way that could yield successful outcomes. In light of the *equifinality,* the assumption is that various configurations have equal possibility to achieve superior outcomes. Moreover, the *organisational effectiveness* can be explained by the differences among a variety of groups of organisations on basis of their performance (Ketchen *et al*, 1997).

To be more precise, the *configuration of fit* model demonstrates a close alignment of elements that assist and strengthen each other, in other words, it is at the heart of the conception of configuration (Miller, 1996). In particular, this study performs the *configuration of fit* in order to explain the interaction between various GMC-strategic types and the GMC-structures that exhibits *fit*, *equifinality* and *organisational effectiveness*. These configurations are represented based on the research hypothesised relationships among multiple variables (domains) as per the designated empirical studies 2 and 3 (Part-1) (study-2: H1 – H3; and study-3, part-1: H4 – H6). Consequently, this study demonstrates a configuration of fit model as below (see figure 3.10).

**Figure 3.10 Illustration of the Configuration of Fit Model**

**(on a Basis of Multiple Domains or a Set of Variables)**
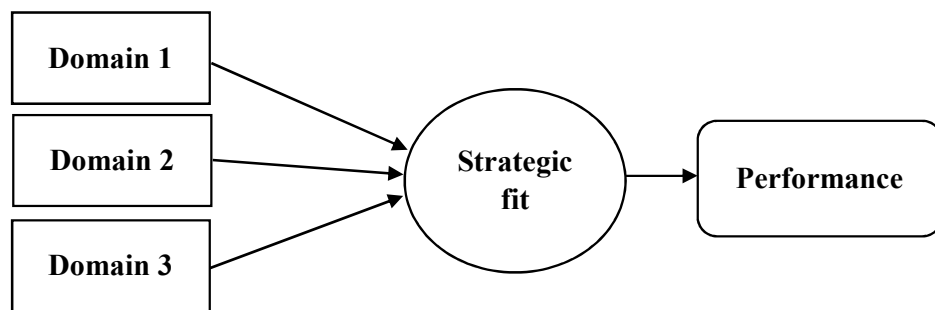


Source: adapted from Venkatraman (1989)

On the basis of the configuration theory, there are various analysis techniques which have been established by past studies in the area of strategy research (e.g. Hughes and Morgan, 2008; Slater *et al*, 2010 and 2006). To be consistent with the analysis approach based on the adopted methodologies (as already discussed above), the author follows the analytical technique i.e. a hierarchical regression model to be used in the configuration approach as suggested by past studies (e.g. Hughes and Morgan, 2008; Slater *et al*, 2010 and 2006). As already demonstrated in figure 3.3, the analysis techniques that are adopted into the entire study are as follows. Study-1 (step3) employs clustering analysis with a combination of hierarchical and non-hierarchical clustering (chapter 4). Study-2 (step 4) utilises the configuration model of fit with regression models (chapter 5 and 6). Study-3 (step 4 and 5) performs multiple analysis techniques i.e. configuration model of fit with a regression model, a mediating influence with SEM model and a direct influence with SEM model (chapters 5 and 6). To support this, the author provides an overview of past studies that employed the configuration model of fit with an analysis of regression model. (See table 3.9 below)

**Table 3.9 Overview of Past Studies that Employed the Configuration Model of**

**Fit and the Analysis of Regression**

| Authors (Years) | Study Context | Approach | Analysis Techniques |
|---|---|---|---|
| Slater, Hult, Olson (2010) | Relationships between Marketing strategy creativity and marketing strategy implementation | Configuration / Strategic fit | Regression model |
| Hughes and Morgan (2008) | Strategic resources and product-market strategy fit with performance | Configuration / Ideal profile deviation | Regression model |
| Kabadayi, Eyuboglu and Thomas (2007) | Business strategy, multiple channel structure and environment fit with performance | Configuration / Ideal profile deviation | Clustering analysis; Pairwise comparison; Regression model |
| Katsikeas, Samiee and Theodosiou (2006) | International marketing strategy standardization fit with performance | Contingency / Co-alignment | Regression model |
| Slater, Olson and Hult (2006) | Strategic orientation and strategy formation capability fit with performance | Configuration / Strategic fit | Regression model |
| Slater and Mohr (2006) | Technological innovation and strategic types fit with performance | Configuration / Strategic fit | Regression model |
| Olson, Slater and Hult (2005) | Business strategy, marketing organization structure and behavior fit with performance | Configuration / Profile of highest-performing firm | Regression model |
| Vorhies and Morgan (2003) | Marketing organization and business strategy fit with performance | Configuration / Ideal profile deviation | Regression model |
| Dobni and Luffman (2000) | Market orientation and market strategy profiling fit with performance | Co-alignment model | Clustering analysis; Regression model; Profile analysis |

Source: Author

## 3.5 Chapter Summary

This chapter sets out the research design and methodological bases of the entire study. It firstly lays out the philosophical foundation based on epistemology in social science with a positivist worldview and a quantitative approach. Next, it clarifies the data collection process which deploys a large scale mail survey with a cross-sectional study. Later, it explains in great detail the adopted three main methodological bases for data analysis purpose including taxonomic inquiry, clustering analysis and configuration theory. These three methodological bases are closely inter-related with one another. In light of the classification schemes, a theoretical classification involves a review of literature, while a taxonomic approach is concerned with an empirical classification based on a data reduction technique. Moreover, a clustering analysis is concerned with a multivariate statistical method used for grouping the study's phenomena. Lastly, a configuration theory is concerned with an interaction between multiple variables in the study in order to understand the fit, equifinality, and organisational effectiveness (performance).

Next, chapter 4 will present empirical study-1: developing the classification schemes of GMC-structures and the GMC-strategic types.

# CHAPTER 4

# STUDY-1: DEVELOPING THE CLASSIFICATION SCHEMES OF GMC-STRUCTURES AND GMC-STRATEGIC TYPES

## 4.1 Overview of the Chapter

The main objective of this chapter is to develop the classification schemes of GMC-structures and GMC-strategic types. This chapter presents empirical study-1, which is the first of three sub-studies within this thesis. It aims to build on the conceptual model of GMC which is derived from chapter 2. It later develops the classification scheme of the GMC-structures (section 4.2). In this section, it explains the operationalization of GMC and two main GMC-structures (section 4.2.1), and the procedures for selecting constructs of GMC (section 4.2.2) including four components. Then, the classification of GMC-strategic types is derived by performing an empirical taxonomic approach (section 4.3). The clustering analysis is employed as a data reduction technique in order to classify companies into groups (section 4.3.1). The validation and interpretation of clusters are further assessed in section 4.3.2. The three clusters of GMC-strategic types are proposed as major findings from this study (section 4.3.3). In addition, the clusters' characteristics and their performances are reported on in section 4.3.4. In particular, this chapter deals with two research questions: 1 and 2. Building on the conceptual model of GMC (based on RQ#1, partially presented in chapter 2), this study further develops the classification of GMC-structures on the basis of a theoretical classification. Next, based on RQ#2 it continues to define the characteristics of companies that can be categorised by their GMC-strategic types and performance differentials on the basis of an empirical taxonomy. Additionally, the author applies the classification schemes of GMC-structures and the GMC-strategic types to Hambrick's taxonomy building (section 4.4). Lastly, the chapter is summarised (section 4.5).

## 4.2 The Classification of GMC-Structures (A Theoretical Approach: Research Objective One – continued)

To begin with figure 4.1, the author demonstrates the proposed research framework of empirical-study 1 (see below). This framework aims to articulate the link between research objective #1 and #2. Based on the conceptually-derived GMC model, this study performs a combined classificatory schemes including: a conceptual classification and an empirical taxonomy (with a clustering analysis) in order to develop two classifications of GMC model. In light of the classificatory approach, a classification of GMC-structures (responding to RO#1) and a taxonomy of GMC-strategic types (responding to RO#2) are defined.

**Figure 4.1 Research Framework (Study-1)**

The Conceptual Definition of Green Marketing Capabilities (GMC) and Its Principles

RO #1

The Classification of GMC-Structures

Pre-GMC

Info-driven GMC

Basic GMC-Structures

Product-driven GMC

Synergistic GMC

Advanced GMC-Structures

Clustering Analysis

RO #2

GMC-Strategic Types (Three Typologies)

GMC-Prospector

GMC-Analyzer

Performance

GMC-Defender
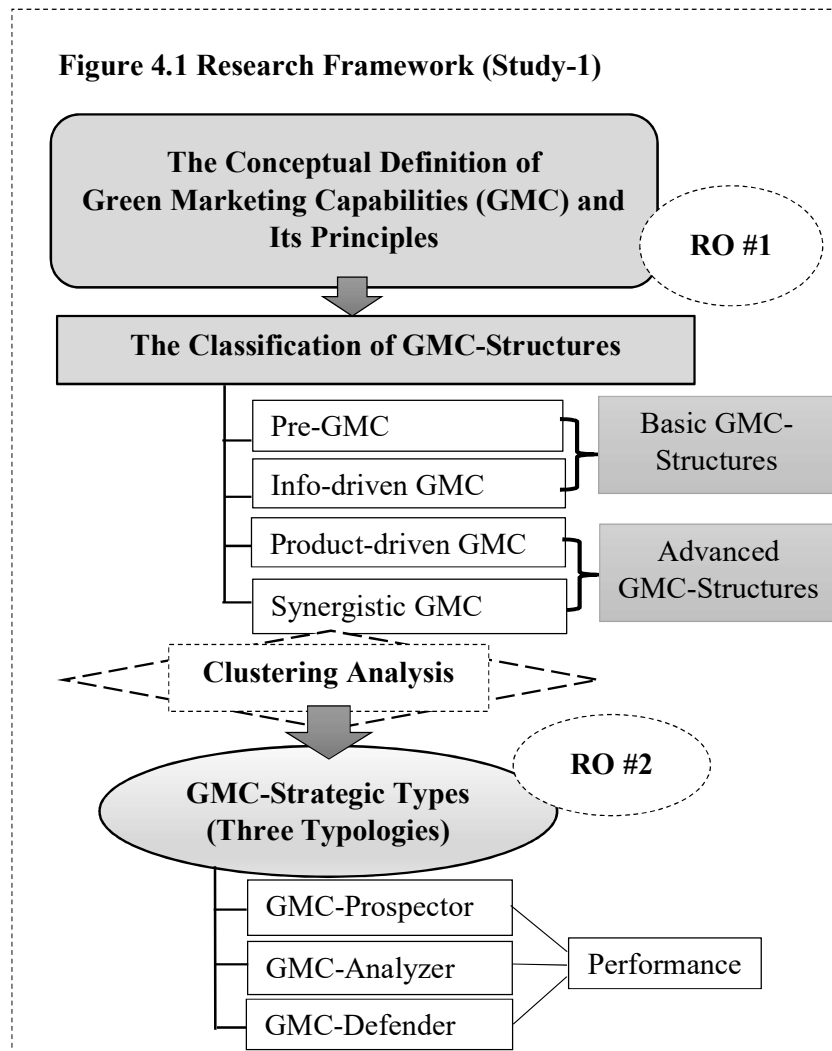
Source: Author

Having discussed the conceptualization of GMC in section 2.3 (chapter 2: literature review), this section continues to develop the conceptual classification of GMC. It starts by extending and identifying the GMC-structures. Building on the theoretical foundation of GMC, the classification of GMC-structures or the operationalization of two main GMC-structures including four components are developed and evaluated based on an integrative analytical approach (concerning a conceptual classification approach and reviewing procedure for selecting constructs of GMC). To fully capture the whole idea, the author proposes an illustration that contains an integrated, virtual, strategic green marketing and capabilities map for the operationalization of GMC (see figure 4.2 below). This is derived from the incorporation of strategic marketing (Varadarajan, 2010) and marketing resources and capabilities (a combination of *architectural* and *specialized* marketing capabilities) (Morgan, 2012).

**Figure 4.2 Integrated Virtual Strategic Green Marketing and Capabilities to the Operationalization of GMC (consisting of two main GMC-structures and four components)**
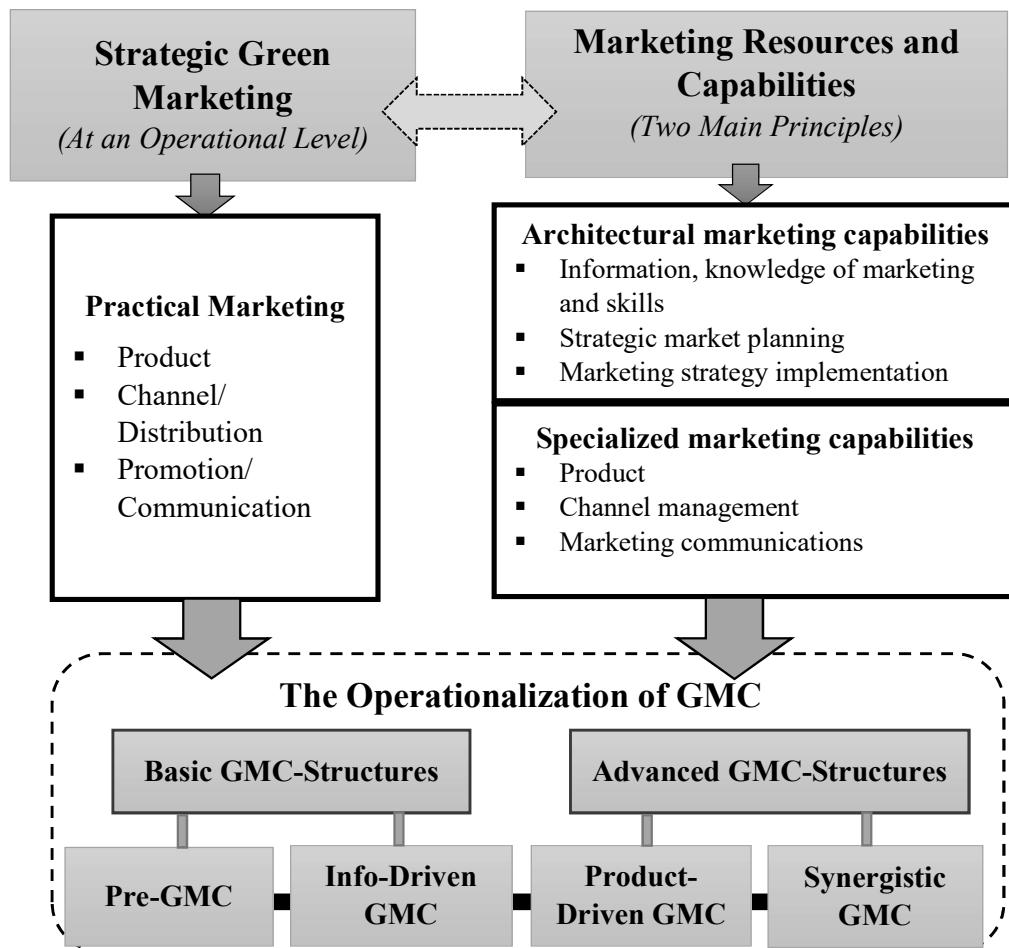
According to figure 4.2, the author depicts the operationalization of GMC and its two main GMC-structures (i.e. *basic* and *advanced* GMC-structures) which are concerned with the development of an organisations' strategic green marketing plan at an operational level (on the basis of practical marketing) in association with their marketing resources and capabilities. In other words, the process of functional marketing at an operational level and an organisations' knowledge-based resources of marketing and capabilities are configured as *an integrated virtual strategic green marketing and capability map* for the operationalization of GMC. This configuration leads to a representation of 'wholeness' in

terms of systematic green marketing practices and skills at an operational level in which it fully embraces environmentally-friendly aspects. In essence, the integrated framework of strategic green marketing at an operational level and marketing resources and capabilities (knowledge of marketing, skills and practices) defines the four components of GMC-structures. More details of the operationalization of GMC-structures are discussed in the following sections.

In addition, the author extends and builds on the boundaries of literature in relation to green marketing strategies and green marketing practices. This was done in order to encompass a wider view of marketing strategies, practices and the marketing resources and capabilities interface. With this purpose, the conceptual classification of GMC has its origins on the basis of the review of pertinent literature. Through this approach, the author would be able to capture the 'wholeness' of the GMC-structures which are rooted in robust theoretical foundations, and are consistent with past studies across multiple disciplines of marketing and strategic management. In doing so, the procedure for selecting the constructs of GMC (a conceptual classification of GMC-structures) is also discussed by comparing it with the review of past studies in relation to green marketing strategies, practices and marketing capabilities as provided in table 4.2 (see section 4.2.2).

### 4.2.1 The Operationalization of GMC and Two Main GMC-Structures

As discussed earlier, figure 4.2 demonstrates an integrated virtual strategic green marketing and capabilities map for the operationalization of GMC. This is derived from the incorporation of strategic marketing and, marketing resources and capabilities (a combination of *architectural* and *specialized* marketing capabilities) as a foundation for the conceptualization of GMC and the operationalization of GMC-structures. Building on the two principles based on *architectural* and *specialized* marketing capabilities, light is shed on the operationalization of GMC and the two main GMC-structures. Specifically, the

operationalization of GMC represents a broader view of GMC-structures on the basis of two main GMC-structures which are concerned with the basic and advanced GMC-structures. The following sections discuss the *basic* and *advanced* GMC-structures in more details.

### 4.2.1.1 Basic GMC-Structures (on the Basis of Architectural Marketing Capabilities)

The 'basic GMC-structures' are comprised of two components which are anchored to the *architectural* marketing capabilities (Morgan, 2012). The first component is 'pre-GMC' (a pre-stage of GMC). *Pre-GMC* is concerned with a company's knowledge-base of green marketing planning skills as a basic step of how strategic green marketing at an operational level can be informed and achieved. The second component is 'info-driven GMC' (information-oriented activities of GMC). *Info-driven GMC* is concerned with the information orientation stage. This is the stage that helps companies get a better view and understanding of current green market information. This will enable companies to make educated decisions on moving towards green product/market opportunities. A company's better understanding of *basic* GMC-structures could improve their fundamental/principal step towards green marketing. Moreover, this step could facilitate companies' decision-making process when they incorporate knowledge-based resources involving information dissemination and implementation, as well as marketing planning skills and strategies with a clear goal (Morgan *et al*, 2012) towards the development of GMC.

### 4.2.1.2 Advanced GMC-Structures (on the Basis of Specialized Marketing Capabilities)

The 'advanced GMC-structures' are comprised of two components that are anchored to *specialized* marketing capabilities (Morgan, 2012). The first component is 'product-driven GMC' (green product-insight). *Product-driven GMC* deals with the insights into the

development and design of green products. This involves an understanding of how to develop and make green products in order to meet environmentally-friendly criteria (Leonidou *et al*, 2013). The second component is 'synergistic GMC' (a hybrid or synthesis of green marketing practices). *Synergistic GMC* is concerned with *tactical* marketing or program-related processes (Kotler, 2011). It also concerns the implementation of a marketing strategy or functional marketing, including communications and promotional activities. An understanding of advanced GMC-structures, could improve companies' initial steps towards product-related and coordinated green marketing practices with other organisations/partners. This can be considered as a positive move towards their development of a positive attitude towards environmental responsibility through communications, as well as commitment with their partnerships and customers (Leonidou *et al*, 2013).

### 4.2.2   Procedures for Selecting Constructs of GMC

This section provides a reviewing procedure for selecting the constructs of GMC. In order to capture and validate the 'wholeness' of the operationalization of GMC, the author sets out some procedures for selecting the constructs of GMC on the basis of two principles (*basic-* and *advanced* GMC-structures) with other related studies (based on green marketing strategies and practices) (Fraj *et al*, 2013; Leonidou *et al*, 2013). With this process, the constructs of GMC can be modified and adapted to fit by using a broad review of literature on established theoretical foundations.

Strictly speaking, this study attempts to demonstrate a solid groundwork that generates the classification of the GMC-structures. This fundamental can be called a combined process of a conceptual classificatory scheme and procedure for selecting constructs of GMC. With this in mind, the author aims to articulate the interface between two principles of GMC and the green marketing strategies and practices from other selected past studies (e.g. Fraj *et al*,

2013; Leonidou *et al*, 2013). The procedure for selecting the constructs of GMC is to examine and verify the appropriacy of the constructs within existing literature in order to get the most relevant classification of GMC-structures for the present study. Next, the author consolidates procedures for selecting the constructs of GMC in a conceptual classificatory approach to identify GMC-structures in the following sections.

### 4.2.2.1 Four Components of GMC-Structures

In light of the two main GMC-structures which are anchored to *architectural* and *specialized* marketing capabilities (Morgan, 2012), the operationalization of GMC-structures can be conceptually classified into four distinctive categories: (1) Pre-GMC, (2) Info-driven GMC, (3) Product-driven GMC and, (4) Synergistic GMC. Each category of the GMC-structure represents a unique part of strategic green marketing map at an operational level. Specifically, 'pre-GMC' refers to a fundamental step towards undertaking and developing GMC, which involves green marketing knowledge-base and planning skills. 'Info-driven GMC' refers to an information-oriented-activity step towards undertaking the development of GMC. This involves understanding green marketing information dissemination and implementation to facilitate a decision-making process for companies (Morgan *et al*, 2012). Next, 'product-driven GMC' refers to a green product-related design and development. Specifically to undertake and develop GMC products which are made of environmentally-friendly materials and ingredients. Lastly, 'synergistic GMC' refers to a coordination of a green channel network and partnership (e.g. distributors, suppliers) as well as communication practices. Principally to communicate the development of GMC regarding environmental preservation and commitment, as well as highlighting green efforts through promotions and benefits to customers (Leonidou *et al*, 2013). On this basis, the four components of GMC consisting of *pre-GMC*, *info-driven GMC*, *product-driven GMC* and *synergistic GMC* could be said to represent a 'wholeness' of the marketing capabilities

which fully is embedded in green or environmentally-friendly aspects. Next, table 4.1 provides a classification of the four components of GMC.

**Table 4.1 Classification Scheme of GMC-Structures (Four Components)**

| Pre-GMC | Info-driven GMC | Product-driven GMC | Synergistic GMC |
|---|---|---|---|
| ▪ Knowledge of green marketing planning skills and processes, as well as understanding of green marketing goals | ▪ Knowledge of green marketing towards information dissemination and implementation within an organisation for facilitating a decision-making process | ▪ Green product design and development concerning the materials and ingredients that match with green/environ mentally-friendly criteria as well as the use of recyclable packaging | ▪ Channel networking with green partners and/or distributors on the basis of environmental preservation agreement and commitment, as well as highlighting green efforts through promotion and communication with customers |
| **Basic GMC-Structures** *(Architectural marketing capabilities)* | | **Advanced GMC-Structures** *(Specialized marketing capabilities)* | |

Source: Author

As stated earlier, this study also reviews past studies in relation to green marketing strategies and green marketing practices (e.g. Fraj *et al*, 2013; Leonidou *et al*, 2013) in order to cross verify the procedure for selecting the constructs of GMC. With this purpose in mind, the author aims to postulate the classification of GMC-structures and exhibit a solid process of how the four components of GMC-structures are established. Next, table 4.2 contains a review of past studies in relation to the conceptual classification of GMC-structures consisting of four components (on the basis of two principles: *architectural* and *specialized* marketing capabilities).

**Table 4.2 Review of Past Studies in Relation to the Conceptual Classification of GMC-Structures and the Four Components**

The Conceptual Classification of
GMC-Structures

| Authors | Empirical Approach | Focus | Pre-GMC | Info-driven GMC | Product-driven | Synergistic GMC |
|---|---|---|---|---|---|---|
| | | | *(Based on Architectural marketing capabilities)* | | *(Based on Specialized marketing capabilities)* | |
| Leonidou, Katsikeas and Morgan (2013) | Interview & Quantitative analysis | Cross-section | - | - | Green product | Green distribution & promotion |
| Leonidou, Leonidou, Fotiadis and Zeriti (2013) | Quantitative analysis | Hotel sector | - | - | Green product & service | Green distribution & promotion |
| Fraj, Martinez and Matute (2013) | Quantitative analysis | B-to-B | - | - | Green labelling & product | Green alliance & promotion |
| Morgan, Katsikeas and Vorhies (2012) | Quantitative analysis | Export venture | Marketing planning skills *(Non-green)* | Market information-oriented *(Non-green)* | Products *(Non-green)* | Channel management *(Non-green)* |
| Fraj, Martinez and Matute (2011) | Quantitative analysis | Industrial sector | - | - | Green product & eco-labels | Green alliance & promotion |
| Morgan, Vorhies and Mason (2009) | Quantitative analysis | Cross-section | Marketing planning *(Non-green)* | - | Products *(Non-green)* | Distribution & communication *(Non-green)* |

Source: Author

According to table 4.2, the author conceptually identifies and validates the classification of the GMC-structures which can be categorised into four components. Next, the four components of the GMC-structures are individually discussed in the following sections.

**Component 1: Pre-GMC**

"Pre-GMC" can be defined as "a pre-stage or fundamental level of green marketing skills and strategic marketing planning processes" (Author). This component is based on companies' *architectural* marketing capabilities that involves knowledge-based resources in terms of marketing planning and skills in selecting strategic marketing goals and strategic marketing decisions upon deployment of various and inter-connected resource inputs (Morgan, 2012; Vorhies and Morgan, 2005; Slotegraaf and Dickson, 2004; Morgan *et al*, 2003). In practice, companies could be capable of effectively developing appropriate green marketing plan and skills. These skills could be honed in line with clear green marketing goals through creative green marketing strategies together with the implications of strategic marketing in order to attain target market objectives (Morgan, 2012).

**Component 2: Info-driven GMC**

"Info-Driven GMC" can be defined as "prerequisite information orientation to the implementation and dissemination in an organisation for facilitating a decision-making process" (Author). This component is based on companies' *architectural* marketing capabilities involving marketing knowledge-based resources in conjunction with green marketing information implementation and dissemination based upon the deployment of various inter-connected resource inputs (Morgan, 2012; Vorhies and Morgan, 2005; Slotegraaf and Dickson, 2004; Morgan *et al*, 2003). Furthermore, it concerns integrating, sharing, analysing, and identifying specific areas and markets which build on available green market information and relevant green market knowledge, and thus could enable other departments to use it for decision making purposes (Morgan, 2012). In addition, it is also concerned with the implementation of new information combining it with past research in order to build a richer market view.

In practice, this information orientation stage could embody companies with a fuller understanding of the current green market information and trends for better understood and utilised in a more effective way. Therefore, companies could be capable of effectively exploiting this knowledge and information to enhancing their decision-making process (Morgan, 2012).

**Component 3: Product-driven GMC**

"Product-Driven GMC" can be defined as "a company's ability to develop green products that are designed and made of environmentally-friendly materials/ingredients" (Author). This component is based on *specialized* marketing capabilities which involves *tactical* marketing in relation to product-related processes (Vorhies *et al*, 2009; Hunt, 1995; Vorhies *et al*, 1999). In practice, this concerns selection of the relevant choice of raw materials and the ingredients of products which helps companies evaluate how they can appropriately develop green products in order to serve and satisfy environmentally-friendly consumers (Leonidou *et al*, 2013). As a result, companies could be capable of effectively developing and designing green products, and communicating environmentally-friendliness of their products through labeling which is considered as the right means to attract target green consumers.

**Component 4: Synergistic GMC**

"Synergistic GMC" can be defined as "a hybrid process concerning green marketing programs/activities which incorporate a coordination with partnerships (i.e. suppliers/distributors) and communications through internal-organisation and with customers towards the development of green commitment and environmental responsiveness" (Author). This component is based on *specialized* marketing capabilities which involve *tactical* marketing program-related processes. For instance, these practices are concerned with the cooperation of business partnerships i.e. suppliers and distributors to

the development of environmentally-friendly marketing programs as well as setting up clear directives and the specifications of environmental responsibilities and agreement among inter-organisations and communicating environmental commitment within an organisation (Leonidou *et al*, 2013). Moreover, promotion activity is included in order that companies can inform green target consumers with their environmental efforts (Leonidou *et al*, 2013; Vorhies *et al*, 2009; Hunt, 1995; Vorhies *et al*, 1999). In practice, companies could be capable of effectively developing and coordinating with other partners upon emphasising environmentally-friendly responsiveness and activities toward achieving a clearer direction and specification for natural environmental preservation.

In summary, the four components of GMC-structures represent a configuration of strategic green marketing at an operational level that is embedded in an organisation's marketing resources and capabilities. The operationalization of GMC-structures are central to the exploitation of marketing knowledge-based resources (green marketing knowledge, skills and planning processes) combined with functional marketing or practices in relation to product, distribution and communication/promotion. Accordingly, the four components of the GMC-structures including: *Pre-GMC, Info-driven GMC, Product-driven GMC and Synergistic GMC* enlighten a systematic and effective strategic green marketing and multi-functional marketing and practices for companies to take on board. Which in turn could safeguard the environmentally-friendly schemes with the role of marketing for them to achieve their target market objectives as well as improve the natural environmental quality. Subsequently, this study summarises the conceptual-definitions of the four components of GMC-structures as follow. (See table 4.3)

**Table 4.3 Conceptual-Definitions of the Four Components of GMC-Structures**

| Four Components of GMC-Structures | Definitions |
|---|---|
| 1. Pre-GMC | "A pre-stage or fundamental level of green marketing skills and strategic marketing planning process" |
| 2. Info-driven GMC | "Prerequisite information orientation to implementation and dissemination in an organization for facilitating a decision making process" |
| 3. Product-driven GMC | "A company's ability to develop green products that are designed and made of environmentally-friendly materials/ingredients" |
| 4. Synergistic GMC | "A hybrid process concerning green marketing programs/activities which incorporate a coordination with partnerships (i.e. suppliers/distributors) and communications through internal-organisation and with customers towards the development of green commitment and environmental responsiveness" |

Source: Author

After having explained the four components of the GMC-structures earlier, the next section will discuss the classification of GMC-strategic types based on an empirical classification or a taxonomic approach. In light of a taxonomic inquiry (data reduction technique), a clustering analysis is employed in order to derive a classification of GMC-strategic types (by which companies approach the development of GMC-structures).

## 4.3 The Classification of GMC-Strategic Types (An Empirical Taxonomy: Research Objective Two)

### 4.3.1 Clustering Analysis

In this section, the author performs an empirical classification (a taxonomic inquiry) in order to posit a classification of GMC-strategic types. Specifically, the classification of GMC-strategic types is built on the conceptual classification of GMC-structures. On the basis of the classification process as adopted from Rich (1992) (as discussed in chapter 3), an empirical taxonomy is employed in order to develop a classification of companies with

different strategic typologies. On the basis of a numerical taxonomy, a clustering analysis is concerned with a useful function in data mining process for data reduction purpose (Hair *et al*, 2006). In order to capture a multi-faceted GMC model in terms of strategic implications, companies are clustered into different groups based on their approaches towards the development of four components of the GMC-structures.

To be more precise, a clustering analysis is used to determine different categories and then group the observed classification. (Everitt *et al*., 2011). However, prior to performing the clustering analysis the author carefully detected approximately 14% outliers and removed them from the dataset by using *standardized scores* (or z-scores) (based on an examination of multivariate outliers concerning the interval of ±3 sigma) (Stevens, 2012, Shiffler, 1988). Particularly, the *standardized scores* are found useful for researchers to perform higher statistical analyses e.g. cluster and factor analyses (Ketchen and Shook, 1996; DiStefano *et al*., 2009).

Strictly speaking, the author firstly ran a hierarchical clustering analysis and then a non-hierarchical clustering (*k-means* method). The hierarchical cluster analysis with agglomerative algorithm considers *N (N-1)/2* possible fusions of observations to find the closet pair together with Ward's method to identify the number of clusters and the centroids. Meanwhile the non-hierarchical clustering is useful to deliberately specify the number of clusters and the members of each cluster. However, the combination of hierarchical and non-hierarchical clustering are considered as necessary steps for the taxonomic inquiry (Hair *et al*., 2006, Ketchen and Shook, 1996). Hence, this study draws on and follows a combined process of hierarchical and non-hierarchical clustering analysis as seen in figure 4.3 below. Next, validation and interpretation of the clusters are presented in the following sections.

**Figure 4.3 Combinations of Hierarchical Clustering and Non-hierarchical**
**Clustering Analysis**

| Hierarchical Clustering Analysis *(Ward's method)* | Non-hierarchical Clustering Analysis *(K-means method)* |
|---|---|
| • Clustering are formed by agglomerative method that begins with as many clusters as there are observations and end with a single cluster containing all observations | • To deliberately specify the number of clusters and the members of each cluster<br>• To calculate each cluster's centroid and the distances between each observation and centroid. |

Source: Adapted from Everitt (1993)

### 4.3.2    Validation and Interpretation of Clusters

This section aims to articulate some insights into the validation and interpretation of clusters. Once companies are clustered, the interpretation of the cluster solution is determined in order to validate the meaningful cluster membership (Rich, 1992). The initial cluster's membership is distinguished through descriptive statistics of each cluster's mean scores (Hambrick, 1984). As Hambrick (1984, p. 38) affirms that one way to construct tighter partitions is to effectively scrutinise the frequency-distribution of each cluster (based on mean scores) in order to identify its boundary that perfectly capture its most appropriate characteristics.

As discussed above, in particular the author follows the interpretation of cluster solution as recommended by Hambrick (1984) and Homburg *et al* (2008), and utilises a *standardized mean score* throughout for all statistical analyses of the entire study. On this basis, the mean score is set at zero point as a boundary (Stevens, 2012). As it is noted that the advantage of

the boundary also provides each contingent type to a homogeneous set of observations. Owing to its effectiveness, a *standardized score* is found useful as it allows the author to identify characteristic of cluster scores substantially based on the mean scores of each component of GMC-structures. Next, this study demonstrates statistical cluster descriptions and the observation representations in table 4.4 (see below).

**Table 4.4: Statistical Cluster Descriptions**          **(Clusters)**

| Observations | | Total 100% (n = 120) | 1 34.2% (n = 41) | 2 40.0% (n = 48) | 3 25.8% (n = 31) |
|---|---|---|---|---|---|
| **Company's age (Number of years)** | 0 – 5 | 100% | 37.5% | 37.5% | 25% |
| | 6 – 10 | 100% | 37.5% | 37.5% | 25% |
| | 11 – 15 | 100% | 40% | 60% | 0% |
| | 16 – 20 | 100% | 33.3% | 33.3% | 33.3% |
| | >20 | 100% | 33.3% | 40% | 26.7% |
| **Company's size (Number of employees)** | <10 | 100% | 44.4% | 44.4% | 11.1% |
| | <50 | 100% | 33.3% | 22.2% | 44.4% |
| | <250 | 100% | 26.3% | 52.6% | 21.1% |
| | 250 or more | 100% | 35.1% | 40.5% | 24.3% |
| **Industry** | Food & Beverage | 100% | 41.7% | 41.7% | 16.7% |
| | Consumer goods | 100% | 0% | 100% | 0% |
| | Garment/textiles | 100% | 0% | 100% | 0% |
| | Chemicals | 100% | 28.6% | 50% | 21.4% |
| | Steel/Metals | 100% | 33.3% | 33.3% | 33.3% |
| | Wood/Furniture/Households | 100% | 25% | 45% | 30% |
| | Electric/Electronics | 100% | 12.5% | 62.5% | 25% |
| | Others | 100% | 47.1% | 23.5% | 29.4% |
| **The Four-Components of GMC-Structures** | | | | | |
| **Pre-GMC** | -Green marketing planning skills | | .81[a] | -.02[b] | -.76[c] |
| | -Setting clear green marketing goals | | .84[a] | .02[b] | -.93[c] |
| | -Formulating green marketing strategies | | .85[a] | .03[b] | -.83[c] |
| | -Thoroughness of green marketing planning | | .84[a] | .05[b] | -.84[c] |
| **Info-driven GMC** | -Integrating all available information | | .99[a] | -.06[b] | -.74[c] |
| | -Combining new information | | .83[a] | .06[b] | -.64[c] |
| | -Analyzing market information | | .86[a] | .10[b] | -.69[c] |
| | -Identifying emerging trends | | .97[a] | .06[b] | -.82[c] |
| | -Making relevant green market info | | .88[a] | .11[b] | -.81[c] |
| | -Sharing available market information | | .95[a] | .01[b] | -.79[c] |
| | -Ensuring green market information | | .85[a] | .17[b] | -.75[c] |
| | -Giving other units access to green | | .77[a] | .17[b] | -.77[c] |
| **Product-driven GMC** | -Careful choosing raw materials | | .54[a] | .16[b] | -.67[c] |
| | -Designing and developing products | | .67[a] | .19[b] | -.78[c] |
| | -Modify our packaging and labeling | | .84[a] | .11[b] | -.91[c] |
| **Synergistic GMC** | -Cooperate with suppliers and distributors | | .80[a] | .07[b] | -.75[c] |
| | -Encourage our suppliers and distributors | | .82[a] | .11[b] | -.83[c] |
| | -Set out clear directives and specifications | | .90[a] | .14[b] | -.87[c] |
| | -Communicate the environmental friendliness | | .92[a] | .07[b] | -.83[c] |
| | -Highlight our commitment to environment | | .92[a] | .14[b] | -.89[c] |
| | -Inform customers about firm's environmental efforts | | .95[a] | .13[b] | -.87[c] |
| **Overall Performance** | -Green product investment profitability | | .67[a] | .17[b] | -.55[c] |
| | -Increase of green product sales margins | | .69[a] | .13[b] | -.48[c] |
| | -Return on investment (ROI) of green products | | .36[a] | .06[b] | -.30[c] |
| | -Reaching green product investment financial goals | | .71[a] | .02[b] | -.47[c] |

Note: Report of standardized mean scores. Means in the highest bracket are assigned the superscript 'a'; means in the next lower bracket are assigned the superscript 'b', and so forth. The negative mean values (the value that is away from mean at zero to the negative side) explains that the cluster's mean is lower when compared to other groups that fall in the positive side.
Source: Author

According to table 4.4, the cluster solutions are divided into three categories of companies. The mean scores of each cluster demonstrates its unique characteristics based on different components of the GMC-structures and the outcome (performance) variable. In general, the representation of clusters is clearly evident among the statistical results. Specifically, the number of clusters is clearly defined as per the technique recommended by Hambrick (1984). According to Hambrick (1984, p. 37), it is suggested that the observed-data, in general generates no more than *n/30 to n/50 reliable clusters*. Strictly speaking, in this study the total number of observations is 120 which divided by 30 which equals 4. Meanwhile 120 is divided by 50 it equals 2.4. Accordingly, the final count of clusters equals 3 (in-between 2.4 and 4) as the best solution and being supported by the descriptive statistical result.

Based on the study's empirical results, cluster 1 (is accountable for 34.2%, n = 41) has its highest mean values in all dimensions of GMC-structures as well as on the performance criteria. Whereas, cluster 2 (is accountable for 40%, n = 48) has its average means values across all components of GMC-structures. Finally, cluster 3 (is accountable for 25.8%, n = 31) has its lowest means (towards negative values) in all the components of GMC-structures. More details of the three clusters are described in following sections.

In addition, the descriptive statistics depict the outcomes of various clusters of companies as suggested by Bunn (1993). The interpretation of the cluster's mean scores are also compared among the continuous variables using Waller and Duncan's (1969) *t-test* in order to understand the differences between groups (Homburg *et al*, 2008). The result shows that all clusters are distinctive. This can explain that each group is unique and well clustered within its group centroid in which Canonical discriminant functions suggest the different categorisation in nature (Klecka, 1980).

Furthermore, to be consistent with robust past studies the empirical results based on the three clusters of companies are compared with the *organization's typologies* of Miles and Snow (1978). In comparison to the Miles and Snow (1978)'s conceptual typologies, the author is able to gain in-depth insights into the meaningful implications of different GMC strategies, as well as a broader view of literature in relation to strategy research (a detailed discussion of the three clusters can be found in the next section). With this process, the classification of GMC-strategic types are rooted in three distinctive typologies of Miles and Snow (1978) including: *prospector*, *analyzer* and *defender*. Moreover, the distinction between three GMC-strategic types is tested by performing an analysis of covariance (ANCOVA) in order to understand the unique characteristic of each GMC-strategic type and its performance (see section 4.3.4 for more details).

### 4.3.3   Three Clusters of GMC-Strategic Types

As discussed earlier, in order to get the most meaningful definitions of strategic implication as well as being consistent with robust past studies, the three clusters of companies are compared with the *organization's typologies* of Miles and Snow (1978). Owing to its popularity in the field of strategy research, the *organization's typologies* on the basis of three typologies including: *prospectors, analyzers and defenders* are widely used in relation to product and market studies (Slater *et al*, 2010; Song *et al*., 2007, Miles *et al*., 1978). Bearing this in mind, the three clusters of companies are assigned by names in association with their unique characteristics against the three *organization's typologies* (Miles *et al*, 1978). In addition, these three GMC-strategic types are represented as alternative strategies (approaches) towards the development based on the four components of GMC-structures. Accordingly, the three GMC-strategic types are labelled as follow: (1) *GMC-prospector*, (2) *GMC-analyzer* and (3) *GMC-defender*.

To be more precise, the author concludes the findings from the empirical classification (taxonomic approach), and postulates that cluster 1 or *GMC-prospector* with its highest mean scores in all aspects of GMC-structures. This can be viewed as *an opportunity-seeker* type of GMC-strategy, in other words, its *expertise group* is in exploiting green product/market opportunity. By contrast, cluster 2 (*GMC-analyzer*) with its average means scores across all components of GMC-structures can be viewed as *a critical-adopter* type of GMC-strategy, in other words, is an *elaborative-follower* in exploiting green product/market opportunity. Lastly, cluster 3 (*GMC-defender*) with its lowest means (towards negative values) in all components of GMC-structures can be viewed as *a conservative-adherent* type of GMC-strategy, in other words, an *isolated group* in exploiting green product/market opportunity.

Although literature on strategy study (i.e. Miles *et al*, 1978) suggests another possible strategic type which is represented as *a reactor*, it is noted that the *reactor* seems to lack a long-term plan in their marketing with a consistent strategy (McDaniel and Kolari, 1987). In this study, particularly the empirical findings give evidence of three distinctive clusters based on the descriptive statistics. Therefore, it considers three groups of *organization's typologies* (Miles *et al*, 1978) consisting of *prospector, analyzer* and *defender*. Moreover, the author follows the idea as suggested by past studies (e.g. Slater *et al*, 2010 and 2006) to examine these three strategic types with their distinctive goals towards the development of GMC. Given the above reason, this study does not include the *reactor type* in the clusters. Furthermore, the author provides a verbal cluster description on the basis of three GMC-strategic types versus the four components of GMC-structures (see below, table 4.5).

**Table 4.5 Verbal Cluster Descriptions          GMC-Strategic types**

| Interpretation of Clusters | | GMC-Prospectors (n = 41) | GMC-Analyzers (n = 48) | GMC-Defenders (n = 31) |
|---|---|---|---|---|
| | Based on the development of four components of GMC-structures | An opportunity-seeker *(Expertise in exploiting green product/market opportunity)* | A critical-adopter *(Elaborative-follower in exploiting green product/market opportunity)* | A conservative-adherent *(An isolated group in exploiting green product/market opportunity)* |
| **Pre-GMC** | -Green marketing planning skills -Setting clear green marketing goals -Formulating green marketing strategies -Thoroughness of green marketing planning | high | Medium | Low |
| **Info-driven GMC** | -Integrating all available information -Combining new information -Analyzing market information -Identifying emerging trends -Making relevant green market info -Sharing available market information -Ensuring green market information -Giving other units access to green | high | Medium | Low |
| **Product-driven GMC** | -Careful choosing raw materials -Designing and developing products -Modify our packaging and labeling | high | Medium | Low |
| **Synergistic GMC** | -Cooperate with suppliers and distributors -Encourage our suppliers and distributors -Set out clear directives and specifications -Communicate the environmental friendliness -Highlight our commitment to environment -Inform customers about firm's environmental efforts | high | Medium | Low |

Source: Author

Next, the author also compares the three clusters of *GMC-strategic types* with the

*organization's typologies* of Miles and Snow (1978) from past studies. (See below)

**Table 4.6 Three Clusters and the Comparisons with the Organization's**

**Typologies of Miles and Snow (1978)**

| Comparison with the organization's typologies of Miles and Snow (1978) from the selected past studies | GMC-Prospectors (n = 41) **An opportunity-seeker** *(An Expertise in exploiting green product/market opportunity)* | GMC-Analyzers (n = 48) **A critical-adopter** *(An Elaborative-follower in exploiting green product/market opportunity)* | GMC-Defenders (n = 31) **A conservative-adherent** *(An isolated group in exploiting green product/market opportunity)* |
|---|---|---|---|
| Li and Tan (2013)<br><br>Slater, Hult and Olson (2010)<br><br>Hughes and Morgan (2008) | Deploying first-mover advantage strategy | More emphasis on information than other groups | Less emphasis on information outside their market domain |
| Song, Di Benedetto and Nason, (2007)<br><br>Olson, Slater and Hult (2005a)<br><br>Vorhies and Morgan (2003) | Leading changes in its industry with proactive manner | Being thoughtful and careful in monitoring competitors | Exhibiting risk-adverse manner with a rather reactive response |
| | Aiming at development of innovative products as well as entering new market | Creating hybrid domain to optimal balance between stability and flexibility | Focusing on retaining customers in the market domain |
| | Entering to new market prospects with differentiated advantage strategy | Pursuing analytical strategy in response to marketing activities and demands | Targeting at a more secure established market |

Source: Author

In light of the comparison, the three *GMC-strategic types* can be articulated by their

significant resultants of unique attributes which provide a better understanding of each GMC

strategy (which details potentiality through their strengths). Owing to their unique attributes,

the three clusters of companies in association with various GMC-strategic types are clearly explained by their dominant characteristics and performance differentials against the development of four components of GMC-structures.

Strictly speaking, table 4.6 provides a summary of past studies that discuss three types of *organization's typologies* (Miles *et al*, 1978) i.e. prospector, analyzer and defender in relation to strategy research as follow. Li and Tan (2013), Slater *et al* (2010) and Hughes and Morgan (2008) find that the *prospectors* are less focused on information than the *analyzers*, although they are deploying a *first-mover advantage* strategy. Meanwhile, the *analyzers* are more emphasised on gathering information with analytical purpose. In contrast, the *defenders* tend to depend on their own market domain without engaging in competition outside their interest. Song, Di Benedetto and Nason (2007) explain that the *prospectors* tend to be leading change in its industry with a *proactive* manner. The *analyzers* are being exposed in a rather thoughtful manner and are careful in monitoring their competitors. On the other hand, the *defenders* tend to exhibit a *risk-adverse* manner with *reactive* response to new product/market opportunities.

In addition, Olson, Slater and Hult (2005a) state that the *prospectors* are aiming towards the development of innovative products in order to get new product/market opportunities. Meanwhile, the *analyzers* tend to create a hybrid domain to an optimal balance between stability and flexibility through an information oriented approach. On the contrary, the *defenders* are focusing on their marketing domain in order to retain their customers' satisfaction. Vorhies and Morgan (2003) note that the *prospectors* are focusing on entering new market prospects with *differentiated advantage* strategy. The *analyzers* are pursuing an analytical strategy in response to marketing activities and demands. The *defenders* are targeting a more secure established market in order to maintain their market prospects.

Furthermore, the author describes details of each GMC-strategic type in the following sections.

### 4.3.3.1 Cluster 1: GMC-Prospector

***GMC-Prospector (or an opportunity-seeker).*** The empirical findings suggest that this cluster has the overall highest mean scores across all components of GMC-structures. It is found that they are rather proactive towards the development of GMC structures. It can be speculated that this group of companies represents a type that is leading change with its own interest to embark on green product/market opportunity, as well as being expertise in approaching the GMC-structures. Particularly, this type of company seems to expose its characteristic with a progressive and fast-adaptive manner as well as implementing a *first-mover advantage strategy* (Li and Tan, 2013; Slater *et al*, 2010; Hughes and Morgan, 2008) in response to green product/market opportunity.

Provided with the above results, this study postulates that a "GMC-prospector" is "a type of GMC-strategy in which companies adopt and act in ways represented by an opportunity-seeker or an expertise in exploiting green product/market opportunity" (Author). Owing to its dominant characteristic as being the first mover towards green product/market, it is evident that the *prospectors* are inclined to exploit new market opportunities with a *proactive* gesture in combination with competitive strategy (Olson *et al*., 2005, Vorhies and Morgan, 2003). In addition, they are found to be more capable of searching and exploiting new products and market opportunities, more than the *analyzers* and *defenders* (Miles *et al*, 1978). It is also evident that in order for *prospectors* to enter into new market arenas, they develop and adhere to their strengths in searching through a variety of environmental conditions, trends and events as well as being more dynamic than other strategic types within the same industry (Miles *et al* 1978). On this basis, it is likely that they pay more attention on the quality of investment in individual's and group's capabilities within the

organisation. As a result, they could be able to continuously create changes and being leaders in the marketplace.

### 4.3.3.2 Cluster 2: GMC-Analyzer

***GMC-Analyzers (or a critical adopter).*** The empirical findings show that this cluster has average mean scores across four components of GMC-structures. It is found that they are second to the *GMC-prospectors*, in other words, between the *prospectors* and the *defenders*. It can be explained by the fact that they are second to the *prospectors* in approaching the four components of GMC-structures. This type of company seems to expose its characteristic with a rather thoughtful/careful manner (Li and Tan, 2013; Song *et al*, 2007) in response to a green product/market opportunity.

Given the above results, this study postulates that a "GMC-analyzer" is "a type of GMC-strategy in which companies adopt and act in ways represented as a critical-adopter or an elaborative-follower in exploiting green product/market opportunity" (Author). Owing to its dominant characteristic, this type of company is considered as the second mover into green product/market opportunity with a rather mindful and decisive manner in business strategy. This attribute also proves past studies that the *analyzers* are more concerned with *"second-but-better"* strategy (Miles *et al*., 1978, Song *et al*., 2007), as they are good at integrating both *prospectors* and *defenders'* strengths with its own distinct analytical process (through adaptive or a balance approach) (Miles *et al*, 1978). As a result, the unique strategy of the *GMC-analyzer* is evident as being a *balanced/hybrid* company with its analytical approach (Olson *et al*, 2005). In addition, being *analyzers* they use critical information from past studies (e.g. Song *et al*, 2007), so they are conscious of maintaining the operational efficiency with thorough information-orientation, thoughtful approach as well as carefully choosing appropriate tools in respect of a new market development (Song *et al*., 2007, Hughes and Morgan, 2008). Likewise, the *GMC-analyzers* tend to be more

careful towards the development of GMC. They depend more upon thoroughness in conducting business as well as monitoring competitors than other types of organisations (Hughes and Morgan, 2008, Song *et al*., 2007) before making decisions about embarking on new product/market opportunities.

### 4.3.3.3 Cluster 3: GMC-Defender

***GMC-Defenders (or a conservative adherent).*** The empirical findings reveal that this cluster has the lowest mean scores across four the components of GMC-structures compared to other groups (prospectors and analyzers). It is found that this cluster falls under the development of GMC-structures, in other words, it is the last group in approaching green product/market. It can be seen that this type of strategy represents a rather conservative approach to its strategy implementation, its nature defines its defensive manner. This characteristic is opposite to the *prospector* strategic type.

Given the above results, this study postulates that a "GMC-defender" is "a type of GMC-strategy in which companies adopt and act in ways that represent a conservative-adherent or an isolated group in exploiting green product/market opportunity" (Author). Owing to its dominant characteristic, this type of company is considered as the lowest self-motivated (or isolated group) organisation towards the development of GMC-structures. The unique strategy of *GMC-defenders* is seen as being *conservative adherent* with their core defending strategy implementation. This attribute proves past studies that the *defenders* place the least emphasis on information outside their own market domain, whilst aiming to maintain their secure established markets (Slater *et al*, 2010; Hughes and Morgan, 2008; Vorhies and Morgan, 2003). As such, the *defenders* are more concerned with protecting their particular market or domain, and being consistent with their own core strategy in preventing competitors from penetrating their business boundaries (Miles *et al*., 1978; Slater and Narver, 1993). It is also found that their distinctive strategy has impact on the business unit

(or marketing operation) in a more defensive direction in order to achieve their target objectives. They also exhibit a rather *risk adverse* manner with *reactive* response to the new market trend (Song *et al*, 2007).

### 4.3.4 Clusters' Characteristics and the Performances

Having described the clusters' characteristics in the previous sections, this section aims to provide the general comments on initial findings which are based on each cluster's performance mean values. Following the technique used as suggested by Hambrick (1984), it is necessary to examine the mean (scores) of performance levels as an indication of high or low performance of each cluster. The empirical findings reveal that cluster 1 (*GMC-prospector*) is in the highest range of mean scores for all four outcome variables. All variables of the four performance outcomes are found at a high consistency for *GMC-prospectors* including green product investment profitability, increase of green product sales margins, return on investment (ROI) of green products as well as reaching green product investment financial goals. By contrast, cluster 3 (*GMC-defender*) is in the lowest range of mean scores for all four performance outcomes. It is obvious that all performance variables are found on the opposite side to those of *GMC-prospectors*. Meanwhile, cluster 2 (*GMC-analyzer*) is in the average range of mean scores across all four outcomes variables.

The study's initial findings reflect that three *GMC-strategic types* are distinctively disclosed by their dominant characteristics and performance differentials. These results are found to be consistent with past studies (e.g. McDaniel and Kolari, 1987, Vorhies and Morgan, 2003, Slater and Mohr, 2006, Hughes and Morgan, 2008) which affirm the uniqueness of GMC strategies among three organisation's typologies (*prospector, analyzer* and *defender*) and their performance implications. As it is noted, the *GMC-analyzer* and the *GMC-defender*'s performances may not be as obvious at first sight compared to those of the *GMC-prospectors* (Hughes and Morgan, 2008). This evidence nevertheless implies that the

performance outcomes for both *GMC-analyzers* and *GMC-defenders* could reflect a more complex situation than those of the *GMC-prospectors*. Besides, more empirical analyses are needed to investigate and explain their performance outcomes which will be discussed in the latter chapters (chapters 5 and 6).

Notwithstanding, the preliminary findings expose the fact that *GMC-prospectors* possess a greater performance than that of both *GMC-defenders* and *GMC-analyzers* on the basis of all the performance variables. This result can also be interpreted as the *GMC-prospectors* have relatively higher potential in all aspects based on the development of four components of GMC-structures (in terms of green marketing planning skills, green market information-orientation, green product insight, and synergistic marketing practices), while the *GMC-analyzers* are second to the *GMC-prospectors*. The *GMC-defenders* are the last or at the slowest pace in the development of GMC. This study accordingly manifests itself against the adopted conceptual definitions and strategic implications of the three *organization's typologies* (Miles *et al*, 1978). The three *GMC-strategic types* (GMC-prospector, GMC-analyzer and GMC-defender) and their unique characteristics are meaningfully validated and ratified by the initial findings of this study. Subsequently, this study reports the ANCOVA results for all clusters and performance relationships. (See table 4.7 below)

**Table 4.7 Exploratory ANCOVA Results for All Clusters and Performance Relationship**

| Performance outcomes | Predictor Variables | d.f. | Type III Sum of Squares | Mean Sum of Squares | F | R² |
|---|---|---|---|---|---|---|
| Green product investment profitability | Model | 6 | 27.99 | 4.66 | *9.42 | .33 |
| | Error | 113 | 55.94 | .49 | | |
| | Companies' age | 1 | .83 | .83 | 1.67 | |
| | Companies' size | 1 | .32 | .32 | .66 | |
| | Industry type | 1 | .36 | .36 | .73 | |
| | Competitive rivalry | 1 | .00 | .00 | .00 | |
| Increase of green product sales margins | Model | 6 | 25.40 | 4.23 | *7.76 | .29 |
| | Error | 113 | 61.61 | .54 | | |
| | Companies' age | 1 | .63 | .63 | 1.16 | |
| | Companies' size | 1 | .30 | .30 | .55 | |
| | Industry type | 1 | .00 | .00 | .00 | |
| | Competitive rivalry | 1 | .07 | .07 | .13 | |
| Return on investment (ROI) of green product segment | Model | 6 | 10.31 | 1.71 | *2.38 | .11 |
| | Error | 113 | 81.60 | .72 | | |
| | Companies' age | 1 | 2.08 | 2.08 | 2.89 | |
| | Companies' size | 1 | .22 | .22 | .31 | |
| | Industry type | 1 | .19 | .19 | .26 | |
| | Competitive rivalry | 1 | .05 | .05 | .08 | |
| Reaching green product investment financial goals | Model | 6 | 26.27 | 4.37 | *8.18 | .30 |
| | Error | 113 | 60.47 | .53 | | |
| | Companies' age | 1 | .03 | .03 | .06 | |
| | Companies' size | 1 | .03 | .03 | .05 | |
| | Industry type | 1 | .00 | .00 | .00 | |
| | Competitive rivalry | 1 | .36 | .36 | .68 | |

Note: *The mean difference is significant at $p < 0.05$ level.

Source: Author

According to table 4.7, all ANCOVA result models based on the four performance variables are significant at $p < .05$ level. This table explains that each performance criterion seems to be closely related to the clusters. Although the four confounding variables (companies' size, age, industry, and competitive rivalry) are controlled, the results reveal that all performance outcomes remained significant. To be more precise, the ANCOVA models comprise of four predictors including three categorical variables (i.e. companies' size, age and industry types) and one continuous variable (i.e. competitive rivalry). On the basis of market environment

or competition, one could assume that companies' age, size and industry type are concerned with confounding variables which might have an influence on organisations' performance outcomes. Meanwhile various industry types could also provide diverse competition which might vary from one type to another. Bearing this in mind, the author consciously performs the analysis by controlling all four covariates in order to be consistent with the past study (i.e. Homburg *et al.*, 2008).

In light of the analysis of covariance, the ANCOVA models on four different performance variables as dependent variables including: (1) green product investment profitability, (2) increase of green product sales margins, (3) return on investment (ROI) of green product segment and (4) reaching green product investment financial goals are found significantly related to the clusters. Based on the empirical findings, the $R^2$ (in which its values represent the percentage of the response variable deviation) provides evidence that the four performance dimensions have a strong relationship with the cluster memberships, in other words, all outcome variables and the clusters are significantly related with one another. In general, as per the initial findings shown earlier in table 4.3, the *GMC-prospectors* tend to potentially achieve greater or superior performance over other groups (*GMC-defenders* and *GMC-analyzers*) based on the highest mean scores across all performance criteria. This incident may attest to the assumption that companies who approach the four components of GMC-structures require the right strategy to help improve and enhance performance implications for them. Likewise, the *GMC-prospectors* obviously possess this in the first place.

In brief, this empirical study-1 concludes that all three clusters of companies (with their distinctive GMC-strategic types) yield positive target performance outcomes, albeit having controlled the covariates. Besides, two more empirical studies 2 and 3 are followed up in

order to examine the three GMC-strategic types in various aspects (presented in both chapters: 5 and 6).

## 4.4 Applying the Classification Schemes of GMC-Structures and GMC-Strategic Types to Hambrick's Taxonomy Building

Having discussed the classification schemes of GMC on the basis of structures and strategic types in the previous sections, this section aims to present an application of both classification functions against Hambrick's *taxonomy building*. In light of the framework of multi-tiered *taxonomy building* (Hambrick, 1984) (as already discussed in chapter 3), the author attempts to articulate the insights into the application of both GMC-structures and GMC-strategic types, and explain how these classifications are prominent to businesses. Meanwhile, both research outputs contribute to bridging theory and practices for a better understanding of multi-dimensional models of GMC and its applicability in all businesses. The author therefore demonstrates an application of the classification of both GMC-structures and strategic types to the multi-tiered *taxonomy building* of Hambrick (1984) (see figure 4.4 below).

**Figure 4.4 Classifications of GMC-Structures and GMC Strategic Types and Their Implications to Multi-tiered Taxonomy Building (Hambrick, 1984)**

**A Framework for Multi-tiered Taxonomy Building**

ALL BUSINESSES

The Research Outputs
(Empirical Study-1)

**Strategic Choices**

Classifications of GMC-Strategic Types

GMC-prospector    GMC-analyzer    GMC-defender

Classifications of GMC-Structures

**Structures**

Pre-GMC    Info-driven    Product-driven    Synergistic
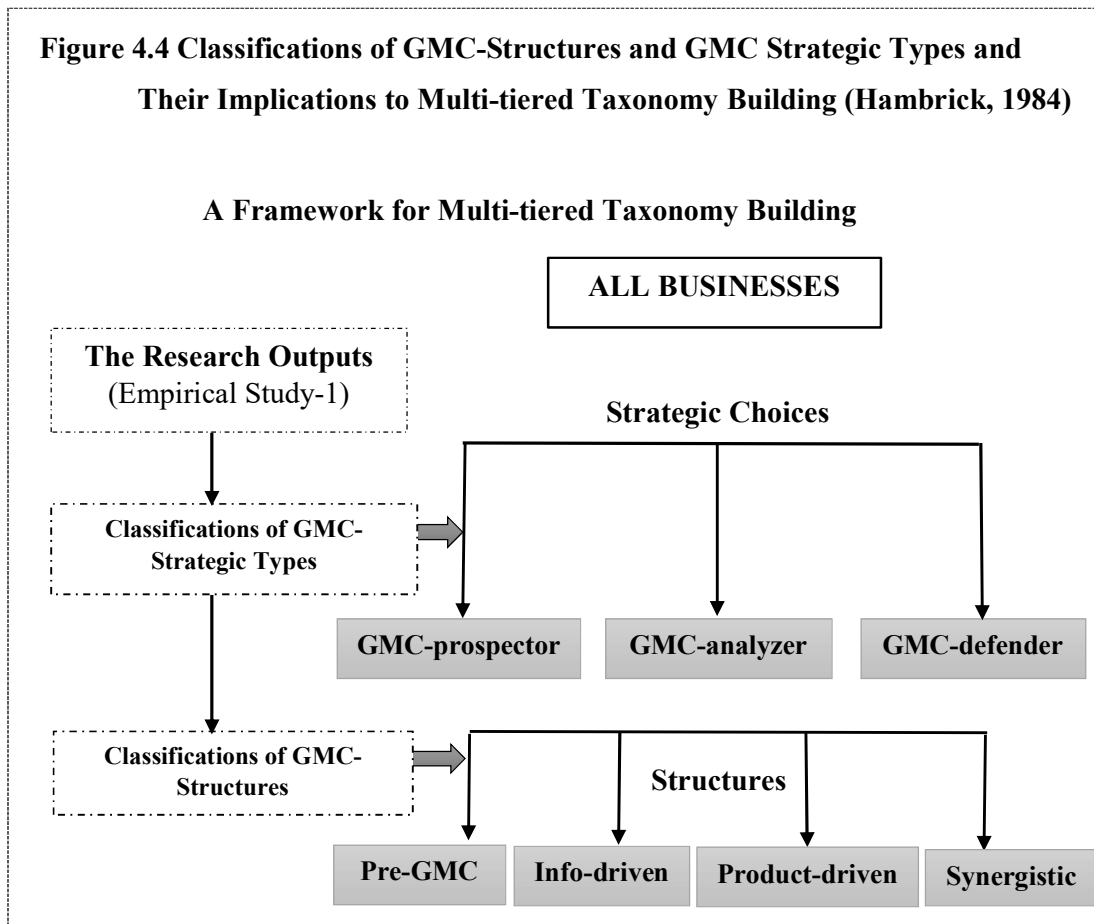
Source: Adapted from Hambrick (1984)

According to figure 4.4, in all businesses the structures at functional/operational level are critical to a company's basic construction. Likewise, the GMC-structures at the functional/operational level are regarded as a foundation of overall organisation's marketing capabilities that are embedded in marketing knowledge-based resources and capabilities. The four components of GMC-structures including: *pre-GMC*, *info-driven GMC*, *product-driven GMC* and *synergistic GMC* represent substantial ingredients/features of strategic green marketing at an operational level.

In light of the classification of *GMC-structures*, it is seen how each component stands on its own, which reflects how well companies engage with the development of each particular

dimension at a fundamental stage. *Pre-GMC* is concerned with an overall green marketing planning, strategy and skills (on the basis of marketing knowledge-based resources) in order to achieve green marketing goals. *Info-driven GMC* is concerned with the implementation of green marketing information (on the basis of marketing knowledge-based resources) for the decision making process in an organisation. *Product-driven GMC* is concerned with the idea of how products should be made of and designed in order to be more environmentally-friendly and satisfy their green consumers' demand. Lastly, the *synergistic GMC* is concerned with a hybrid process of coordination among inter-organisations through channels of distribution to a formation of environmental preservation responsibility and commitment. As well as eco-friendly communication in order to promote environmental benefits to a wider green consumer base. Moreover, the 'wholeness' of the GMC-structures implies the configuration between various components as a dynamic process to improve a company's strengths towards the enhancement of a critical source of competitive advantage and superior performance (Morgan, 2012).

In addition, the classification of *GMC-strategic types* can be expressed by choices or approaches that companies might take on. These three *GMC-strategic types* comprise of *GMC-prospectors*, *GMC-analyzers* and *GMC-defenders* which represent their unique characteristics in which imply what outcomes companies may achieve depending on their strategic intents. In this study, the alternative *GMC-strategic types* also provide choices for companies to implement in order to attain target market objectives. Hence, the implications of different *GMC-strategic types* could potentially have an influence on their performance effectiveness. More discussions on research implications for management can be found in section 7.3 (chapter 7). Asides from that, both classifications of the GMC-structures and the GMC-strategic types are further used in data analysis of empirical study-2 and -3 in order to gain in-depth insights into their implications in greater details (more discussions can be found in chapters 5 and 6).

## 4.5 Chapter Summary

This chapter presents empirical study-1 of the entire thesis. It develops the classification schemes of GMC on the basis of structures (by theoretical approach) and strategic types (by empirical classification/taxonomy). It articulates the classifications of *GMC-structures* based on four components: *pre-GMC, info-driven, product-driven* and *synergistic GMC*. These components are fundamental to companies' marketing resources and capabilities. In addition, the classification of *GMC-strategic types* are derived from an empirical taxonomy. The three clusters of companies are compared with the *organization's typologies* of Miles *et al* (1978) in order to get the most meaningful and effective strategic implications. Specifically, the three *GMC-strategic types* are comprised of *GMC-prospector*, *GMC-analyzer*, and *GMC-defender*. These GMC-strategic types have been attested to, not only by past studies of *organization's typologies* (Miles and Snow, 1978), but also their strategic implications which provides prominent insights into their performance differentials. Lastly, the author concludes the empirical findings and offers the applications of both classification schemes against the framework of multi-tiered *taxonomy building* of Hambrick (1984). Both classification schemes demonstrate substantial outcomes that can be used as advice for linking a company's structure and strategic choice which is ultimately fundamental to all businesses' construction.

Next, chapter 5 will further discuss empirical study-2 and -3 on the basis of research frameworks and hypothesis development.

# CHAPTER 5

# STUDY-2 AND -3: RESEARCH FRAMEWORKS AND HYPOTHESES

## 5.1 Overview of the Chapter

The main objectives of this chapter are to present two empirical studies (study-2 and -3) and develop a series of research hypotheses. This chapter starts by introducing two research frameworks (section 5.2) consisting of study-2: research model 2 (RO#3) (section 5.2.1) and study-3: research model 3 (RO#4 to #6) (section 5.2.2). Next, the following sections continue to discuss a series of research hypothesised relationships (section 5.3) including study-2: hypothesis 1 – 3 (section 5.3.1) and study-3: hypothesis 4 – 8 starting from section 5.3.2 (H4 – H6), section 5.3.3 (H7) and section 5.3.4 (H8) respectively.

To be more specific, study-2 (research model 2) aims to examine the configuration model of fit among multiple variables, i.e. various GMC-strategic types, corporate strategic postures (CSP), perceived-green behaviour (PGB) and performance. This study corresponds to research objective #3. In addition, study-3 (research model 3) aims to investigate three different aspects of a multi-dimensional GMC model including: (1) the moderating effect of alternative GMC-strategic types on the relationship between the GMC-structures and green competitive advantage (GCA) (H4 – H6) based on research objective #4, (2) the mediating influence of GCA on the relationship between the GMC-structures and performance (H7) based on research objective #5, and (3) the direct influence of GMC-structures on performance (H8) based on research objective #6. Lastly, the chapter is summarised (section 5.4).

## 5.2 Research Frameworks

Having discussed the primary conceptual framework in section 2.2 (figure 2.1) of chapter 2, this section continues to build on the proposed framework as seen in figure 5.1 below. This proposed framework aims to depict the inter-relationships among key concepts, including GMC, PGB, CSP, GCA, performance and competitive rivalry.

**Figure 5.1 Primary Conceptual Framework of the Entire Study**
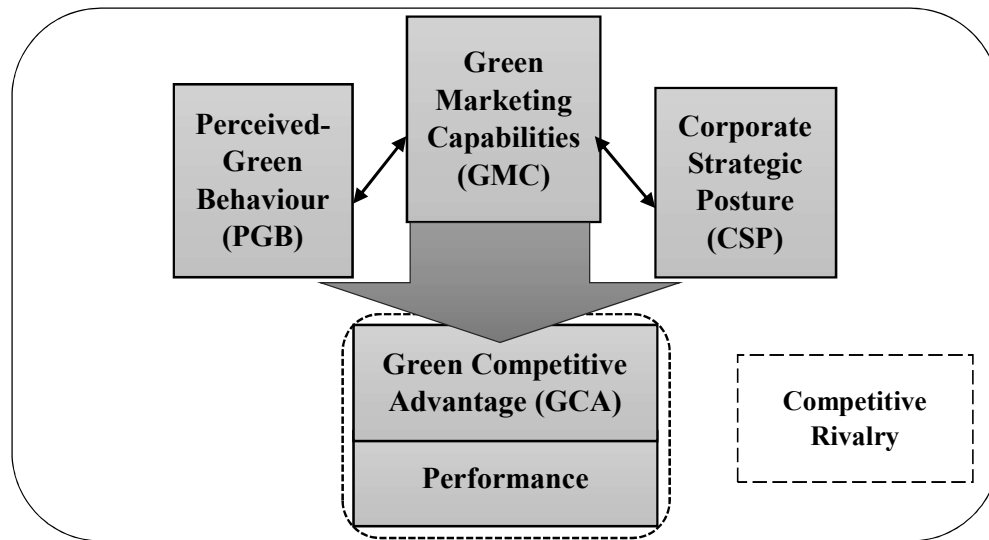


Source: Author

In light of the proposed conceptual framework, the overall aim is to explore and gain in-depth insights into some multi-dimensional models of GMC and their influence on competitive advantage and performance. Building on this conceptual relationship, two more research models are developed on the basis of some primary interrelationships among multiple variables. In addition, the operationalization of GMC-structures and the four components, as well as three distinctive GMC-strategic types which are derived from the classificatory schemes in chapter 4 are then brought forward for further empirical analyses in both studies 2 and 3.

To be more specific, the research model of study-2 corresponds to RO#3 (see more details in section 5.2.1). The purpose of this study is to empirically examine the relationship between companies' *posture-behaviour-performance* that fit with alternative GMC-strategic types. This link can be explained by a *configuration model* or an association between corporate strategic posture (CSP), perceived-green behaviour (PGB) and performance by different GMC-strategies. Meanwhile research model of study-3 corresponds to RO#4, 5 and 6 (see more details in section 5.2.2). The main aims of study-3 are comprised of three parts in order to undertake three different analytical methods as follow. Part-1 (RO#4), the configuration approach is to empirically test the relationship between GMC-structures and competitive advantage with alternative GMC-strategic types. Specifically, this link can be articulated by a *configuration model* or an association between the operationalization of GMC-structures (on basis of *basic* and *advanced* GMC-structures) and GCA by alternative GMC-strategies. Part-2 (RO#5), the mediating effect is to empirically assess the role of GCA that mediates the effect of an overall operationalization of GMC-structures on performance. Part-3 (RO#6), the causal influence is to empirically examine the direct effect of the four components of GMC-structures on performance. Given various analytical techniques, the expected research outcomes of both studies 2 and 3 could contribute to a better understanding from what are derived in terms of strategic implications i.e. *strategic-behaviour fit* and *strategic-GMC fit* for companies. This critical information could be used to gain an upper-hand in terms of a competitive advantage and superior performance. These research outcomes have made important contributions to a body of knowledge in the fields of marketing and strategy study.

Next, the following sections will discuss in detail, research model 2 (study-2: section 5.2.1) and research model 3 (study-3: section 5.2.2) respectively.

### 5.2.1 Research Model of Study-2 (Research Objective 3)

Study-2 focuses on the relationship between multiple variables, i.e. alternative GMC-strategic types (that are derived from study-1), corporate strategic postures (CSP), perceived-green behaviour (PGB) and performance. This study deals with research objective 3 that is: on the basis of the classification of GMC-strategic types (which are derived from RO#2: chapter 4), how the confluence of various *GMC-strategic types*, *corporate strategic posture* (CSP) and *perceived-green behaviour* (PGB) aligns with performance.

Particularly, this study aims to empirically investigate the relationship between companies' *posture-behaviour-performance* that fit with alternative GMC-strategic types by utilising a configuration model. In light of this approach, the alignment of multiple variables i.e. CSP, PGB and performance is moderated by the effect of various GMC-strategic types. This configuration could suggest how each GMC-strategic type with a corporate posture and behaviour constitutes *fit* with performance, and what could be advised as strategic implication based on different GMC approaches. Accordingly, the research model 2 of study-2 is offered as follow.

**Figure 5.2 Research Model 2 of Study-2 (RO#3)**
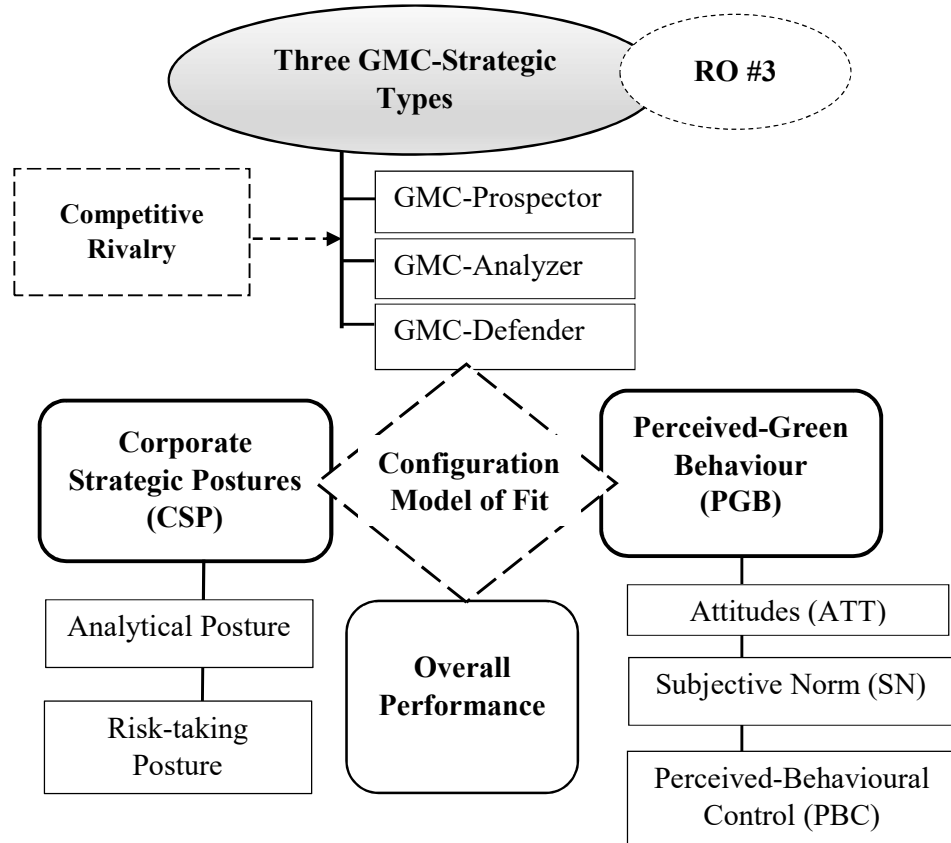


Source: Author

Having discussed the research objective 3 in chapter 1, study-2 builds on the primary conceptual framework and makes use of the research findings (from study-1) that are derived from the classification schemes namely the *GMC-strategic types*. To be more precise, this empirical study aims to explain how alternative *GMC-strategic types* might interact with corporate level posture and perceived-green behaviour that works on influencing performance by utilising a configuration model.

Literature (i.e. Miller, 1996) notes that a configuration model clearly demonstrates a close alignment of elements that reinforce each other and the central idea of configuration. In

other words, a configuration model informs an essence of *harmony* among multiple variables (Mintzberg, 1989). In this study, the author attempts to depict a configuration model in order to understand *strategic-behaviour-fit* which is best described by the confluence of multiple variables within the configuration model. In light of this approach, it might enable a better understanding of how well an organisation's level strategic-posture, perceived behaviour and operational marketing with different GMC approaches would be aligned to enhancing its overall performance. This configuration also represents a relationship between the corporate-business unit-functional level and the role of marketing (Walker Jr and Ruekert, 1987, Olson *et al*., 2005a) which explains how the association between a company's PGB, CSP, and GMC-strategies constitute a *fit* with its performance towards achieving business and market objectives.

The establishment of *fit* within internal contexts would shed some light on the attributes which can be viewed as an appearance of archetype (a set of relationships which are in a temporary state of balance) (Miller and Friesen, 1977). In other words, this *fit* is in line with an implication of a *holistic view* or characteristic that is shaped within an organisation (Miller and Friesen, 1977). Particularly, this study focuses on a corporate-level posture, which interacts with perceived behaviour and an operational marketing of GMC. This *configuration model* could reveal how well the association of multiple factors derives an appropriate *strategic-behaviour-fit* model which may vary depending upon alternative GMC approaches (or strategies). The expected research outcome could also contribute to a body of knowledge in terms of strategic implication of GMC. Furthermore, the proposed research hypothesised relationships of the study-2 are discussed in section 5.3.1. The next section will explain the research model 3 of study-3.

### 5.2.2 Research Model of Study-3 (Research Objectives 4 through 6)

This section offers up research model 3 of study-3. Building on the classification schemes of GMC in terms of the GMC-structures and GMC-strategic types. This particular study aims to examine three different parts/aspects of multi-dimensional GMC models. Part-1 aims to assess the moderating role of alternative GMC-strategic types that have an influence on the relationship between the operationalization of GMC-structures on the basis of two main GMC-structures and GCA by utilising a configuration model. This investigation corresponds to research objective 4 in order to explore companies' *strategic-GMC-fit* models with alternative *GMC-strategic types* for the enhancement of green competitive advantage (GCA) (H4 – H6). Part-2 attempts to examine the *mediating effect* of GCA has on the link between the overall operationalization of GMC-structures and performance. This examination corresponds to research objective 5 (H7). Part-3 aims to test the *direct influence* of four components of GMC-structures on performance. This investigation corresponds to research objective 6 (H8). Next, an overview of research model 3 (study-3) is proposed as below.

**Figure: 5.3 Overview of Research Model 3 of Study-3 (RO#4, 5 and 6)**
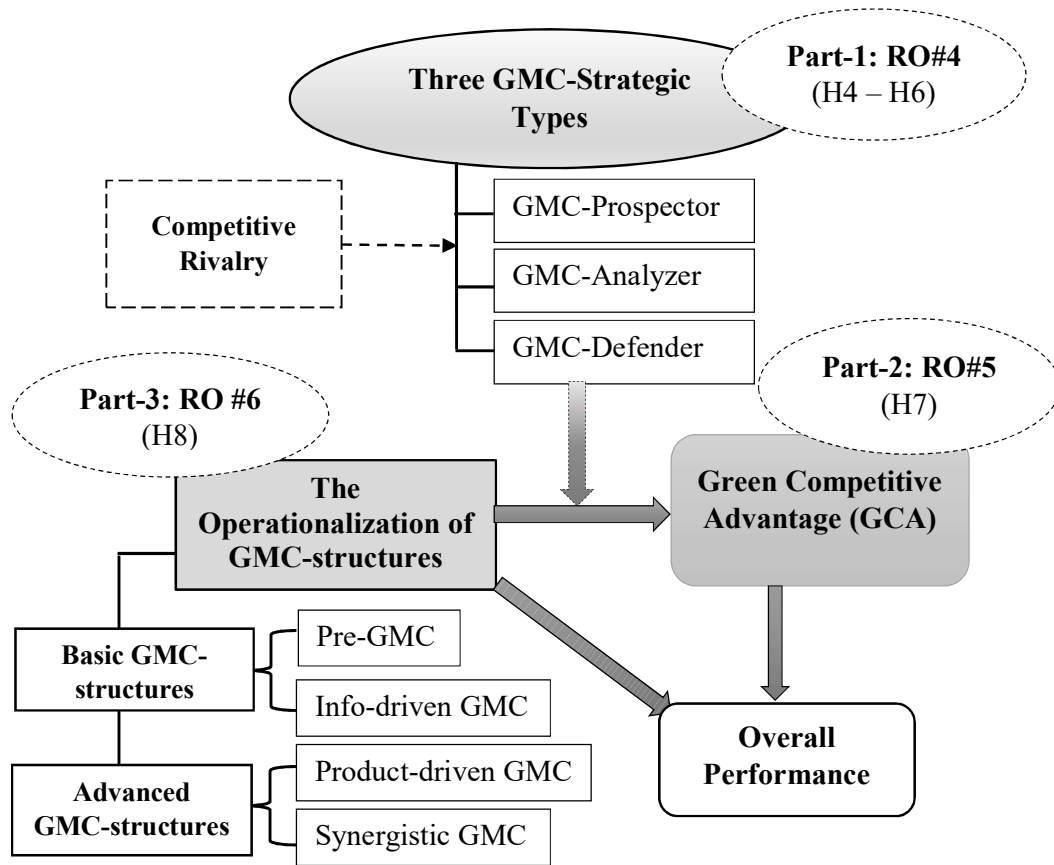


Source: Author

Strictly speaking, study-3 (including part-1, 2 and 3) attempts to explain the salience of three distinctive *GMC-strategic types* and the operationalization of *GMC-structures* that contribute to *fit*, *equifinality* and *organisational effectiveness* (or performance) (e.g. Venkatraman, 1989; Meyer *et al*, 1993; Miller, 1996). It also seeks to understand whether or not both classification schemes in terms of the *GMC strategic types* and the *GMC-structures* work on strengthening green competitive advantage and performance for companies.

In order to capture the 'wholeness' of GMC and its implications, as stated earlier part-1 (RO#4) aims to empirically investigate the moderating role of alternative GMC-strategic

types by focusing on *fit-as-moderator* based on a configuration approach (Venkatraman, 1989). In particular, the *configuration model* can explain *strategic fit* which highlights the match between *strategy* and *system or structure* in contributing towards performance effectiveness (Venkatraman and Camillus, 1984). Meanwhile, past studies (e.g. Van de Ven and Drazin, 1984, Ketchen *et al.*, 1993) indicate that *strategic typology* allows the interplay between organisation's characteristic and strategy that *fit* to reinforce strategic implications and superior performance for companies. Based on this logic, the expected findings of this study can be reported as a pursuit of *strategic-GMC-fit* in which depends upon the interaction between the operationalization of GMC-structures (on the basis of *basic-* and *advanced* GMC-structures) and GMC strategies (approaches) that shaped within an organisation. The research outcomes in terms of *strategic-GMC-fit* could also contribute to a body of knowledge highlighting the strategic implication of GMC that helps enhance green competitive advantage for companies.

Next, part-2 (RO#5) aims to empirically assess the mediating role of GCA that works on influencing the link between an overall operationalization of GMC-structures and performance. Particularly, it aims to contribute to a better understanding of how GCA intervenes on the effects of operationalization of GMC-structures on performance. In other words, it is designed to gain some insights into the influence of GCA and whether or not the GCA mediates the effect of GMC-structures on performance. In addition, this research is built on the relationship between *GMC structure-GCA-performance* which can be explained by the *equifinality* (Meyer *et al*, 1993). On this basis, the expected findings suggest that the GCA which is gained by an implementation of GMC-structures could lead to heighten organisation's performance. Consequently, it is believed that the salient role of GCA will help improve *organisational effectiveness* (Miller, 1996) by developing the GMC-structures.

Lastly, part-3 (RO#6) aims to empirically examine the causal influence of the four components of *GMC-structures* on performance. This investigation builds on the RO#5 in order to extend the imminent role of four components of the *GMC-structures*. The contribution of this specific part could lead to a better understanding of whether or not each component of the GMC-structures directly leads to strengthening companies' performance. The expected findings can also be used as advice on how each component of the *GMC-structures* plays a significant role as an influencing factor, which has an impact on organisation's performance. Moreover, the outcomes could clearly explain and affirm the salience of multi-dimensional GMC model and its implications (on the basis of four components) that are closely related to contributing overall performance for companies or organization effectiveness (Miller, 1996).

The following sections discuss the research hypothesised relationships of both empirical sub-studies: study-2 (section 5.3.1) and study-3 (section 5.3.2, 5.3.3 and 5.3.4) respectively.

## 5.3 Research Hypotheses

### 5.3.1 Study-2: The Configuration Model of Fit among Various GMC-Strategic Types, Corporate Strategic Postures (CSP), Perceived-Green Behaviour (PGB) and Performance: H1 – H3 (Research Model 2: RO#3)

This section continues to posit research hypothesised relationships of study-2. As already stated in the previous section, this study attempts to explain various *strategic-behaviour-fit* models as approached by alternative GMC-strategic types based on a configuration method. This examination focuses on multiple variables i.e. three GMC-strategic types, CSP, PGB, competitive rivalry and performance. Meanwhile company's age, sizes, industry types are set as controlled variables. In point of fact, these variables may potentially confound the analysis. This study corresponds to research objective 3 and demonstrates the relationships

between multiple variables as seen in figure 5.4 below. Subsequently, a series of research hypothesised relationships: H1 to H3 are proposed as follow.

**Figure 5.4 Research Hypothesised Relationships: H1 – H3 (Study-2: RO#3)**
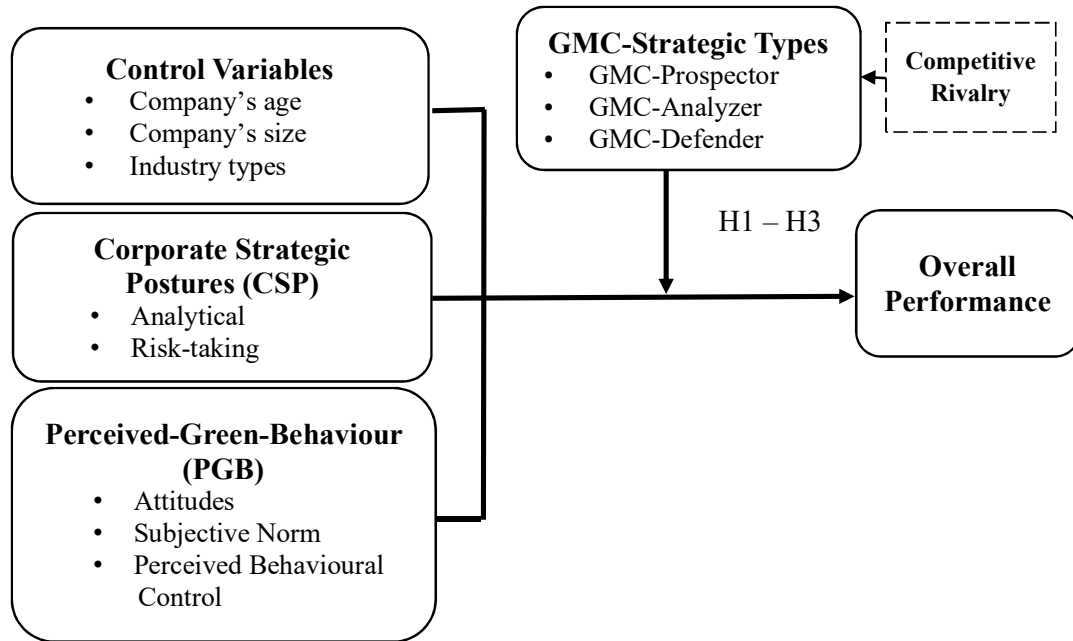


Source: Author

### 5.3.1.1    GMC-Prospector as Moderator (H1a – H1d)

Given the findings generated by this doctoral study and reported in chapter 4 (i.e. relating to GMC-strategic types) when the term 'GMC-prospector' is used in this thesis it refers to a type of GMC-strategy in which companies adopt and act in ways represented as an opportunity-seeker or an expert in exploiting green product/market opportunity. The empirical results suggest that the dominant characteristic of a GMC-prospector is viewed as being the *first-mover* towards the exploitation of green product/market opportunity. On the basis of the development of GMC-structures (from chapter 4), it is also advised that a GMC-Prospector is a leader in change, moving a company forward in developing GMC with its proactive manner. Owing to the GMC-prospectors' unique characteristics, their unifying

strengths are expressed as being keen in approaching all four components of the GMC-structures.

Specifically, the findings give evidence that the GMC-prospectors possess effective green market *planning skills* of GMC (Pre-GMC) and adequate green market *information-orientation* of GMC (Info-driven GMC). In addition, they move forward the development of green product (Product-driven GMC). They also show responsibility/agreement through green marketing activities and communication of environmentally-friendly commitment across organisation and with customers (which could be labelled 'Synergistic GMC'). Furthermore, the GMC-prospectors tend to outperform other types of companies with their proactive manner through the development of GMC. These practices are as a result of their distinctive attribute i.e. leading change towards a green market place more enthusiastically. Being fully and effectively equipped with GMC knowledge-based resources, skills and practices in turn drives them towards the exploitation of opportunities in green product/market in order to gain greater performance outcomes.

In order to capture a broader view from literature, this study interprets the findings and compares them with the *organisation's typologies* of Miles and Snow (1978) as follows. The *GMC-prospectors* are highly capable of searching and exploiting new product and market opportunities, more capable than the *analyzers* and *defenders*. It is also evident that in order for the *prospectors* to enter into new market arenas, they do adhere to their practice in searching through a variety of environmental conditions, trends and events. In addition, they pay more attention to the quality of investment, individuals and groups capability within the organisation. As a result of that, they are able to continuously create changes and being leaders in the marketplace (summarised from Miles *et al*, 1978).

Moreover, some of the literature (e.g. Li and Tan, 2013; Fiss, 2011; Slater *et al*, 2010; Hughes and Morgan, 2008; Song *et al*, 2007) in relation to strategy research supports the

empirical findings of GMC-prospectors as follow. The *GMC-prospectors* tend to be more dynamic than other strategic types within the same industry. Particularly, this type of strategy manifests a rather *progressive* and *fast-adaptive* manner; meanwhile, involves a *first-mover advantage strategy* implementation. The *prospectors* also proactively commit to a full exploitation of new market opportunities with *competitive strategy* execution and *innovative product development* whilst continuing to search for a new market trend (Olson *et al*., 2005, Vorhies and Morgan, 2003; Miles *et al*, 1978).

In addition, research shows that the *prospectors* do value being leaders or first movers, embarking on new product/market even though the investment might not always be highly profitable (Robinson *et al*., 1992). Meanwhile they persistently respond to the signals of new market opportunities or changes, and the launch of new products in order to meet and satisfy the potential customer demands (Song *et al*., 2007). On the one hand, whilst the *prospectors* tend to move towards a *proactive market orientation* (Narver *et al*., 2004), on the other hand, they seem to take chances that might have inconsistencies within profit margins when compared to others competitors (i.e. the *defenders* and *analyzers*) (Miles *et al*., 1978). Nevertheless, they are still enthusiastic and proactive in new products and market development which can be viewed as their strengths and their ambition towards new market opportunity (Miles *et al*, 1978).

In summary, as discussed above, what is witnessed is that the *GMC-prospectors* are proactive with their own self-interest towards the development of GMC-structures. In other words, their *proactive* manner could be expressed as embodying in an exploitation of green marketing knowledge-based resources and capabilities at an operational level for the development of GMC-structures. As such, they are capable to take prompt action to embarking on a green product/market opportunity in order to gain a *first-mover advantage* (Fiss, 2011; Hughes and Morgan, 2008). Based on this viewpoint, it can be assumed that

they tend to possess a *risk-taking* posture at a corporate level which might have an impact on performance. Accordingly, a research hypothesised relationship is formulated as below:

> ***Hypothesis 1a:*** Among GMC-prospectors, there is a *positive* relationship between a corporate risk-taking posture and performance.

The literature (e.g. Fiss, 2011; Song *et al*, 2007) also indicates that the *prospectors* do show concern about taking a leading role or the *first-mover* with a proactive manner in embarking on new product/market opportunities. In doing so, they might not always follow a thorough analytical approach and plan as they should do prior to taking on board a new market. As such, GMC-prospectors' characteristics show they always look forward to new market trends, although those opportunities might occasionally not turn out to be profitable for them (Robinson *et al*., 1992). Based on this circumstance, it may show a relative lack of appropriate thoroughness within their *analytical* posture at a corporate level among the GMC-*prospectors*, which has an impact on their performance. Armed with the above knowledge, a research hypothesised relationship is proposed as below.

> ***Hypothesis 1b:*** Among GMC-prospectors, there is a *negative* relationship between corporate's analytical posture and performance.

However, with GMC-prospectors' strengths they seem to take challenge over green market opportunity and competition. This circumstance is obvious when they embark on a new product/market with *progressive* thought and *first-mover strategy* implementation (Hughes and Morgan, 2008) as a reflection on the concern over competitive rivalry. Accordingly, it can be assumed that they may perceive green product/market competition as a distinctive challenge in the market place. Subsequently, a research hypothesised relationship is offered as follow.

> ***Hypothesis 1c:*** Among GMC-prospectors, there is a *positive* relationship between companies' concern of competitive rivalry and performance.

In addition, some literature (e.g. Fiss, 2011; Slater *et al*, 2010) emphasises that the *prospectors* persistently respond signals generated from new market opportunities or changes. They are always looking for new opportunities for the launch of new products in order to meet and satisfy the potential within customer demands (Song *et al*., 2007). This type of behaviour reflects their self-interest and enthusiasm as *prospectors,* deems to be their trait as *dynamic* entrepreneurs in the ever changing market environment (Miles *et al*, 1978). Combined with the insights from empirical study-1, the GMC-prospectors seem to possess a self-driven characteristic that moves them towards the development of green product/market as being the *first-mover* in a marketplace (e.g. Slater *et al*, 2010; Song *et al*, 2007). With this in mind, it is believed that the *green perceived behaviour* as reflected by the stakeholders (e.g. customers, government) might have no influence on companies' decision-making to take on board green product/market opportunity. In other words, they move towards the development of GMC-structures with their own interests. Consequently, a research hypothesised relationship is proposed as below.

> *Hypothesis 1d:* Among GMC-prospectors, there is a *negative* relationship between companies' concern of perceived green behaviour (as reflected by stakeholders) and performance.

### 5.3.1.2    GMC-Analyzer as Moderator (H2a – H2d)

Given the findings generated by this doctoral study and reported in chapter 4 (i.e. relating to GMC-strategic types) when the term 'GMC-analyzer' is used in this thesis it refers to a type of GMC-strategy in which companies adopt and act in ways represented as a critical-adopter or an elaborative-follower in exploiting green product/market opportunity. The results suggest that the dominant characteristic of GMC-analyzer is viewed as the *second-mover* into green product/market with a mindful and decisive manner in its approach. On the basis of the development of the four components of GMC-structures, it is found that the

GMC-analyzers are second to the GMC-prospectors in developing GMC-structures as an *elaborative follower*.

Owing to the GMC-analyzers' unique characteristics, their unifying strengths are expressed as being thoughtful with their analytical ideal, whilst approaching all four components based on the GMC-structures. The empirical results (chapter 4) reveal that the GMC-analyzers tend to be mindful in developing the GMC-structures. For instance, they are thorough towards the development of green market planning skills (Pre-GMC), the green market information-orientation of GMC (Info-driven GMC), and the development of green product (Product-driven GMC). Moreover, they coordinate with partners/distributors for environmental preservation responsibility/agreement through marketing activities and communication across the whole organisation as well as with customers (Synergistic GMC). Accordingly, their practices are drawn from the results of their distinctive attribute i.e. elaborative with an analytical manner, which is appropriately equipped with the GMC knowledge-based resources, skills and practices towards an exploitation of opportunity in green product/market in order to gain better performance outcomes.

In order to capture a broader view from literature, this study interprets the findings and compares it with the *organization's typologies* of Miles *et al* (1978) as follows. Miles, Snow, Meyer and Coleman (1978, p. 553) indicate that *the analyzers* are in the middle of the two groups: *the prospectors* and *defenders* (who expose themselves in an opposite direction with a diverse strategic type). The *analyzer* type expresses more practical strategies which are combined with both the *prospector* and *defender* approaches. Meanwhile the genuine *analyzers* make great efforts in avoiding risk-taking with their aim to optimise opportunities with cost efficiency and profitability. Hence, it can be viewed as an *adaptive or a balanced* approach. Notwithstanding this, the *analyzers* could move towards new product/market

opportunities if they happen to be feasible, even with their thorough analytical processes, as long as they can retain their operational efficiency (summarised from Miles *et al*, 1978).

Some literature (e.g. Li and Tan, 2013; Fiss, 2011; Slater *et al*, 2010; Song *et al*, 2007) on strategy research also indicates that the *analyzer* type is more concerned with the *"second-but-better"* strategy. As it is evident that the *analyzers* are good at integrating both *prospector* and *defender*'s strengths with their own distinct *analytical* process through *adaptive or a balance* approach. As a result, the unique strategy of the *analyzers* can be viewed as being *balance/hybrid* combined with their analytical approach (Olson *et al*, 2005). Although the GMC-analyzers are second to the GMC-prospectors and better than the GMC-defenders, their strength in synthesising critical information could heighten the marketing capability to attaining target market objectives and positive performance results.

Moreover, the *analyzers* do show concern about approaching an optimal balance between *stability and flexibility* in their strategy implementation (Olson *et al*, 2005). It is found that the *analyzers* are rather thoughtful and careful in monitoring competitors, in cases of a rival's failure they are found to take over the opportunities to win the market (e.g. Hughes and Morgan, 2008, Song *et al*., 2007, Miles *et al*., 1978). On the one hand, they are labelled as the *followers* (or the second), on the other hand, it shows that they take into consideration *cost-efficiency* within products and services (Conant *et al*., 1990, Dyer and Song, 1997). As such, in order to protect and maintain their core products and markets, they thoroughly inspect the opportunities as well as deploying their resources in a more efficient manner (Slater *et al*., 2010 and 2006).

In summary, as discussed above, it is seen that the GMC-analyzers tend to be careful of the development of GMC-structures with their *elaborate* approach. In other words, their meticulous attention could be expressed as embodying in an exploitation of green marketing knowledge-based resources and capabilities at an operational level for the development of

GMC-structures. Moreover, they depend much more on information-orientation before making decisions to embark on a green product/market opportunity; meanwhile, are consistent with their strength in analysis through marketing strategy implementation (e.g. Miles *et al*, 1978; Olson *et al*, 2005; Slater *et al*, 2010). Armed with the above insights, it can be concluded that the *GMC-analyzers* do not seem to possess a *risk-taking* posture at a corporate level which might impact on their performance. Therefore, the research hypothesised relationship is offered as follow.

> *Hypothesis 2a:* Among GMC-analyzers, there is a *negative* relationship between a risk-taking posture at a corporate level and performance.

According to the GMC-analyzers' characteristics as discussed above, this study draws an assumption that they are prone to take an analytical posture at a corporate-level which has influence on performance. Subsequently, a research hypothesised relationship is proposed as below.

> *Hypothesis 2b:* Among GMC-analyzers, there is a *positive* relationship between an analytical posture at a corporate level and performance.

With regard to the GMC-analyzers' characteristics as an *elaborative follower* in approaching green product/market, they might view the prospectors as a competitor in the market place. Likewise, it is noted that the analyzers are thoughtful on implementing a *second-but-better* strategy (e.g. Miles *et al*, 1978; Song *et al*, 2007; Slater *et al*, 2010) so that they could be able to beat their competitors. Based on this perspective, the GMC-analyzers are careful and mindful in their processes when they embark on green market strategy. Especially when they are confronted with intense competition from the GMC-prospectors. As a result, this study draws an assumption that GMC-analyzers do show concern about competitive rivalry over green products/markets as a challenge to their

business success. Subsequently, a research hypothesised relationship is formulated as below.

> ***Hypothesis 2c:*** Among GMC-analyzers, there is a *positive* relationship between companies' concern of competitive rivalry and performance.

In addition, owing to the GMC-analyzers' unique characteristics which can be labelled as *followers* (or the second), it reveals that they take into consideration *cost-efficiency* in products and services (Conant *et al.*, 1990, Dyer and Song, 1997; Olson *et al*, 2005) rather than taking prompt action on embarking on new green market strategies. In other words, it might be viewed that they do not clearly expose their self-ambition like the GMC-prospectors do when embarking on a green product/market. As a result, this study draws an assumption that the stakeholders' reflection (e.g. customers, government) upon perceived green behaviour might have an impact on their decision-making towards the development of GMC. Subsequently, a research hypothesised relationships is proposed as below.

> ***Hypothesis 2d:*** Among GMC-analyzers, there is a *positive* relationship between a company's concern of perceived green behaviour (as reflected by stakeholders) and performance.

### 5.3.1.3    GMC-Defender as Moderator (H3a – H3d)

Given the findings generated by this doctoral study and reported in chapter 4 (i.e. relating to GMC-strategic types) when the term 'GMC-defender' is used in this thesis it refers to a type of GMC-strategy in which companies adopt and act in ways represented as a conservative-adherent or an isolated group in exploiting green product/market opportunity. The results suggest that the dominant characteristic of the GMC-defender is viewed as being a *conservative adherent* company with its core defending strategy implementation.

Owing to the *defenders'* unique characteristics, they tend to be a slower and isolated group in developing the four components of GMC-structures. The empirical results also show evidence that they fall behind the development of all aspects i.e. the green market planning skills of GMC (pre-GMC), the green market information-orientation of GMC (info-driven GMC), the green product design and development (product-driven GMC), as well as the coordination among channel network/partnership and communication practices (synergistic GMC). This conclusion can be drawn as a result of their distinctive unawareness attributes of the development of GMC and their lack of enthusiasm to engage in the green market. In other words, they expose a rather conservative and consistent core-defensive strategy, sticking to their market domain.

In order to capture a broader view from literature, this study interprets the findings and compares it with the *organization's typologies* of Miles *et al* (1978) as follows. Miles, Snow, Meyer and Coleman (1978, p. 550) state that the *defenders* consciously play their roles in order to retain an environment which can scrutinise their secured condition for the company. This scenario can be explained by a particular market or domain which the *defenders* contend to maintain their market domain and prevent competitors from penetrating into their business boundaries. It also seems that they are not impressed by competition outside their domain whilst keeping a distance from new market trends. This evidence can be viewed as being genuine defenders who enjoy retaining their market niche within the industry (upon a single or narrow market) instead of exposing their selves to new market opportunities (summairsed from Miles *et al*, 1978).

In addition, some literature (e.g. Li and Tan, 2013; Fiss, 2011; Slater *et al*, 2010; Song *et al*., 2007; Vorhies and Morgan, 2003; Slater and Narver, 1993) on strategy research highlights that the *defenders* are not only considered as being *risk-adverse* with a *reactive response*, they also largely depend upon the deployment of capabilities more efficiently,

consistent with their own core defending strategy. It is also noted that the *defenders* do focus on maintaining their secure market within a domain, as well as putting more effort into improving service, product quality and image, so as to sustain their core market niche (Miles *et al*., 1978; Olson *et al*., 2005a). Nevertheless, they might adopt a *value marketer* strategy (concerned with high-quality, moderately innovative products) into their practices  (Olson *et al.*, 2005b). This practice in turn could help them improve their products, to achieving their market objectives. On a negative note, past research (i.e. Hughes and Morgan, 2008) suggests that the *defenders* are the least likely to put an emphasis on information orientation among all the three strategic types.

In summary, as discussed above, it is witnessed that the GMC-defenders are an isolated group. Meanwhile, they are rather conservative towards the development of GMC-structures. As it appears obvious that they are the group with the least interest in making changes toward a new market trend, particularly in green products/markets when compared to other types (i.e. *prospectors* and *analyzers*). Similarly, past research (i.e. Miles *et al*, 1978; Fiss, 2011) also supports that they enjoy maintaining their product/market domain, rather than making any effort to catch up with competition outside their territory. However, with their ability to keep up with some changes in the niche's demand towards green product/market trend, their c*onservative* mindset could be expressed as embodying in an exploitation of green marketing knowledge-based resources and capabilities at an operational level for the development of GMC-structures. In other words, it can be said that they do possess a rather reactive response to green product/market trends. Bearing this in mind, this study draws an assumption that the GMC-defenders do not exhibit a *risk-taking* posture at their corporate level, but instead they conduct business with a defensive approach. Subsequently, a research hypothesised relationship is offered as below.

> *Hypothesis 3a:* Among GMC-defenders, there is a *negative* relationship between companies' approaching risk-taking postures and performance.

In addition, the empirical findings affirm that the GMC-defenders' unique attribute which is prone to *reactive response* towards green product/market opportunity (Miles *et al*, 1978). As such, the *defenders* show the least amount of emphasis on the information orientation among all three strategic types (Slater *et al*, 2010; Hughes and Morgan, 2008). Based on the above insights, they are likely fall behind in green market information orientation and searching for new market trends as they should. This reflects their inability to incorporate an appropriate analytical approach at a corporate level, which might have an impact on performance. Hence, a research hypothesised relationship is formulated as follow.

> *Hypothesis 3b:* Among GMC-defenders, there is a *negative* relationship between companies' approaching analytical postures and performance.

Meanwhile, literature highlights that the genuine *defenders* tend to protect their market niche instead of exposing themselves to such new market opportunities or competition outside their domain (Fiss, 2011; Miles *et al*, 1978). Likewise, the GMC-defenders who tend to be conservative in doing business with a core defending strategy in order to maintain their target market. This incident also reflects that they do not show much concern about the competition in green product/market which is likely to be outside of their interest. Therefore, a research hypothesised relationship is indicated as below.

> *Hypothesis 3c:* Among GMC-defenders, there is a *negative* relationship between companies' concern of competitive rivalry and performance.

Moreover, the empirical findings give evidence to the fact that the GMC-defenders (with a core defending strategy in nature) exhibit the least amount of self-ambition towards the development of GMC. They also tend to focus on their narrowing marketing domain instead. However, literature defines the unique attribute of the *defenders* as possessing a capability

to develop new products in order to satisfy their target customers' demand (Slater *et al*, 2010; Olson *et al*, 2005). In particular, this attribute can be reflected in a way that the defenders take into account the perceived-green behaviour – PGB (as reflected by the stakeholders i.e. customers, shareholders, distributors) in order to keep on track with their customers' need and maintain their niche demand. With this knowledge, it is likely that the GMC-defenders must adapt to their stakeholders' opinions on the perceived behaviour. This in turn potentially have an impact on a decision-making process at their corporate level towards the development of GMC. Accordingly, a research hypothesised relationship is proposed as follow.

> ***Hypothesis 3d:*** Among GMC-defenders, there is a *positive* relationship between a corporate's concern of perceived green behaviour (as reflected by stakeholders) and performance.

In brief, the empirical study-2 proposes a series of hypothesised relationships among different types of GMC-strategies (as moderators) that companies might approach in compliance with multiple variables: CSP, PGB, competitive rivalry and performance. On the basis of review of past studies (e.g. Miles *et al*, 1978; Fiss, 2011; Li and Tan, 2013) combined with the present study's empirical findings (chapter 4), this study depicts the distinctiveness among three GMC-strategic types: GMC-prospector, GMC-analyzer and GMC-defender. It brings to light the extent to how well these GMC-strategies *fit* with companies' performance, which could enhance the *configuration model* among various variables i.e. CSP, PGB and competitive rivalry. This associated trajectory is also reflected in terms of *strategic-behaviour fit*. In addition, the *strategic-behaviour* model could contribute to a better understanding of how each GMC-strategy derives a strategic implication. This behaviour will largely depend on the *fit* between 'strategy' and

'organisations' effectiveness' (or performance) (Miller, 1996). (More discussions on data analysis of this study can be found in chapter 6: section 6.4.1)

Next, this study summarises the key literature used for the development of research hypotheses, and provides an overview of the proposed hypothesised relationships of study-2: H1 – H3 in table 5.1 as below.

**Table 5.1 Overview of Key Literature Used for the Hypothesis Development and Research Hypothesised Relationships of Study-2 (H1 – H3)**

| | | | Three GMC-Strategic types | | |
|---|---|---|---|---|---|
| **Key Literature** | **Hypotheses** | **Studied variables** | **GMC-Prospectors** | **GMC-Analyzers** | **GMC-Defenders** |
| Miles and Snow (1978) | H1a | Risk-taking | Positive | | |
| | H1b | Analytical | Negative | | |
| | H1c | Competitive rivalry | Positive | | |
| Vorhies and Morgan (2003) | H1d | PGB | Negative | | |
| Olson, Slater and Hult (2005) | H2a | Risk-taking | | Negative | |
| | H2b | Analytical | | Positive | |
| | H2c | Competitive rivalry | | Positive | |
| Slater, Olson and Hult (2006) | H2d | PGB | | Positive | |
| Song, Di Benedetto and Nason (2007) | H3a | Risk-taking | | | Negative |
| | H3b | Analytical | | | Negative |
| | H3c | Competitive rivalry | | | Negative |
| Hughes and Morgan (2008) | H3d | PGB | | | Positive |
| Slater, Hult and Olson (2010) | | | | | |
| Fiss (2011) | | | | | |
| Li and Tan (2013) | | | | | |

Source: Author

Next, the following sections will present more research hypotheses of study-3 starting with part-1 (H4 – H6) in section 5.3.2, part-2 (H7) in section 5.3.3, and part-3 (H8) in section 5.3.4 respectively.

### 5.3.2 Study-3 (part-1): Investigation on the Moderating Effect of Alternative GMC-Strategic Types on the Relationship between GMC-Structures and Green Competitive Advantage (H4 – H6) (Research Model 3: RO#4)

This section aims to postulate research hypothesised relationships of empirical study-3 (part-1). Building on the classification schemes of GMC (chapter 4), both findings on the basis of GMC-strategic types and the GMC-structures are brought forward for further empirical analyses in study-3. This particular study employs a configuration approach in order to examine a series of research hypothesised relationships (see an illustration in figure 5.5).

In light of the configuration approach, both study-2 and -3 utilise the three GMC-strategic types as moderators. These studies share the same purpose by using a *configuration model of fit* among multiple variables in order to understand how the *fit* model contributes performance effectiveness, in other words, influences companies' competitive advantage and performance. Particularly, study-3 (part-1) builds on the findings of the classifications of GMC based on both, the GMC-structures and the GMC-strategic types (from study-1: chapter 4). This study not only aims to gain a better understanding of whether or not the classification of GMC-structures interact with the GMC-strategic types. It is also to investigate whether or not the role of the GMC-structures are regarded as influential factors in contributing towards a critical source of competitive positioning, which in turn leads a better performance for companies. With this purpose, the expected findings could reinforce the effectiveness of the GMC model which constitutes a company's *organisation effectiveness* through its performance (Miller, 1996).

As stated earlier, this study corresponds to the research objective 4 and aims to assess the role of the three GMC-strategic types as moderators (the moderating effect or fit-as-moderation) by using a configuration approach (Venkatraman, 1989) and the association

with the operationalization of two main GMC-structures (*basic* and *advanced* GMC-structures) and green competitive advantage (GCA). This investigation particularly focuses on three groups of variables i.e. three GMC-strategic types, the two main GMC-structures and GCA. Meanwhile company's age, sizes, industry types and competitive rivalry are set as controlled variables. In point of fact, these variables may potentially confound the analysis.

Based on the classification of the GMC-structures, the operationalization of GMC can be divided into two main structures which are: (1) *basic* GMC-structure (on the basis of *architectural* marketing capabilities) and (2) *advanced* GMC-structure (on the basis of *specialized* marketing capabilities) (Morgan, 2012) which have already been discussed in chapter 4 (section 4.2.1: classification of GMC-structures). In particular, the *basic* GMC-structure consists of the *pre-GMC* and *info-driven GMC* concerning the *architectural* marketing capabilities (Morgan, 2012). Next, the *advanced* GMC-structure is comprised of the *product-driven GMC* and *synergistic GMC* which are the cornerstone to *specialized* marketing capabilities (Morgan, 2012). The combination of both *basic* and *advanced* GMC-structures contributes to an overall operationalization of the GMC-structure (a representation of overall companies' strategic marketing plan and capabilities at an operational level that is fully embedded in environmentally-oriented aspect). Furthermore, a series of research hypothesised relationships of study-3 (part-1) are developed and illustrated as below (see figure 5.5).

**Figure 5.5 Research Hypothesised Relationships: H4 – H6 of Study-3**

**(Part-1: RO#4)**
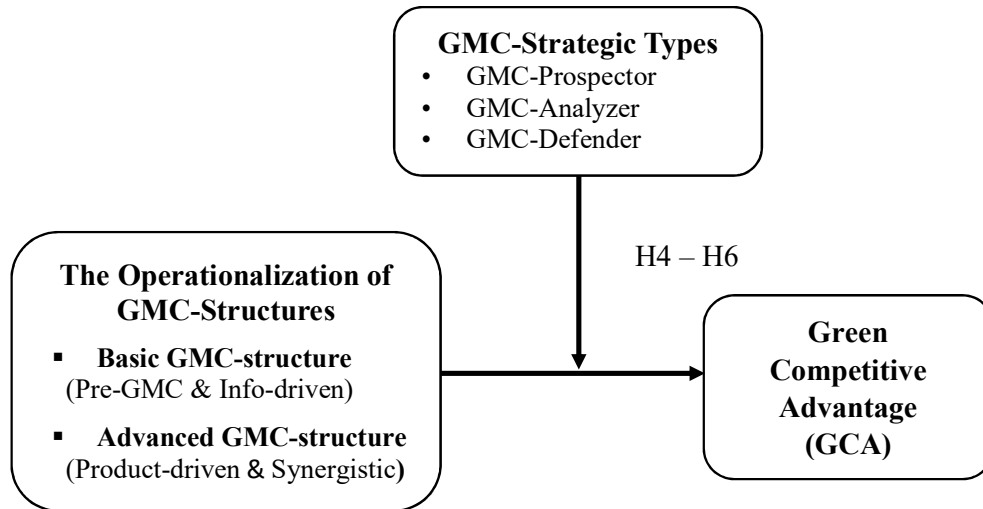


Source: Author

### 5.3.2.1    GMC-Prospector as Moderator (H4a – H4b)

Having discussed the dominant characteristics of the GMC-prospectors in the previous section, this section further discusses their strategies and strengths on the basis of the operationalization of *GMC-structures*. The empirical findings (from chapter 4) reveal that the GMC-prospectors are considered as keen or an expertise in developing the GMC-structures. They tend to be leading change with a *clear goal/mission* to achieving their market objectives (Slater *et al*, 2006) and possess a *fast-adaptive* gesture to gaining *first-mover advantage* in developing towards GMC. All of these characteristics can be viewed as the unifying strengths of GMC-prospectors. To be more precise, the GMC-prospectors are found to be highly capable in searching and exploiting green product and market opportunities more than the GMC-analyzers and the GMC-defenders. What is also is witnessed is that they tend to develop and adhere to their strengths in searching through a variety of environmental conditions, trends and events (Miles *et al*, 1978). As a result of

that, they pay more attention to the quality of investment in *individuals and groups' capability* within the organisation. With this process, they are be able to continuously create changes and be leaders in the marketplace (Miles *et al*, 1978).

On the basis of the operationalization of the GMC-structures i.e. *basic* and *advanced* GMC-structures which are the cornerstone to a company's marketing resources and capabilities (Morgan, 2012), it is concerned with internal resources as critical drivers of competitive advantage and performance (Amit and Schoemaker, 1993, Peteraf, 1993). The empirical results affirm that the GMC-prospectors have sufficient green marketing knowledge-based resources, based on strategic green marketing planning skills, and information-orientation and implementation of GMC. They are adaptable to green product design and development, as well as being capable of managing environmentally-friendly channeled networking and partnering with distributors and suppliers. Hence, the GMC-prospectors possess effective internal corporate communication skills, as well as external communication skills with their customers. As a result, they are fully equipped with knowledge and great potential towards the development of the operationalization of GMC based on the two main structures: *basic* and *advanced* GMC-structures.

In addition, both *basic* and *advanced* GMC-structures not only focus on a continuous reconfiguration, or reconsolidation among multiple types of resources that change existing capabilities in developing new strategies over time (Eisenhardt and Martin, 2000), but also contribute to the configuration that combines and bundles multi-tasking green marketing functions at an operational level to create a new source of competitive advantage (Morgan, 2012). Specifically, the *basic* GMC-structures involve knowledge-based green marketing planning, information implementation and dissemination for decision making purposes across an entire organisation. Meanwhile, the *advanced* GMC-structures are concerned with green product design and development, combining green channel/network partnership with

other companies for environmentally-friendly commitment, as well as communication across organisations and customers. As a result, the above expertise could have facilitated GMC-prospector to be able to move forward as leading-change among all groups.

Drawing on the GMC-prospectors' core strategy and strength, i.e. an *opportunity-seeker* with *fast-adaptive* and *first-mover advantage strategy* in green product/market. The operationalization of the two main GMC-structures are aligned with their progressive thought and advancing plan (by integrating a multi-leveled organisation's capabilities) which is incorporated in their green marketing knowledge-based and information implementation (based on *basic* GMC-structures). Additionally incorporated is their green product design and development, as well as green partnerships/coordination for an environmentally-friendly commitment (based on *advanced* GMC-structures). On the basis of their synthesis of strategies and strengths, the GMC-prospectors are able to improve their capabilities to search and stay up-to-date with new market trends as well as assimilate organisation's *individuals* and *group's capability.* Hence, they can continuously create changes (e.g. Miles *et al*, 1978) to be *fast-adaptive* through their development of GMC. By which this process helps them strengthen a critical source of competitive advantage, and yet to be the *first-mover* in green market place.

Armed with the above insights from literature and the empirical findings (chapter 4), this study draws an assumption that companies with GMC-prospector strategic type based on their core strategies and strengths as being *fast-adaptive* with *first-mover advantage strategy* implementation together with a full exploitation of multi-leveled organisation's capabilities (Fiss, 2011; Hughes and Morgan, 2008; Miles *et al*, 1978) are able to deploy green marketing knowledge-based resources and information-orientation in relation to *basic* GMC-structures (Pre-GMC and Info-driven GMC). This is done for the enhancement of

153

their critical source of green competitive advantage (GCA). Consequently, a research hypothesised relationship is offered as below.

> **Hypothesis 4a:** Among GMC-prospectors, there is a *positive* effect of basic GMC-structures (in terms of pre-GMC and info-driven GMC) on their critical source of GCA.

In addition, the ability of the GMC-prospectors' to integrate multi-leveled organisation's exploitation of its full capabilities (Miles *et al*, 1978; Slater *et al*, 2010) into the *advanced* GMC-structures based on both green product design and development (product-driven GMC) as well as the hybrid practices of GMC through channel/network partnership with other companies for environmentally-friendly commitment, as well as communication across organisations and customers (synergistic GMC) could also lead them to improve a critical source of GCA. As a result, a research hypothesised relationship is formulated as below.

> **Hypothesis 4b:** Among GMC-prospectors, there is a *positive* effect of advanced GMC-structures (in terms of product-driven GMC and synergistic GMC) on their critical source of GCA.

### 5.3.2.2 GMC-Analyzer as Moderator (H5a – H5b)

Having discussed the unique characteristics of GMC-analyzers in the previous section, this section further discusses their strategies and strengths on the basis of the operationalization of GMC-structures. Empirical findings from chapter 4 show that the GMC-analyzers are regarded as *critical-adopters* towards the development of GMC. Their corporate level strategy positioning indicates, they tend to hold an *analytical* approach with a careful manner in exploiting a green product/market opportunity. They are found to be an *elaborative-follower* through mindful or thorough mindsets towards the development of GMC-structures. This characteristic seems to represent their unifying strengths of being

*analyzers,* to incorporate a *cost-efficiency* strategy in order to achieve target market objectives (Slater *et al*, 2010; Song *et al*, 2007).

The empirical findings (chapter 4) suggest some grounding characteristics of GMC-analyzers based on the development of GMC-structures as follows. In terms of *basic* GMC-structures (pre-GMC and info-driven GMC) which are fundamental to the GMC model, the GMC-analyzers have been witnessed as having some basic knowledge of green marketing planning skills and relevant information-orientation activities of green product/market. In terms of *advanced* GMC-structures (product-driven GMC and synergistic GMC), they are also seen to consider developing green products as well as expose their capacity to manage an environmentally-friendly channel network. They also show the ability to form partnerships with distributors and suppliers, even though they are second to those of the GMC-prospectors. Furthermore, they utilise appropriate internal corporate communication skills as well as maintaining external communication with their customers to promote environmental responsibility and commitment.

Based on the operationalization of two main GMC-structures (both *basic* and *advanced* GMC-structures), some significant savings on long term waste management, energy costs as well as operational improvement and ability to utilise  recyclable supplies and materials become more feasible (Porter and van der Linde, 1995b, Leonidou *et al*., 2013b, Chang, 2011). Moreover, through regular investment on new green (eco-friendly) technology, system, processes and strategies could improve companies' competitive position in the marketplace (Porter, 1995; Leonidou *et al*, 2013). These beneficial practices substantially contribute to a cost effectiveness for the GMC-analyzers to take on board in their marketing operation. For instance, the significant change in cost savings by developing green products/services. Strictly speaking, the *basic* GMC-structures involve knowledge-base of green marketing planning, information implementation and dissemination for decision

making purposes across the entire organisation. Coupled with the *advanced* GMC-structures concerning green product design and development as well as green channel/network partnerships with other companies for environmentally-friendly commitment, could help enhance the GMC-analyzers' analysis on cost efficiency towards the development of GMC-structures.

Drawing on the GMC-analyzers' core strategy and strength, i.e. an *elaborate* manner with an *analysis on cost-efficiency* purpose, the operationalization of two main GMC-structures could be aligned with their mindful and thorough planning (by scrutinising a cost effectiveness) including: green marketing knowledge-base, information implementation (based on *basic* GMC-structures), green product design and development as well as green partnerships/coordination for environmentally-friendly commitment (based on *advanced* GMC-structures). On the basis of their synthesis of strategy and strength, the GMC-analyzers are capable to evaluate a mindful plan with a cost-efficient process through the development of GMC. This process could help them improve a critical source of competitive advantage in order to confront other competitors in the green marketplace.

Armed with the above insights from literature and the empirical findings (chapter 4), this study draws an assumption that companies with GMC-analyzer strategic type (based on their core strategies and strengths as being *elaborate* manner with an analysis of *cost efficiency* strategy (e.g. Slater *et al*, 2010; Song *et al*, 2007) are capable of deploying green marketing knowledge-based resources and skills based on *basic* GMC-structures (Pre-GMC and Info-driven GMC) to strengthen their critical source of GCA. Accordingly, a research hypothesised relationship is formulated as below.

> ***Hypothesis 5a:*** Among GMC-analyzers, there is a *positive* effect of basic GMC-structures (in terms of pre-GMC and info-driven GMC) on their critical source of GCA.

In addition, the GMC-analyzers with their *analytical* approach and *cost-efficient* awareness (e.g. Slater *et al*, 2010; Song *et al*, 2007) could be able to develop both green products as well as undertake effective coordination with other partnerships on green/environmentally-friendly marketing practices on the basis of *advanced* GMC-structure (Product-driven GMC and Synergistic GMC) in order to heighten a critical source of GCA for their companies. Accordingly, a research hypothesised relationship is proposed as below.

> ***Hypothesis 5b:*** Among GMC-analyzers, there is a *positive* effect of advanced GMC-structures (in terms of product-driven GMC and synergistic GMC) on their critical source of GCA.

### 5.3.2.3 GMC-Defender as Moderator (H6a – H6b)

Having discussed the unique characteristics of GMC-defenders in the previous section, this section further discusses their strategies and strengths on the basis of the operationalization of GMC-structures. The empirical findings (from chapter 4) give evidence to the fact that the GMC-defenders are an *isolated* group and under-developed towards the GMC-structures compared to the *prospectors* and *analyzers*. They tend to focus on their market domain in order to protect their market niche (e.g. Fiss, 2011; Hughes and Morgan, 2008; Vorhies and Morgan, 2003). The unifying strengths of the GMC-defenders can be viewed in the area of being consistent with defending/protecting their product/market by focusing on retaining their customers with a core defensive strategy in their businesses. Moreover, past research (e.g. Miles *et al.,* 1978) emphasises that while they are capable of responding to change in new market trends, it seems to be at a slower pace. Likewise to the development of GMC-structures, it is likely that the *defenders* have capacity to do so, but with a rather *risk adverse* strategy (Song *et al*, 2007).

Drawing on the GMC-defenders' core strategy and strength, i.e. a *conservative adherent* with a core *defending strategy,* the operationalization of two main GMC-structures could be

aligned with their defensive manner and *risk adverse* plan (e.g. Slater *et al*, 2010; Song *et al*, 2007) (by aiming at protecting and maintaining their market domain). Based on this viewpoint, the GMC-defenders may incorporate: a green marketing knowledge-based information implementation, green product design and development as well as green partnerships/coordination for environmentally-friendly commitment into their core *defending* strategy implementation and *risk adverse* plan (Miles *et al*, 1978; Olson *et al*, 2005; Song *et al,* 2007) in order to achieve their target market objectives. Their main goal for doing so would be to maintain or satisfy customers' demands on environmentally-friendly items, particularly within their market niche. On the basis of their synthesis of strategy and strength, the *GMC-defenders* are capable of evaluating their core strategy and strengths through the development of GMC. This process in turn could help them improve a critical source of competitive advantage in order to counteract other competitors in marketplace.

Armed with the above insight from literature and the empirical findings (chapter 4), this study draws an assumption that while the *defenders* are capable in responding to change in new market trends (Miles *et al*., 1978; Slater *et al*, 2010), they may seem to be slower to do so especially towards green markets. This trait can be viewed as companies with GMC-defender strategic type have the capability to exploit green marketing knowledge-based resources, skills and information-orientation based on the *basic* GMC-structures (Pre-GMC and Info-driven GMC), although it could happen in a rather purposive approach in order to meet their customers' demand (or market niche's requirement). With this aim, the *basic* GMC-structures could lead them to evaluate a critical source of GCA. Consequently, a research hypothesised relationship is proposed as below.

> **Hypothesis 6a:** Among GMC-defenders, there is a *positive* effect of basic GMC-structures (in terms of pre-GMC and info-driven GMC) on their critical source of GCA.

As discussed earlier, while the *defenders* are capable of responding to change in new market trends (Miles *et al.*, 1978), on the basis of green market opportunity the GMC-defenders with their *conservative* approach, core *defending* strategy and *risk adverse* plan (Slate *et al*, 2010; Song *et al*, 2007; Miles *et al*, 1978) have capability to develop both green products as well as undertake effective coordination with other partnerships on environmentally-friendly marketing practices towards the *advanced* GMC-structures. As a result of their adopted process, it could lead them to improve a critical source of GCA for their companies. Subsequently, a research hypothesised relationship is offered as below.

> **Hypothesis 6b:** Among GMC-defenders, there is a *positive* effect of advanced GMC-structures (in terms of product-driven and synergistic GMC) on their critical source of GCA.

In short, the above hypothesis development of study-3 (part-1) is drawn upon the assumptions consolidating the insights from past studies and the empirical findings (study-1: chapter 4). The operationalization of GMC-structures (based on *basic* and *advanced GMC-structures*) and GCA with different GMC-strategic types are examined by using a configuration model. In light of this approach, this study aims to demonstrate the uniqueness of alternative GMC-strategic types i.e. *GMC-prospector*, *GMC-analyzer* and *GMC-defender*, and the extent to which these GMC-strategies in association with the operationalization of two main GMC-structures (in terms of *basic* GMC-structures and *advanced* GMC-structures) could confer on companies' a critical source of green competitive advantage (GCA). Later, the proposed research hypotheses will be analysed and reported in chapter 6.

Next, the author summarises all research hypothesised relationships of study-3 (part-1): H4 – H6 (see table 5.2 below).

**Table 5.2 Summary of Hypothesis Development of Study-3 (part-1: H4 – H6)**

| Hypotheses | Proposed Relationships | Alternative GMC-Strategies | | |
| --- | --- | --- | --- | --- |
| | | GMC-Prospectors | GMC-Analyzers | GMC-Defenders |
| H4a | Basic GMC – GCA | Positive | | |
| H4b | Advanced GMC – GCA | Positive | | |
| | | | | |
| H5a | Basic-GMC – GCA | | Positive | |
| H5b | Advanced GMC – GCA | | Positive | |
| | | | | |
| H6a | Basic-GMC – GCA | | | Positive |
| H6b | Advanced GMC – GCA | | | Positive |

Source: Author

### 5.3.3 Study-3 (Part-2): The Mediating Role of GCA Has on the Relationship between the Overall Operationalization of GMC-Structures and Performance: H7 (RO#5)

This section further postulates research hypothesised relationship (H7) of study-3 (part-2). Building on the classification schemes of GMC, the overall operationalization of GMC-structures is brought forward into an empirical analysis. To be more specific, this research model corresponds to research objective 5 in order to assess the mediating influence of GCA on the link between the operationalization GMC-structures and performance. The research hypothesis development (H7) is offered in figure 5.6 as below.

**Figure 5.6 Research Hypothesised Relationship: H7 of Study-3 (Part-2: RO#5)**

H7

```
┌──────────────────┐       ┌──────────────┐       ┌──────────────┐
│  The Overall     │       │   Green      │       │              │
│ Operationalization│──────▶│ Competitive  │──────▶│ Performance  │
│       of         │       │  Advantage   │       │              │
│  GMC-Structures  │       │    (GCA)     │       │              │
└──────────────────┘       └──────────────┘       └──────────────┘
```
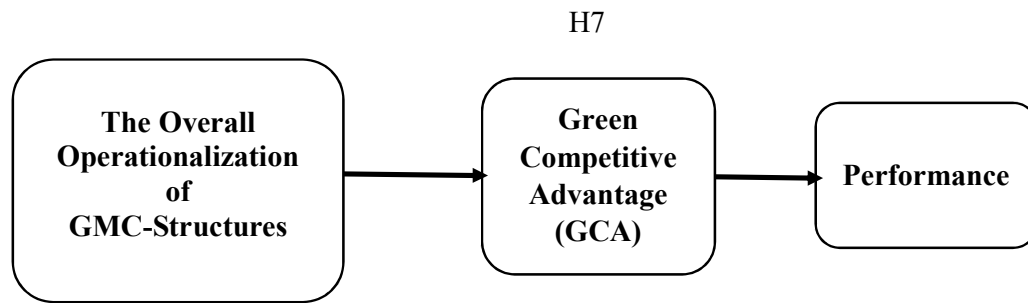
Source: Author

Having discussed the conceptual model of GMC and its operationalization of two main structures in chapter 2 and 4, this section brings forward the overall operationalization of GMC-structures for further empirical analysis. The operationalization of GMC-structures, which is anchored to a company's marketing resources and capabilities enlightens on its critical driver for competitive advantage and superior performance (Amit and Schoemaker, 1993, Peteraf, 1993). Specifically, the operationalization of GMC can be categorised or simplified by two main GMC-structures. Firstly, the *basic* GMC-structures are fundamental to *architectural* marketing capabilities (Morgan, 2012). This operation comprises of two components: (a) *pre-GMC* refers to the green marketing capabilities in terms of knowledge-based resources and planning skills and (b) *info-driven GMC* refers to the green marketing capabilities in terms of information-orientation towards information implementation and dissemination within an organisation that look for ease in a decision-making process. Next, the *advanced* GMC-structures are fundamental to *specialized* marketing capabilities (Morgan, 2012). This operation consists of two components: (c) *product-driven GMC* refers to the green marketing capabilities in terms of product design and development to be in line with environmentally-friendliness and (d) *synergistic GMC* refers to the green marketing capabilities that consolidate the specialised green marketing activities and coordination among green channel network/partnerships (e.g. distributors, suppliers) together with

communications inside an organisation and with customers in order to promote environmentally-friendly responsibility and commitment.

In particular, study-3 (part-2) focuses on the overall operationalization of GMC-structures. Owing to its integrated process, the overall operationalization of GMC-structures (including: *basic* and *advanced* GMC-structures) highlights a continuous reconfiguration or reconsolidation among multiple types of resources which change existing capabilities to developing anew over time (Eisenhardt and Martin, 2000). This process also enhances the configuration that combines and bundles multi-tasking green marketing functions at an operational level (a configuration of green marketing knowledge-based resources and strategic marketing capabilities) for a creation of a source of competitive advantage for companies. For instance, the significant change in cost savings by improving the environmental quality of products/services becomes feasible for companies to take on board GMC. Likewise, numerous past studies (e.g. Porter and van der Linde, 1995b, Leonidou *et al*., 2013b, Chang, 2011) support that considerable long term cost savings from waste management and energy saving processes, as well as operational improvement and differentiation of products for recyclable supplies and materials can be achieved by companies who engage environmentally-oriented issues in their marketing and business management. Moreover, through regular investment of new green (eco-friendly) technologies, system, processes and strategies could also help differentiate a company's position towards being a leader in the marketplace (Porter, 1995; Leonidou *et al*, 2013). To be consistent with the operationalization of GMC-structures, the development of green products can also lead companies to satisfy and meet the demands of target green consumers. By which it could also lead to attract green consumers who are willing to pay higher price for green products (Leonidou *et al*., 2013b). Armed with the above insights, the perception of green competitive advantage (GCA) can be witnessed in various aspects on

the basis of the operationalization of GMC-structures upon a combination of *architectural* and *specialized* marketing capabilities (Morgan, 2012).

In other words, the implementation of overall operationalization of GMC-structures which is embedded in companies' marketing resources and capabilities could create a critical source of green-based competitive advantage for them. Specifically, the integrated process of the operationalization of GMC-structures (comprising of four components: pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) represents a configuration that combines and bundles green marketing knowledge-based resources and strategic marketing at an operational level for the enhancement of companies' overall green marketing capabilities in achieving superior performance (Leonidou *et al*, 2013; Ketchen *et al*, 2007).

Bearing the above in mind, the author draws an assumption that the role of GCA could heighten an effect of overall operationalization of the GMC-structures on performance outcomes. In other words, a critical source of GCA can be created by the improvement of GMC-structures towards differentiating companies' competitive position (Leonidou *et al*, 2013, Porter, 1995). Furthermore, the implementation of GMC could help companies enter remunerative markets as well as leading change in green product/market. In doing so, the overall operationalization of GMC-structures could empower companies to fully exploit the right green marketing capabilities to obtaining green product investment profitability, increasing green product sales margins, achieving return on investment (ROI) and reaching green product investment financial goals. Subsequently, a research hypothesised relationship is formulated as below.

> ***Hypothesis 7:*** Green competitive advantage (GCA) *mediates an effect* of the overall operationalization of GMC-structures (i.e. pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) on performance outcomes

### 5.3.4 Study-3 (Part-3): The Direct Influence of The Four Components of GMC-Structures on Performance: H8 (RO#6)

This section aims to posit the last research hypothesised relationship (H8) of study-3 (part-3). Building on the classification scheme of GMC-structures, the four components of GMC-structures are brought forward for further empirical analysis in this study. This particular part corresponds to research objective 6 in order to examine the direct influence of the four components of GMC-structures on performance. The research hypothesised relationship (H8) is offered in figure 5.7 as below.

**Figure 5.7 Research Hypothesised Relationship: H8 of Study-3 (Part-3: RO#6)**
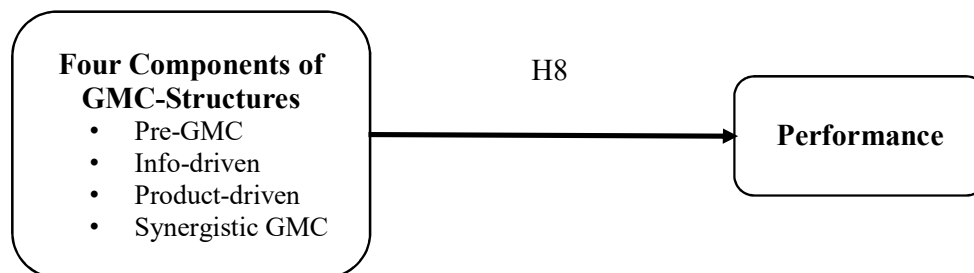


Source: Author

Having discussed the operationalization of GMC and the four components in chapter 4, this section further explains the imminent role of the operationalization of GMC-structures based on the four components. Specifically, the four components of GMC-structures rely upon a process of strategic green marketing bundling with multi-tasking at an operational level which is embedded in companies' marketing resources and capabilities (Morgan, 2012). On the basis of GMC-structures, the two main structures are comprised of *basic* GMC-structures (which is grounded in *architectural* marketing capabilities) and *advanced* GMC-structures (which is grounded in *specialized* marketing capabilities). In particular, a combination of both *basic* and *advanced* GMC-structures gives rise to the four components of GMC-structures as follow: (1) pre-GMC, (2) info-driven GMC, (3) product-driven GMC,

and (4) synergistic GMC. Strictly speaking, the focus of each component is dependent on the development of its unique functional marketing which involves strategic green marketing bundling multi-tasking at an operational level within an organisation. Details of each component are briefly discussed below.

***Component 1: Pre-GMC.*** Pre-GMC refers to a *pre-stage* or beginning level on the basis of the GMC-structures. The *pre-stage* is to prepare and warrant companies' green marketing knowledge-based resources and skills, and explain how well companies understand and acquire the knowledge and planning skills (e.g. Morgan *et al*, 2012; Leonidou *et al*, 2013) to improve their green marketing capabilities. In reality, this step would help evaluate whether or not companies are equipped with the basic understanding of green marketing in association with a clear goal and creative green marketing strategies with thorough knowledge about green marketing planning processes. This is regarded as a foundation before executing other steps of the GMC-structures. Given its critical groundwork, it is believed that the knowledge-base of green marketing within the *pre-GMC* concept could enhance companies' operational marketing capability, which could also positively lead them to attain target performance goals.

***Component 2: Info-Driven.*** Info-Driven GMC refers to a green marketing *information-orientation* on the basis of the GMC-structures. The green marketing *information-orientation* is to heighten an understanding of the current green product/market trends that help facilitate companies' decision-making process (e.g. Morgan *et al,* 2012; Vorhies *et al,* 2009). Fundamentally, this component is concerned with the information that integrates all available knowledge about environmentally-friendly issues and new information combining with past research to build a richer market view for companies. In addition, this involves an implementation and dissemination of green marketing information across an entire organisation which must be available and accessible for an internal organisation's utilisation

(e.g. business units or departments and operations within a company) (Morgan, 2012; Morgan *et al*, 2009). Practically, this step would help evaluate whether or not companies are equipped with green marketing information orientation in order to effectively be implemented for a better decision-making process towards embarking on the emerging green market opportunity. On this basis, it is believed that the knowledge-base of green marketing within the *info-driven GMC* concept could heighten companies' operational marketing capability, which could also positively lead them to achieve target performance outcomes.

***Component 3: Product-Driven GMC.*** Product-Driven GMC refers to green *product design and development* on the basis of the GMC-structures. The emphasis of this component is on the design of green product and the selection of environmentally-oriented materials and ingredients (e.g. Leonidou *et al*, 2013; Fraj *et al*, 2013; Kotler, 2011; Pujari, 2006). The development of green product and design are crucial steps for all product-related marketing companies to take into account. Basically, this component is concerned with the *know-how* in relation to product design, and whether or not companies are careful in choosing the contents, ingredients, and raw materials of their green products to be environmentally-friendly as well as engaging appropriate labelling to promoting the natural environmental benefits. In practice, this step would help evaluate whether or not companies take into consideration the design and development of green product which could guide towards the direction that attracts and captures target green consumers' demands (Leonidou *et al*, 2013). With this in mind, it is believed that the specialised green marketing in relation to the *product-driven GMC* concept could intensify companies' operational marketing capability, which could also positively lead them to accomplish target performance goals.

***Component 4: Synergistic GMC.*** Synergistic GMC refers to a *hybrid process* of specialised green marketing activities on the basis of the GMC-structures. The emphasis is on a

systematic-coordinated process that consolidates specialised marketing functions in terms of green channel/network and partnership as well as cooperation among inter-organisations for environmentally-friendly responsibility and commitment (e.g. Leonidou *et al,* 2013; Morgan *et al*, 2012; Kotler, 2011). Principally, this *hybrid* component integrates both internal and external corporate communication activities as well as promoting green or eco-friendly commitment within an organisation. This advanced step also highlights the cooperation among inter-connected organisations which aims to achieve a clear direction and specification of natural environmental preservation and responsibilities among partnerships. Besides, this process may safeguard an effective corporate communication and commitment towards environmental preservation and social responsibility through the development of GMC-structures.

In reality, this principle would help evaluate whether or not companies take this in to account and move towards green channel/network and partnership for environmentally-friendly responsibility and commitment. This practice, in other words, might convey and inform the role of *sustainability-driven* companies on the basis of their marketing endeavours for the sake of the wider society and natural environment (Kotler, 2011). Armed with the above insights, it is believed that the specialised green marketing in relation to the *synergistic GMC* concept could strengthen companies' operational marketing capability, which could also positively lead them to obtain target performance outcomes.

In summary, the operationalization of GMC-structures on the basis of the four components is anchored to companies' marketing resources and capabilities (Morgan, 2012). The development of the four components of GMC-structures, in other words, is at the heart of the improvement of companies' overall green marketing capabilities and performance in various aspects. For instance, the integrated process of green marketing knowledge and planning skills, green marketing information implementation, green product design and

development as well as the coordination among inter-organisations towards environmentally-friendly responsibility and commitment, these practices help equip companies with adequate strategic green marketing at an operational level in order to heighten their superior performance (e.g. Morgan *et al,* 2012; Leonidou *et al*, 2013; Fraj *et al*, 2013). Specifically, this study focuses on how companies could achieve performance outcomes when they approach or develop different GMC-structures. Meanwhile, performance outcomes are recognised in terms of increasing in sales margins on green product investment profitability, and companies' growth based on the return on investment (ROI) (Leonidou *et al.*, 2013a, Fraj *et al.*, 2013, Morgan *et al.*, 2012). Moreover, reaching green product investment financial goals is regarded as an important criteria to the economic performance effectiveness (Morgan *et al.*, 2009).

Armed with the above insights, this study draws an assumption that on the basis of the four components of GMC-structures (i.e. pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) these practices have a direct influence, in other words, potentially strengthen companies' overall performance outcomes. Accordingly, a research hypothesised relationship is proposed as below.

> ***Hypothesis 8:*** The four components of GMC-structures (on the basis of pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) have a *direct effect* on the performance outcomes

## 5.4 Chapter Summary

This chapter offers two more empirical studies (study-2 and -3) on the basis of research model 2 and research model 3 respectively, and develops the research hypothesised relationships from hypothesis 1 through hypothesis 8. On basis of research model 2 of study-2, the author corresponds to research objective 3 in order to examine the configuration model of fit among multiple variables i.e. alternative GMC-strategic types, corporate

strategic postures (CSP), perceived-green behaviour (PGB) and performance. This particular study aims to address the relationship between corporate level postures (i.e. analytical and risk-taking postures), PGB and performance with the moderating effect of alternative GMC-strategic types. This examination attempts to show how different GMC-strategic types could contribute the fit between corporate's level posture, behaviour and performance relationship.

On the basis of research model 3 of the study-3. This particular study comprises three parts and corresponds to RO#4 through RO#6. The overall aim is to investigate three different aspects of the multi-dimensional models of GMC consisting of three parts as follow. Part-1, the moderating effect of alternative GMC-strategic types on the relationship between the operationalization of two main GMC-structures (*basic* and *advanced* GMC-structures) and green competitive advantage (GCA) (RO#4: H4 – H6); Part-2, the mediating influence of GCA on the relationship between the overall operationalization of the GMC-structures and performance (RO#5: H7), and Part-3, the direct influence of the four components of the GMC-structures on performance (RO#6: H8). The entire investigation attempts to understand how well different GMC-strategic types contribute to a critical source of green competitive advantage (GCA) on the basis of two main GMC-structures (in terms of *basic* and *advanced GMC-structures*), and whether or not the role of GCA mediates the effects of the overall operationalization of GMC-structures on performance, as well as whether or not the four components of GMC-structures have direct influence on companies' performance. All in all, the expected research outcomes could attest to the salient role of multi-dimensional models of GMC which is prominent in contributing towards an organisation's effectiveness or performance outcomes.

Next, chapter 6 will discuss the general data issues, measurement models, and report the hypothesis testing and results of the two empirical studies (study-2 and -3).

# CHAPTER 6

# STUDY-2 AND -3: MEASUREMENT MODEL, DATA ANALYSIS AND RESULTS

## 6.1 Overview of the Chapter

The main objectives of this chapter are to discuss general data issues (section 6.2), the measurement model (section 6.3), and present hypothesis testing (data analysis) as well as the results of empirical studies 2 and 3 (section 6.4). Specifically, section 6.4.1 reports on the hypothesis testing and the results of study-2. Next, the subsequent sections: 6.4.2 and 6.4.3 summarise the test of the hypotheses and the results of study-3 (part-1 through 3). Lastly, the chapter is summarised (section 6.5).

## 6.2 General Data Issues

This section starts by discussing the general data issues including data cleaning (section 6.2.1), common-method variance and non-response issues (section 6.2.2), the check of normality, linearity and outliers (section 6.2.3) and multicollinearity (section 6.2.4).

### 6.2.1 Data Cleaning

Having discussed the data collection process in chapter 3 (section 3.3), this section further explains the data cleaning process. Once data had been collected, an initial data screening process was performed. There were 158 sets of mail-surveys returned. Data cleaning of questionnaire surveys was then done. At this stage, it is found that 20 questionnaires were incomplete, this was mainly due to unanswered questions or ignored sections. Accordingly, the author had to remove them from the data set. There were 138 usable questionnaires after general data cleaning at the initial stage. Next, the following sections continue to describe in more detail about other related quantitative-data techniques before undertaking further

empirical analyses. Those necessary techniques included are common-method variance (CMV) and non-responses issues (section 6.2.2); the check of normality, linearity and outliers (section 6.2.3); and multicollinearity (section 6.2.4).

### 6.2.2 Common-Method Variance (CMV) and Non-Response Issues

'Common-method variance' or CMV – an observation of bias data has been widely used across management science (e.g. Bagozzi and Yi, 1991; Richardson *et al*, 2009; Podsakoff *et al*, 2012). Richardson, Simmering and Sturman (2009, p. 763) term CMV as:

> *"Systematic error variance shared among variables measured with and introduced as a function of the same method and/or source."*

In other words, CMV can be explained by amount of false correlations between variables which may be caused by using the same methods associated with a survey (as normal survey to measure each variable) (Craighead, Ketchen Jr., Dunn and Hult (2011, p. 578). The potential sources of CMV stem from the following issues: (1) the use of a common source or rater (i.e. one source that provides both independent and dependent variables) which may introduce a self-reporting bias; (2) the survey instruments and item scales (e.g. the complexity and ambiguity of item scales) which can influence the rater's responses; (3) the item's context which can affect the respondents based on its awareness of the rater; (4) the survey's measurement contextual influences (i.e. time, location and media) used which may introduce a covariation between measurements; and (5) the respondents' motivation to answer accurately which can be affected by the survey characteristics, knowledge of the subject, the length of the survey instrument and other stimulus (MacKenzie and Podsakoff *et al*, 2012; Podsakoff *et al*, 2003). With regard to the nature of method bias, it is needed to control its potential influences (Podsakoff *et al*, 2012). As Craighead and colleagues (2011) suggests that CMV can be detected *prior to*, *during* and *after* data collection whilst studies are performed. To be more specific, Podsakoff, MacKenzie, Lee and Podsakoff (2003, p.

887) propose two criteria to control CMV as follows: (1) the design of the study's procedures or "procedural remedies" (also known as *ex ante*) and (2) "statistical controls" (also known as *ex post*).

In this study, it follows both criteria – *ex ante* or procedural remedies and *ex post* or statistical control (Podsakoff *et al*, 2012; Podsakoff *et al*, 2003). According to Podsakoff and colleagues (2012, p. 548), the *procedural remedies* involve two major approaches which are: First, it is possible to obtain the predictor measure(s) from one person and the criterion measure(s) from the other. Second, it is possible to obtain the predictor or criterion measure(s) from one person and the other measure from secondary data sources (e.g. companies' records and annual reports). The effectiveness of these two remedies could help reduce the influence of consistency patterns, individual implicit theories, social desirability tendencies… etc. (Podsakoff *et al*, 2012). Accordingly, the procedural remedies have potential to limit the cause of CMV and the avoidance of self-selection bias, as well as a control for *non-response bias* (Podsakoff *et al*., 2003, Chang *et al*., 2010). In addition, a potential remedy can be undertaken by the questions asked, they should not be grouped under particular constructs or topic sections. Meanwhile, the questions should be designed by using different scale types in order to minimise the potential method bias (or common method bias) (Chang *et al*., 2010). These alternative approaches can also prevent respondents from guessing the hypothesised relationship in the study (Chang *et al*., 2010).

With regard to the statistical controls (or *ex post*), the possible remedies to control CMV can be based on the use of statistical analyses as suggested by Podsakoff and colleagues (2003). With this approach, several statistical remedies must be performed which included: (a) *Harman's single-factor test*; (b) *partial correlation* procedures designed to control for method biases; (c) control for the effects of a directly measured latent methods factor; (d) control for the effects of an unmeasured latent methods factor; and (e) multiple method factors (Podsakoff *et al*, 2003). Moreover, a more complicated specification of the

regression model can help reduce the likelihood of CMV (Chang *et al.*, 2010). Based on this particular remedy, the researcher believes that participants could not be guided by a cognitive map, in other words the ordered questions must be difficult-to-predict such influences and *non-linear* outcomes*"* (Chang *et al.*, 2010, p. 179). Strictly speaking, this study not only utilises multiple methodological analyses procedures, including more complicated specifications of regression models but it also follows the statistical remedies (*ex post)* by using *Harman's one-factor* model to detect the potential of CMV.

For the entire study, *Harman's one-factor* analysis is used in order to inspect whether variance in the data can be assigned to a single factor. The result of using *Harman's one-factor* test reveals that the total variance of 1 component is lesser than 50% which is against a systematic bias (Podsakoff and Organ, 1986). One factor model was later assessed in order to detect any serious threats of CMV. A single latent factor was constructed for a *confirmatory factor analysis* (CFA) model, including all indicators loaded to the measurement validation (Podsakoff *et al.*, 2003). The results have exhibited a poor *fit-model* to the data (i.e. $X^2(189)$ = 1175.10; $X^2/d.f.$ = 6.21; *CFI/TLI* = .63/.59; *RMSEA* = .20; *SRMR* = .11). Collectively, it has been evidenced by both statistical remedies that the *common method bias* was unlikely an issue in this study. However, further action can overcome the CMV which may possibly rely on a more complicated specification of a regression model (Chang *et al.*, 2010). With this in mind, as already stated in chapter 3, this study employs multiple analysis techniques based on different methodologies as adopted for the data analysis purpose. Incorporate of these analysis techniques, is a more complicated specification of the regression models (of a configuration approach) to analyse the data. More details of data analysis can be found in section 6.4 (hypothesis testing and results).

In addition to the CMV issue, *non-response bias* has also been treated. This study considers some possible *sampling error* issues on the basis of the *typical-simple random* or *simple*

*systematic sampling* (Dillman, 1991) which may have been caused by a mail-survey approach. As Dillman (1991, p. 227 – 228) suggests that four essential sources of errors which included: (1) sampling, (2) non-coverage, (3) nonresponse and (4) measurement, can be used to prevent such issues. To be more specific, the four types of errors can be described as follows. (1) *Sampling error* is mainly a reflection of the number of respondents surveyed (an aspect of survey quality examined through inferential statistics) which can be applied to sample survey results, from which conclusions about significant differences in the population are obtained. (2) *Non-coverage error* is caused by some members of the population whom are not covered by the sampling frame or unselected into the sample. (3) *Nonresponse error* is caused by some of the members of sample-population who do not respond to the survey questions. (4) *Measurement error* is raised as an incompatibility between underlying, unobserved variables (opinion, behaviours or attributes) and the observed survey responses. This measurement error can be found as a lack of an integrity of the questions asked, a question's expression which cannot be answered correctly, and/or the order in which questions are presented (Dillman, 1991).

To handle such potential errors, this study follows a good sample survey method as suggested by Dillman (1991) as follow: First, it is important that people to be surveyed are randomly sampled in adequately large numbers in order to provide a preferred level of correctness. In doing so, the sampling survey error could be limited. Second, in order to tackle *non-coverage error* all members of the sample-population have an equal opportunity to be sampled for involvement in the survey. Third, questions in the survey must be expressed in a way that provides accurate information in order to avoid *measurement errors*. Fourth, to prevent a *non-response error* (which is regarded as a serious issue in a mail survey approach) can be achieved by adopting some simple techniques in a way to increase a response rate. In practice, several techniques can help improve the response rate, for instance the technique used to offer financial and/or material incentives, the questionnaire length and

layout, the anonymity of response, the content of a cover letter, and the sources of survey (Dillman, 1978). However, Miller (1983) argues that a comparison between respondent and non-respondent could possibly be carried out in order to check whether or not there is a significant difference which is considered as an approach to deal with a *non-response error* issue. As described earlier, this study follows the criteria drawn from Dillman (1991)'s design and administration of mail surveys for detecting the *non-response issues*. It also complies with the guidelines of an industrial mail survey as adopted from Diamantopoulos and Schlegelmilch (1996, p. 527) (This guideline of industrial mail survey has already been discussed in chapter 3: section 3.3.2). Collectively this study has been equipped with appropriate knowledge and guiding principles to conduct a quality mail-survey.

In addition, this study assessed a *non-response bias* by comparing early and late respondents using a *t*-test procedure for two independent samples. The results suggest that there are no significant differences between the two groups in regard to either the study constructs or company demographics (i.e. number of employees, annual sales and company's age). Furthermore, a comparison between respondents and a group of 35 randomly selected non-responding companies in respect of annual sales and number of employees, showed no significant differences (e.g. Morgan *et al*, 2012; Leonidou *et al*, 2013). Consequently, a *non-response bias* does not appear to pose a problem in this study.

### 6.2.3 Check of Normality, Linearity and Outliers

In multivariate analysis, there are several major issues concerning the check of *normality*, *linearity* and *outliers* of the sample-data which are needed to be performed before following through with subsequent statistical analyses (Hair *et al*., 2006). In this study, the test of *normality* is examined by using computed *Z-scores of skewness* and *kurtosis* with one-sample *Kolmogorov-Smirnov tests for normality*. If a distribution is normal, the computed *z-scores of skewness* and *kurtosis* would not exceed a threshold value of ±2.58 (Hair *et al*.,

2006). There are also alternative treatments for the multivariate normality including screening the residuals after analysing data. With this approach, if data is normally distributed, the residual plots take normal shape (Tabachnick and Fidell, 2007). A test of *linearity* can also be assessed by scattered plots. In this study, both checks of multivariate *normality* and *linearity* are free from such violations. Thus, there is no further treatment needed to handle the issues.

Next, the check of *outliers* is followed. The *outlier* is regarded as sensitive to further analysis approach in this study i.e. clustering analysis (Milligan and Hirtle, 2003). As Tabachnick and Fidell (2007, p. 72) explain that an *outlier* is a manifestation of an extreme value on one variable or such an unusual combination of scores on two or more variables that misshape the statistical results. In other words, the *outliers* can be viewed as extreme observations which represent the uniqueness of events or observations. As such, it is necessary to make a decision on whether or not to exclude or include them, which would depend upon the objectives of the analysis (Hair *et al.*, 2006). In addition, Hair and colleagues (2006) suggest there are potential approaches to detect outliers including *scatter plot* and *trimmed mean* techniques. Meanwhile other researchers (e.g. Stevens, 2012, Shiffler, 1988) advise a possible means to handle the issue which is a *standardized z-score*.

In this study, it utilises the *standardized* or *computed z-scores* to examine multivariate *outliers* concerning the interval of *±3 sigma* (Stevens, 2012, Shiffler, 1988). With this approach, it deliberately detected approximately 13% of *outliers* and removed those extreme cases from the dataset. After removing all the *outliers*, the total number of observations is equal to 120 which are ready for further statistical data analysis. Furthermore, the usefulness of *standardized* scores also provides an accurate statistical power, as well as allows the author to perform a more complicated data analyses in the latter steps, e.g. clustering and factor analysis (Ketchen and Shook, 1996; DiStefano *et al*, 2009).

### 6.2.4 Multicollinearity

Multivariate *multicollinearity* is concerned with an existence of more than one exact linear relationship in a multivariate analysis (Gujarati, 2008). Potentially, this can be found as an issue in a *correlation matrix* and the extent to which variables are exposed to be highly correlated with one another. Some suggestions from research scholars based on the determination of *multicollinearity;* the concern of threshold below .95 correlation is regarded as an indication of free-from-the-issue (Gujarati, 2008), while Tabachnick and Fidell (2007) argue that .90 and above is considered a high correlation. As such, the judgment for whether *multicollinearity* is an issue or not would depend on the researcher of a particular research subject.

To be more specific, in this entire study the empirical data can be divided into two sub-studies (study-2 and -3). With the aim in each empirical study, the *correlation matrix* of all constructs are performed and presented separately. On the whole, throughout the data analysis of both empirical studies the *correlation matrix* among variables are equal and below .78. Thus, this output can be said to be free from *multicollinearity* issues. Next, the *correlation matrix* of both empirical study-2 (see table 6.1) and empirical study-3 (see table 6.2) are reported as below.

**Table 6.1 Study-2: Construct Means, Correlations and Descriptive Statistics (H1 – H3)**

| | Constructs | [1] Mean | [1]SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Analytical | .26 | 2.53 | 1 | | | | | | |
| 2 | Risk-taking | .22 | 1.98 | .40** | 1 | | | | | |
| 3 | Attitudes | .37 | 2.77 | .44** | .13 | 1 | | | | |
| 4 | SN | .53 | 4.07 | .40** | .24** | .69** | 1 | | | |
| 5 | PBC | .79 | 4.86 | .49** | .28** | .72** | .78** | 1 | | |
| 6 | Competitive rivalry | -.03 | 2.42 | .18* | -.05 | .07 | .03 | -.00 | 1 | |
| 7 | Performance | .52 | 2.99 | .43** | .28** | .35** | .45** | .45** | -.03 | 1 |

[1]Report of standardized scores.
All Pearson correlations are significant at the *p* values: (** $p < 0.01$) and (* $p < 0.05$)
Source: Author

**Table 6.2 Study 3: Construct Means, Correlations and Descriptive Statistics**

**(H4 – H8)**

| | Constructs | [1]Mean | [1]SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Pre-GMC | .30 | 3.33 | 1 | | | | | | |
| 2 | Info-driven | 1.13 | 6.36 | .73** | 1 | | | | | |
| 3 | Product-driven | .27 | 2.54 | .56** | .52** | 1 | | | | |
| 4 | Synergistic | .79 | 5.02 | .63** | .59** | .70** | 1 | | | |
| 5 | GCA | .26 | 2.53 | .54** | .49** | .69** | .70** | 1 | | |
| 6 | Performance | .52 | 2.99 | .53** | .57** | .42** | .45** | .46** | 1 | |
| 7 | Competitive rivalry | -.03 | 2.42 | -.06 | .00 | .12 | .05 | .10 | -.03 | 1 |

[1]Report of standardized scores.
All Pearson correlations are significant at the *p* values: (** *p* < 0.01) and (* *p* < 0.05)
Source: Author

## 6.3 Measurement Model

This section reports the measurement models of the entire study. It starts by explaining validity (section 6.3.1), reliability (section 6.3.2), measurement sources and items scales of the entire study (section 6.3.3), and measurement purification (section 6.3.4).

### 6.3.1 Validity

For a quantitative research that adopts a positivistic epistemological stance, *validity* is concerned with the points of *what is true, real* and *accurate* (Denscombe, 2002). As Denscombe (2002, p.143) states that the *validity* is involved as a correctness of the questions asked, the data collected and the statement that is presented. According to the American Psychological Association (APA) (1985), four types of *validity* that should be demonstrated are as follows: (a) *content validity*, (b) *criterion-related validity*, (c) *construct validity*, and (d) *internal consistency*. To be more precise, the *content validity* refers to an adequacy in which a measure assesses the domain of interest. The *criterion-related validity* refers to a link between a measure and another independent measure. The *construct validity* refers to a relationship of the measure to the underlying attributes that it aims to assess. The *internal*

*consistency* refers to the homogeneity of items in the measure or the extent to which item responses correlate with the total test score (Hinkin, 1995).

Meanwhile Bollen (1998, p. 184) asserts that it is required for a *validity* check in order to test whether or not a variable measures *what it is intended to measure*. Bollen (1998) also notes that there are four types of *validity* checks which are: (a) *content validity*, (b) *criterion validity*, (c) *construct validity*, and (d) *convergent* and *discriminant validity*. It is suggested that while the *content validity* is commonly used in a conceptual and qualitative work, the *criterion*, *construct* and *convergent* and *discriminant validity* checks are widely deployed by an empirical analysis purpose (Bollen, 1998). Strictly speaking, the *content validity* is an ability to assure that the domain of a concept is clearly represented by its measurements. On the other hand, the *criterion, construct* and *convergent validity* are related to the concern whether or not a measure is associated with other observed variables in a way expressing its consistency with *theoretical derived* predictions. Nonetheless, the *construct validity* should be evident if a measure is a good representation of the latent variable in the study.

In addition to the above criteria, the *goodness-of-fit* (GOF) indices of measurement model by using a *structural equation model* (SEM) is another measure for the *validity* check (Bollen, 1998). The GOF index is also regarded as an indicator of the *construct validity*. On this basis, the *convergent validity* is an assessment concerning the dimension representing a direct structural relationship (by SEM model) between an observed variable and the latent construct (Bollen, 1998). This particular method can simply be examined by factor loadings, which is significantly different from zero. With this approach, the important value (or named as *t*-value) of the parameter estimate is performed in order to evaluate the statistical significance of factor loadings.

By contrast, a *discriminant validity* is a check of validity to explain measures that should not be related to each other based on theory as well as in reality. In order to assess a

*discriminant validity*, it is possible to run a *structural equation model* (SEM) as recommended by Anderson and Gerbing (1988). Based on the correlation between latent variables, when the construct correlation is largely found above the threshold (i.e. ≥ .90). This incident may indicate a lack of discriminant validity (Anderson and Gerbing, 1988). More discussions on the GOF indices and the measurement model of all constructs can be found in section 6.3.3 and 6.3.4.

To be more specific, the entire study's scales/measurements are adopted and built on established past studies which cover most of the key concepts and dimensions within the constructs of interest. A *pre-testing* has also been conducted in order to check and improve the *content validity* of the measurements of the present study (already discussed in chapter 3). Particularly, this study makes use of *reflective* multi-item measurements (items are manifested by the construct and should have high positive inter-correlations) which is a widely used measurement model in empirical business studies (Coltman *et al*, 2008). Combined with the systematic assessment of internal consistency and *unidimensionality* have been assessed on the basis of *item-to-total* correlations and *exploratory factor analysis* (EFA). The results from EFA show that each eigenvalue of measurement items with *varimax* rotation is above .50 (as allocated onto their designated construct). Moreover, the *Pearson correlation coefficient* of items are significant at .05 level. Collectively, the results reveal that each item within the construct is significantly correlated with one another. Consequently, the construct and convergent validity are well exhibited.

### 6.3.2 Reliability

*Reliability* is concerned with a consistency of the measure(s). Both *reliability* and *validity* must be accurately established due to the fact that these are of importance in social science research (Hair *et al*, 2006). In order to measure a *model-based reliability*, there are three possible ways in doing so which are: (1) a *Cronbach alpha reliability* (Cronbach, 1951). (2)

a *construct reliability* – CR (or composite reliability) and (3) an *average variance extracted* (AVE) (Fornell and Larcker, 1981). In this study, it performed CR and AVE by following the formulae used to compute CR and AVE as presented below.

$$\text{Construct reliability } (\rho_\eta) = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum \varepsilon_j} \qquad \text{(Threshold: 0.7)}$$

$$\text{Average variance extracted } (\rho_{ve(\eta)}) = \frac{\sum (\lambda_i^2)}{\sum (\lambda_i^2) + \sum \varepsilon_j} \qquad \text{(Threshold: 0.5)}$$

In addition, it is possible to utilise a *confirmatory factor analysis* (CFA) for the *reliability* test (Hair *et al.*, 2006). The overall model fit indices (goodness-of-fit – GOF) must also be evaluated. Strictly speaking, this study evaluates and reports the *reliability* scores based on both CR and AVE by performing a CFA. The results of CFA are discussed in the next section.

### 6.3.3 Measurement Sources and Item Scales of the Entire Study

In view of social research particularly within a quantitative study, it is common to select measurement techniques or procedures to connect an abstract concept with empirical data (Neuman, 2006). In this regard, a quantitative researcher must consider measures that ease a process to generate such operational definitions for reliable and valid measures. Meanwhile the level of measurement on the basis of continuous and discrete variables are fundamental to determine a precise construct within a particular study assumption (Neuman, 2006). According to item *scaling*, the *Likert-Scales* has been widely used in a quantitative survey research (Neuman, 2006).

In this study, it largely makes use of continuous variables and a seven-point response-scale (ranging from 1=strongly disagree thru 7 strongly agree; and -3 = much worse than competitors thru +3 much better than competitors). The adopted measurements are also built on established past studies from different areas e.g. green marketing practices, green marketing strategies and marketing resources and capabilities (e.g. Leonidou *et al*, 2013a and 2013b; Fraj *et al*, 2013; Morgan, 2012). In addition, as already stated in the previous section, the benefits of utilising both CFA and test of *goodness-of-fit* (GOF) statistics in the *structural equation model* (SEM) helps evaluate the measures of each construct in this entire study.

The SEM technique has been widely used as an important tool in a measurement development (Hair *et al*, 2006). In practice, researchers are able to assess *absolute fit* or *fit* relative to a benchmark model in order to check whether or not the measurement model values *parsimony* (Iacobucci, 2010, p. 90). However, the *fit* may serve different purposive functions for researchers. In other words, the *fit* indices are designed to provide information about the degree to which a measurement model is either correctly or incorrectly specified for the given data (Fan *et al*., 1999). As Fan, Thompson and Wang (1999, p. 59) note that, while there is no simple method against which performance of all *fit* indices can be matched, as such, some associated indicators could be possibly accepted for a specific purpose of the study. Moreover, other potential factors that might affect the statistical decision in SEM models are sample size and the assumption of multivariate *normality* (Hair *et al*, 2006). Bearing this in mind, this study assesses the GOF indices that researchers should report for a measurement model as follows:

The $X^2$ (chi-square) and its *degree of freedom* and *p*-value are concerned with the GOF indices. While the $X^2$ test serves as a foundation for judging a model *fit* (Schermelleh-Engel *et al*., 2003), this value is not only sensitive to sample size but also to a violation of the

multivariate *normality* assumption (Hair *et al*, 2006). However, voluminous researchers would agree on the following criteria which may form an adequate selection of GOF indices i.e. RMSEA, NNFI and CFI. Meanwhile these are frequently found in many published studies in the fields of marketing and management (e.g. Leonidou *et al*, 2013; Morgan *et al*, 2012). On the one hand, these criteria are rather sensitive to a model misspecification, on the other hand, they are not exposed to sample-size sensitivity as much as the $X^2$ does.

Furthermore, there are other stand-alone indices to assess a model *fit* in an absolute recognition, for instance the *goodness of fit index* (GFI); *adjusted goodness of fit index* (AGFI); *root mean square residual* (RMR); and Bentler and Bonett (1980)'s *normed fit index* (BBI); and the Tucker and Lewis (1973)'s *nonnormed fit index* (TLI). While Hu and Bentler (1998) indicate that the *fit* indices may be influenced by a model misspecification, a small-sample bias, some effects of violation of *normality* and independence and *estimation-method* effects. Other researchers argue that there is always a possible way to perform a model *fit* with the sample-data, even though one or more *fit* measures may turn out a bad *fit* (Hu and Bentler, 1998). Based on this viewpoint, it is also supported by Schermelleh-Engel *et al* (2003). As Schermelleh-Engel, Moosbrugger and Muller (2003, p. 52) state that it is rather complicated to determine on data-model *fit* or *misfit*, particularly when various measures of model fit pointing towards incompatible conclusions and the extent to which the model literally have to fit the observed data.

Armed with the above information, this study follows the rule of thumb as adopted from Schermelleh-Engel, Moosbrugger and Muller (2003) which can be utilised as a guideline and recommendation for model evaluation as below. Table 6.3 describes the rule of thumb of GOF indices.

**Table 6.3 Rule of Thumb and Recommendations for Model Fit Evaluation**

**(Goodness of Fit – GOF indices)**

| Fit Measure | Good Fit | Acceptable Fit |
|---|---|---|
| $X^2$ (chi-square) | $0 \leq X^2 \leq 2 \, df$ | $2 \, df < X^2 \leq 3 \, df$ |
| $p$-value | $.05 < p \leq 1.00$ | $.01 \leq p \leq .05$ |
| $X^2/df$ | $0 \leq X^2/df \leq 2$ | $2 < X^2/df \leq 3$ |
| RMSEA (Root Mean Square Error of Approximation) | $0 \leq$ RMSEA $\leq .05$ | $.05 <$ RMSEA $\leq .08$ |
| SRMR (Standardized Root Mean Square Residual) | $0 \leq$ SRMR $\leq .05$ | $.05 <$ SRMR $\leq .10$ |
| NFI (Normed Fit Index) | $.95 \leq$ NFI $\leq 1.00$ | $.90 \leq$ NFI $< .95$ |
| NNFI (Non-normed Fit Index) | $.97 \leq$ NNFI $\leq 1.00$ | $.95 \leq$ NNFI $< .97$ |
| CFI/TLI (Comparative Fit Index / Nonnormed Fit Index) | $.97 \leq$ CFI $\leq 1.00$ | $.95 \leq$ CFI $< .97$ |
| GFI (Goodness-of-Fit Index) | $.95 \leq$ GFI $\leq 1.00$ | $.90 \leq$ GFI $< .95$ |
| AGFI (Adjusted Goodness-of-Fit-Index) | $.90 \leq$ AGFI $\leq 1.00$ Close to GFI | $.85 \leq$ AGFI $< .90$ Close to GFI |

Source: adopted from Schermelleh-Engel, Moosbrugger and Muller (2003, p.52)

To be more specific, the author takes into consideration the GOF indices and carefully evaluates the measurement model fit of all constructs on the basis of Chi-square $(X^2)/df$, CFI/TLI and SRMR which are regarded as acceptable fit (Schermelleh-Engel *et al*, 2003). More details of the measurement model can be found in table 6.10. Moreover, multiple measurement models have been fully evaluated throughout the study. Particularly, various analysis methods have been carried out, such as *psychometric* properties by performing CFA and measurement model by evaluating *Goodness-of-Fit* (GOF) statistics with a SEM analysis. Collectively, the results reveal that the adopted constructs (measurements) in this study have been well fitted with the observed-data throughout. Hence, the test of hypothesised relationships has been analysed and reported with meaningful outcomes and

parsimony in both empirical-data of studies 2 and 3. In other words, it can be said that there is no violation distorting the statistical power of analysis due to the size of the samples.

Next, all sources of the measurement scales of the adopted concepts to the study's constructs are reported as follows. Table 6.4 contains the measurement scales of study-1 (chapter 4: developing the classification schemes of GMC). Table 6.5 provides the measurement scales of study-2. Table 6.6 reports the measurement scales of study-3 (including part-1, 2 and 3). The following section will discuss in more detail the measurement purification (see section 6.3.4).

**Table 6.4 Sources of Measurement Scales of Study-1 (Classification of GMC-Structures)**

| Sources (Authors / Year) | Adopted Concepts | The study's constructs |
|---|---|---|
| Morgan, Katsikeas and Vorhies (2012)  Leonidou, Katsikeas and Morgan (2013) | ▪ Architectural marketing capabilities   ▪ Specialized marketing capabilities | ➢ Pre-GMC ➢ Info-driven GMC   ➢ Product-driven GMC ➢ Synergistic GMC |

Source: Author

**Table 6.5 Sources of Measurement Scales of Study 2 (H1 – H3)**

| Sources (Authors / Year) | Adopted Concepts | The study's constructs |
|---|---|---|
| Talke and Hultink (2010)<br>Morgan and Strong (2003)<br>Venkatraman (1989) | ▪ Strategic orientation | ➢ Corporate strategic postures (CSP) |
| Han, Hsu and Sheu (2010)<br>(An Application of Theory of Planned Behaviour) | ▪ Attitudes<br>▪ Subjective norm<br>▪ Planned behavioural control | ➢ Attitudes (ATT)<br>➢ Subjective norm (SN)<br>➢ Planned behavioural control (PBC) |
| Morgan, Katsikeas, and Vorhies (2012) | ▪ Competitive environment | ➢ Competitive rivalry |
| Morgan, Katsikeas and Vorhies (2012)<br>Leonidou, Katsikeas and Morgan (2013) | ▪ Product/market performance | ➢ Overall performance |

Source: Author

**Table 6.6 Sources of Measurement Scales of Study 3 (H4 – H8)**

| Sources (Authors / Year) | Adopted Concepts | The study's constructs |
|---|---|---|
| Morgan, Katsikeas and Vorhies (2012);<br>Leonidou, Katsikeas and Morgan (2013) | ▪ Architectural capabilities<br>▪ Specialized capabilities | ➢ Pre-GMC<br>➢ Info-driven GMC<br>➢ Product-driven GMC<br>➢ Synergistic GMC |
| Leonidou, Leonidou, Fotiadis and Zeriti (2013) | ▪ Competitive advantage | ➢ Green competitive advantage (GCA) |
| Morgan, Katsikeas and Vorhies (2012)<br>Leonidou, Katsikeas and Morgan (2013) | ▪ Product/market performance | ➢ Overall performance |

Source: Author

### 6.3.4 Measurement Purification

This section continues to explain the measurement purification by running a *structural equation model* (SEM) and a *confirmatory factor analysis* (CFA). These techniques are employed in order to derive the *psychometric* properties of all constructs of the present study. Particularly, this study follows an evaluation of model fit indices for a measurement purification as suggested by Gerbing and Anderson (1992). On the basis of the measurement model, this study provides a report of *average variance extracted* (AVE) and *composite reliability* (CR) scores (based on the thresholds: AVE > .50 and CR ≥ .70) (MacKenzie *et al*., 2011). In addition, the discriminant validity has also evidenced the confidence interval around the correlation estimate for each pair of constructs that demonstrate a squared correlation between them, which was below the *average variance extracted* (AVE) score (MacKenzie *et al*., 2011). Hence, the discriminant validity was successfully met.

Besides, the CFA results for all measurement items which have been adopted in this study are reported in table 6.7 (CFA results for study-1), table 6.8 (CFA results for study-2) and table 6.9 (CFA results for study-3) respectively. Later, table 6.10 presents the measurement models (all well-fitted measurement scales to the latent constructs) by reporting the *psychometric* properties of all constructs including SEM models (GOF indices), *composite reliability* (CR) and *average variance extracted* (AVE) scores. Based on the results, some measurement items that presented a lack of fit (or misfit) to the observed-data have been dropped after the purification process. In this case, the measurement purification is regarded as a useful procedure which helps the researcher to get the most appropriate adopted study's constructs with a parsimonious fashion (Homburg *et al*, 2008).

**Table 6.7 CFA Results: Measurement Model of GMC-Structures and Overall Performance (Study-1)**

| Constructs | Measurement Scales | # of Items | Loadings |
|---|---|---|---|
| GMC-Structures | Pre-GMC<br>-Green marketing planning skills<br>-Setting clear green marketing goals<br>-Formulating creative green marketing strategies<br>-Thoroughness of green marketing planning processes | 4 | .81<br>.93<br>.94<br>.89 |
| | Info-driven GMC<br>-Integrating all available information to gain insight about the green market<br>-Combining new information with past research to build a richer market view<br>-Analyzing market information to effectively understand the green market<br>-Identifying emerging trends in the green marketplace<br>-Making relevant green market information available to decision-makers<br>-Sharing available market information widely within the green venture<br>-Ensuring green market information reaches all interested parties<br>-Giving other units in the firm easy access to our green market information | 8 | .81<br>.82<br><br>.85<br>.89<br>.87<br>.85<br>.84<br>.76 |
| | Product-driven GMC<br>-We are careful when choosing the contents, ingredients and raw materials of our products in order to be environmentally friendly<br>-We are geared to designing and developing products that are friendly to the environment<br>-We tend to modify our packaging and labelling decisions to emphasize on any environmental benefits<br>-*We have significantly increased the recycling content of our packaging over the past few years* [d] | 3 | .87<br><br>.90<br><br>.82 |
| | Synergistic GMC<br>-We cooperate with suppliers and distributors to develop environmentally friendly marketing programs<br>-We encourage our suppliers and distributors to embrace and reflect environmental responsibility and responsiveness in their activities<br>-We set out clear directives and specifications for environmental responsibilities and monitor our channel members' responses<br>-We communicate the environmental friendliness of a product by positioning its features or ingredients in our branding efforts<br>-We highlight our commitment to environmental preservation in our corporate communications<br>-Our promotions highlight and inform customers about the firm's environmental efforts<br>-*We team up with our channel members to develop appropriate product and packaging after-use arrangements* [d]<br>-*We cooperate with our channel members to make joint commitments to environmental protection* [d]<br>-*We make efforts to reduce any negative impact of our marketing promotions on the natural environment* [d]<br>-*We emphasize the environmental aspects of our products in our advertisement communications* [d] | 6 | .85<br><br>.88<br><br>.92<br><br>.87<br><br>.85<br><br>.87 |
| Overall Performance | -Green product investment profitability<br>-Increase of green product sales margins<br>-Return on investment (ROI) of green products<br>-Reaching green product investment financial goals | 4 | .85<br>.89<br>.70<br>.87 |

Note: After measurement purification process, 5 items were removed as assigned superscript [d].

Source: Author

**Table 6.8 CFA Results: Measurement Models of CSP, PGB, Overall Performance and Competitive Rivalry (Study-2: H1 – H3)**

| Constructs | Measurement scales | # of Items | Loadings |
|---|---|---|---|
| Corporate strategic postures (CSP) | **Analytical posture**<br>-We continuously gather customer data on demand and buying behavior<br>-We systematically analyze our competitors' actions<br>-We formally track significant industry trends<br>-*Our market related planning activities explicitly consider long-term future developments* [d] | 3 | <br>.74<br>.90<br>.76 |
| | **Risk-taking posture**<br>-We adopt a rather progressive view when making major decisions<br>-We tend to support promising projects, even if the expected market success is uncertain<br>-When making major market related decisions we tend not to shy away from taking risks<br>-Our market related activities generally follow the tried and proven path(R)* | 4 | <br>.70<br>.71<br><br>.67<br><br>-.52 |
| Perceived-green behaviour (PGB) | **Attitudes (ATT)**<br>-Our organization views development of strong GMC as a key component of its competitive strategy<br>-Our organization is determined to develop a strong GMC<br>-Our organization believes that a strong GMC is necessary for long-term success<br>-Our organization believes that it is not necessary to develop a strong GMC for competitive success in our industry (R)* | 4 | <br>.92<br><br>.97<br>.89<br><br>-.01 |
| | **Subjective norm (SN)**<br>-Out key suppliers expect us to develop a strong GMC<br>-Our key customers expect us to develop a strong GMC<br>-Our employees expect us to develop a strong GMC<br>-Our government expect us to develop a strong GMC<br>-Our key shareholders expect us to develop a strong GMC | 5 | <br>.73<br>.83<br>.91<br>.87<br>.83 |
| | **Perceived behavioural control (PBC)**<br>-Our organization has appropriate internal knowledge to implement GMC<br>-Our organization has appropriate leadership to implement GMC<br>-Our organization has appropriate internal structure to implement GMC<br>-Our organization has appropriate internal capacity to implement GMC<br>-Our organization has appropriate support from the top management to implement GMC<br>-Our main competitors are developing a strong GMC | 6 | <br>.87<br>.95<br>.96<br>.90<br>.89<br><br>.56 |
| Overall performance | -Green product investment profitability<br>-Increase of green product sales margins<br>-Return on investment (ROI) of green products<br>-Reaching green product investment financial goals | 4 | .85<br>.89<br>.70<br>.87 |
| Competitive rivalry | -Competition in our industry is cut-throat<br>-There are many promotion wars in our industry<br>-Competition is a major hallmark in this industry<br>-*Our competitors are relatively weak* [d] | 3 | .99<br>.69<br>.60 |

Note: *(R)* refers to reversed scores. Some reversed scores within particular constructs (i.e. risk-taking and attitude) may turn out with negative numbers, however the overall measurement model fit of each construct has been presented a-good-fit with the observed-data in this study. After measurement purification process, 2 items were removed as assigned superscript [d].

Source: Author

**Table 6.9 CFA Results: Measurement Models of GMC-Structures, GCA and**

**Overall Performance (Study-3: H4 – H8)**

| Constructs | Measurement Scales | # of Items | Loadings |
|---|---|---|---|
| GMC-Structures | Pre-GMC | 4 | |
| | -Green marketing planning skills | | .81 |
| | -Setting clear green marketing goals | | .93 |
| | -Formulating creative green marketing strategies | | .94 |
| | -Thoroughness of green marketing planning processes | | .89 |
| | Info-driven GMC | 8 | |
| | -Integrating all available information to gain insight about the green market | | .81 |
| | -Combining new information with past research to build a richer market view | | .82 |
| | -Analyzing market information to effectively understand the green market | | .85 |
| | -Identifying emerging trends in the green marketplace | | .89 |
| | -Making relevant green market information available to decision-makers | | .87 |
| | -Sharing available market information widely within the green venture | | .85 |
| | -Ensuring green market information reaches all interested parties | | .84 |
| | -Giving other units in the firm easy access to our green market information | | .76 |
| | Product-driven GMC | 3 | |
| | -We are careful when choosing the contents, ingredients and raw materials of our products in order to be environmentally friendly | | .87 |
| | -We are geared to designing and developing products that are friendly to the environment | | .90 |
| | -We tend to modify our packaging and labelling decisions to emphasize on any environmental benefits | | .82 |
| | -*We have significantly increased the recycling content of our packaging over the past few years* [d] | | |
| | Synergistic GMC | 6 | |
| | -We cooperate with suppliers and distributors to develop environmentally friendly marketing programs | | .85 |
| | -We encourage our suppliers and distributors to embrace and reflect environmental responsibility and responsiveness in their activities | | .88 |
| | -We set out clear directives and specifications for environmental responsibilities and monitor our channel members' responses | | .92 |
| | -We communicate the environmental friendliness of a product by positioning its features or ingredients in our branding efforts | | .87 |
| | -We highlight our commitment to environmental preservation in our corporate communications | | .85 |
| | -Our promotions highlight and inform customers about the firm's environmental efforts | | .87 |
| | -*We team up with our channel members to develop appropriate product and packaging after-use arrangements* [d] | | |
| | -*We cooperate with our channel members to make joint commitments to environmental protection* [d] | | |
| | -*We make efforts to reduce any negative impact of our marketing promotions on the natural environment* [d] | | |
| | -*We emphasize the environmental aspects of our products in our advertisement communications* [d] | | |

*(To be continued on the next page…)*

| Constructs | Measurement Scales | # of Items | Loadings |
|---|---|---|---|
| Green competitive advantage (GCA) | -Our business has realized significant cost saving by improving the environmental quality of our products/services | 3 | .81 |
| | -By regularly investing in new eco-friendly technologies, processes and strategies, our business can be a leader in the market | | .90 |
| | -Our business can enter lucrative new markets by adopting green marketing strategies | | .78 |
| | *-Our business can increase product quality by making its current processes more green (environmentally-friendly)[d]* | | |
| | *-Reducing the negative environmental impact of our business' activities will lead to a quality improvement in its green products/processes[d]* | | |
| Overall Performance | -Green product investment profitability | 4 | .85 |
| | -Increase of green product sales margins | | .89 |
| | -Return on investment (ROI) of green products | | .70 |
| | -Reaching green product investment financial goals | | .87 |

Note: After measurement purification process, 7 items were removed as assigned superscript [d].

Source: Author

**Table 6.10 Psychometric Properties of All Constructs: SEM Models, Composite Reliability (CR) and Average Variance Extracted (AVE) Scores**

| Constructs | | SEM Model Fit Indices | Composite Reliability (CR) | Average Variance Extracted (AVE) | Empirical sub-study |
|---|---|---|---|---|---|
| GMC-Structures | Pre-GMC | $X^2(d.f.) = 13.18(2)$, CFI/TLI = .97/.93 SRMR = .01 | .94 | .78 | 1, 3 |
| | Info-driven GMC | $X^2(d.f.) = 62.66(20)$, CFI/TLI = .95/.93 SRMR = .03 | .94 | .86 | 1, 3 |
| | Product-driven GMC | $X^2(d.f.) = .00(0)$, CFI/TLI = 1.00/1.00 SRMR = .00 | .89 | .72 | 1, 3 |
| | Synergistic GMC | $X^2(d.f.) = 52.43(9)$, CFI/TLI = .95/.91 SRMR = .03 | .95 | .83 | 1, 3 |
| Corporate Strategic Posture (CSP) | Analytical posture | $X^2(d.f.) = .00(0)$, CFI/TLI = 1.00/1.00 SRMR = .00 | .84 | .70 | 2 |
| | Risk-taking posture | $X^2(d.f.) = 4.82(2)$, CFI/TLI = .97/.91 SRMR = .03 | .75 | .61 | 2 |
| Perceived-Green Behaviour (PGB) | Attitudes | $X^2(d.f.) = 5.96(2)$, CFI/TLI = .98/.96 SRMR = .02 | .85 | .73 | 2 |
| | Subjective norm | $X^2(d.f.) = 5.91(5)$, CFI/TLI = .99/.99 SRMR = .01 | .92 | .80 | 2 |
| | Perceived-behavioural control (PBC) | $X^2(d.f.) = 7.72(9)$, CFI/TLI = 1.00/1.00 SRMR = .01 | .95 | .83 | 2 |
| Overall Performance | | $X^2(d.f.) = .89(2)$, CFI/TLI = 1.00/1.00 SRMR = .00 | .90 | .77 | 1, 2, 3 |
| Green Competitive advantage (GCA) | | $X^2(d.f.) = .00(0)$, CFI/TLI = 1.00/1.00 SRMR = .00 | .87 | .71 | 3 |
| Competitive rivalry | | $X^2(d.f.) = .00(0)$, CFI/TLI = 1.00/1.00 SRMR = .00 | .81 | .69 | 1, 2 |

Source: Author

Next, the data analysis of empirical study 2 (H1 – H3) and study 3 (H4 – H8) are presented in the following sections. The test of all research hypothesised relationships of study-2: hypotheses 1 to 3 are reported in section 6.4.1. Study-3 (part-1) hypotheses 4 to 6 are

examined in section 6.4.2, and study-3 (part-2 and 3) hypotheses 7 and 8 are investigated in section 6.4.3.

## 6.4 Hypothesis Testing and Results

### 6.4.1 Study-2: The Configuration Model of Fit among Various GMC-Strategic Types, Corporate Strategic Posture (CSP), Perceived-Green Behaviour (PGB) and Performance: H1 – H3

This study investigates the relationship between multiple variables i.e. alternative GMC-strategic types, corporate strategic postures (CSP), perceived-green behaviour (PGB) and performance, and whether or not competitive rivalry impacts on performance. The focus is on the configuration model of fit among various GMC-strategic types, CSP, PGB, and performance. With this in mind, this study employs a configuration approach in order to test the *fit-as-moderation* (or the moderating effect) of alternative GMC-strategic types and the association with CSP, PGB, and performance. Meanwhile company's age, size and industry types are set as controlled variables.

Strictly speaking, the test of hypothesised relationships were analysed by using a method of hierarchical regression. The author adopts this method to test the *moderation* effect (by alternative GMC-strategic types) as suggested by past studies (e.g. Slater *et al*, 2010; Homburg *et al*, 2008; Olson *et al*, 2005b; Slater *et al*., 2006; Slater and Mohr, 2006). As noted that the hierarchical regression is appropriate to test the *configuration of fit* among a set of variables; in other word, it allows the researcher to assess the relative impact of the CSP and PGB on performance with respect to alternative GMC-strategic types. To be more specific, this study utilises a *hierarchical multiple regression* (or ordinary least squares regression within subgroups). This technique is crucial for the analysis of subgroup, and appropriate approach to test for *moderation* when the moderator variable is a categorical variable (Sharma *et al*., 1981). In addition, this study follows the call by past research i.e.

Olson *et al* (2005, p. 61), and Walker and Ruekert (1987, p. 18-19) to investigate the corporate-business unit relationship through the implementation of strategy in associate with the role of marketing. A critical implication arising from the intersection of companies' CSP, PGB and selection of target GMC-strategic types is the idea that expresses a *configuration model of fit* with performance by each GMC strategic approach.

On the basis of a regression model, the overall performance is used as a criterion variable in the analysis (e.g. Slater *et al*, 2010; Homburg *et al*, 2008). Meanwhile predictor variables in step 1 comprise of three categorical variables (company's age, size and industry) and one continuous variable (competitive rivalry). In step 2, CSP variables: analytical and risk-taking postures are included. Later, the PGB on the basis of three variables: ATT, SN and PBC are included in step 3. Table 6.11 contains results of the regression models using overall performance as a criterion (see below). Results from the regression models also suggest that company's size, age and industry are not concerned with significant predictors of performance. In addition, figure 6.1 illustrates the regression results of study-2 (see below). Following on from that, the analysis of each GMC-strategic type that works as a moderator is reported on in the following sections: GMC-Prospector as Moderator (H1a – H1d) in section 6.4.1.1. GMC-Analyzers as Moderator (H2a – H2d) in section 6.4.1.2. GMC-Defenders as Moderator (H3a – H3d) in section 6.4.1.3.

**Table 6.11 Hierarchical Multiple Regression Models Using Overall Performance as a Criterion Variable**

| Predictor Variables | GMC-Prospectors (n = 41) | GMC-Analyzers (n = 48) | GMC-Defenders (n = 31) |
|---|---|---|---|
| *Step 1* | | | |
| Company's age | -.06 | .07 | .-.36 |
| Company's size | .11 | -.07 | .06 |
| Industry types | -.11 | -.13 | .26 |
| Competitive rivalry | .28 | -.20 | -.12 |
| $R^2$ | .11 | .08 | .27 |
| Adjusted $R^2$ | .00 | -.01 | .15 |
| *F*-value | 1.09 | .89 | 2.36 |
| *Step 2* | | | |
| Company's age | -.08 | .06 | -.28 |
| Company's size | .12 | -.18 | -.01 |
| Industry types | -.08 | -.08 | .25 |
| Competitive rivalry | .27 | -.32 | -.03 |
| Analytical | .03 | **.35*** | .31 |
| Risk-taking | .23 | -.03 | .13 |
| $R^2$ | .16 | .16 | .41 |
| Adjusted $R^2$ | .01 | .04 | .26 |
| *F*-value | 1.12 | 1.34 | **2.79*** |
| $\Delta R^2$ (from Step 1 to 2) | .05 | .08 | .14 |
| *Step 3* | | | |
| Company's Age | -.23 | .05 | **-.51*** |
| Company's Size | .21 | -.18 | -.00 |
| Industry Types | -.15 | -.04 | .25 |
| Competitive rivalry | **.32*** | -.32 | .09 |
| Analytical | -.14 | **.39*** | .30 |
| Risk-taking | **.37*** | -.03 | -.30 |
| Attitudes | .16 | .08 | **-.43*** |
| Subjective norm | .17 | .14 | -.34 |
| Perceived behavioural control | .32 | -.32 | **1.02*** |
| $R^2$ | .42 | .23 | .64 |
| Adjusted $R^2$ | .26 | .04 | .48 |
| *F*-value | **2.59*** | 1.24 | **4.17*** |
| $\Delta R^2$ (from Step 2 to 3) | .26 | .06 | .23 |

Note: standardized coefficients are reported. * indicates $p < 0.05$ level

Source: Author

**Figure 6.1 Regression Results: Configuration Models of Fit among Alternative GMC-Strategic Types, CSP, PGB and Performance**
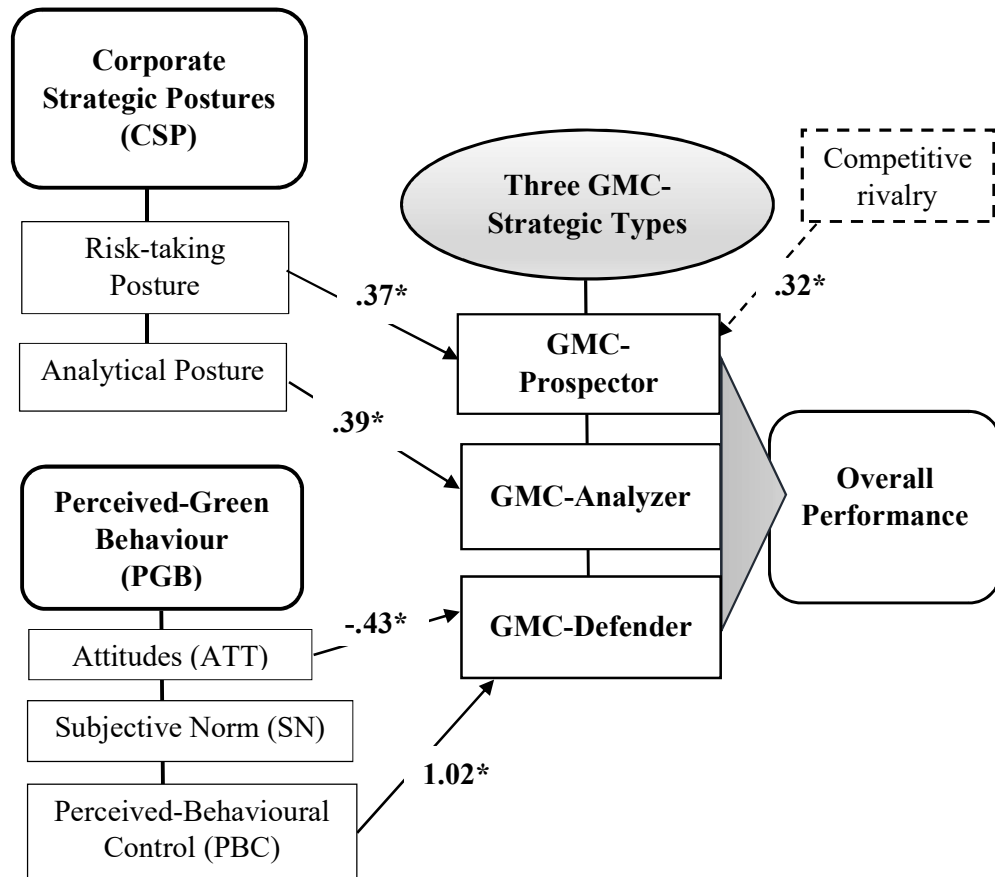


Source: Author

### 6.4.1.1    GMC-Prospector as Moderator (H1a – H1d)

According to the empirical results from both tables 6.11 and figure 6.1, the regression model describes the overall findings of *GMC-prospector* (as moderator) as follows. It is found that an adjusted $R^2$ = .26 and, as predicted, there are positive effects of *competitive rivalry* ($\beta$ = .32, $p$ < .05) and *risk-taking* posture ($\beta$ = .37, $p$ < .05) on performance. In other words, results suggest that both *competitive rivalry* and *risk-taking* variables are moderated by the effect of the *GMC-prospector* on performance. In addition, the findings reveal the negative impact of *analytical* posture and *perceived-green-behaviour* (PGB) (including of attitudes, subjective norm and perceived-behavioural control) on performance for the *GMC-*

*prospectors*. This can explain that both variables: *analytical* posture and PGB are not moderated by the effect of GMC-prospector strategic type on performance.

Moreover, the regression model also shows that the $\Delta R^2 = .05$ (not significant) when the four variables (i.e. company's age, size, industry, and competitive rivalry) are entered in Step 1 and the CSP variables in Step 2. On the other hand, the $\Delta R^2 = .26$ (significant, $p < .05$) when the CSP variables are entered in Step 2 and the CSP and PGB in Step 3. This model explains that in step 3 the CSP variable i.e. *risk-taking* posture, and *competitive rivalry* are moderated by the effect of GMC-prospector on performance. In other words, it suggests that the configuration model is significant meanwhile there are influences of *risk-taking* posture and *competitive rivalry* on *GMC-prospectors* and performance relationship. Accordingly, the proposed hypothesised relationships: H1a – H1d were examined. The findings are reported as below.

> ***Hypothesis 1a*** posits that among GMC-prospectors, there is a *positive* relationship between corporate's level risk-taking posture and performance.
> The result is *supported*.

> ***Hypothesis 1b*** posits that among GMC-prospectors, there is a *negative* relationship between corporate's level analytical posture and performance.
> The result is *supported*.

> ***Hypothesis 1c*** posits that among GMC-prospectors, there is a *positive* relationship between a company's concern of competitive rivalry and performance.
> The result is *supported*.

> ***Hypothesis 1d*** posits that among GMC-prospectors, there is a *negative* relationship between a company's concern of perceived-green-behaviour and performance.
> The result is *supported.*

### 6.4.1.2    GMC-Analyzer as Moderator (H2a – H2d)

According to the empirical results from both tables 6.11 and figure 6.1, the regression model reveals the overall findings of *GMC-analyzer* (as moderator) as follows. It is found that an adjusted $R^2 = .04$ and, as predicted, there is positive effect of *analytical* posture at a corporate level ($\beta = .39$, $p < .05$) on performance. In addition, the findings show the negative impact of *competitive rivalry* ($\beta = -.32$, not significant), *risk-taking* ($\beta = -.03$, not significant) and three factors of PGB consisting of ATT, SN and PBC ($\beta = .08$, .14, -.32, all not significant) on performance. The results can be interpreted that the only CSP i.e. *analytical* posture is moderated by the effect of *GMC-analyzers* on performance. It can be explained by the result that the *GMC-analyzer,* in particular has a strong relationship with the *analytical* posture variable.

The regression model also shows the $\Delta R^2 = .08$ (not significant) when the four variables (i.e. company's age, size, industry, and competitive rivalry) are entered in Step 1 and the corporate strategic posture variables in Step 2. Meanwhile the $\Delta R^2 = .06$ (not significant) when the CSP variables are entered in Step 2 and the PGB in Step 3. This result exposes that the only variable i.e. *analytical* posture has influence on the *GMC-analyzers* and performance relationship. Consequently, the proposed hypothesised relationships: H2a – H2d were examined. The findings expose some supported and rejected hypothesised relationships as below.

> ***Hypothesis 2a*** posits that among GMC-analyzers, there is a *positive* relationship between corporate level analytical posture and performance.
> The result is *supported.*

> ***Hypothesis 2b*** posits that among GMC-analyzers, there is a *negative* relationship between corporate level risk-taking posture and performance.
> The result is *supported.*

***Hypothesis 2c*** posits among GMC-analyzers, there is a *positive* relationship between a company's concern of competitive rivalry and performance. The result is *rejected.*

***Hypothesis 2d*** posits among GMC-analyzers, there is a *positive* relationship between a company's concern of perceived-green-behaviours and performance. The result is *rejected.*

### 6.4.1.3    GMC-Defender as Moderator (H3a – H3d)

According to the empirical results from both table 6.11 and figure 6.1, the regression model exposes the overall findings of *GMC-defender* (as moderator) as follows. It is found that an adjusted $R^2 = .48$ and, as predicted, there are positive effects of two factors of the PGB variables i.e. ATT and PBC ($\beta = -.43, 1.02; p < .05$) on performance for the *GMC-defenders*. In other words, the findings suggest that the PGB variables (in terms of both ATT and PBC) are moderated by the effect of *GMC-defender* on performance.

In addition, the CSP variables: *analytical* and *risk-taking* postures have negative impact on performance (as predicted), while the company's age (as a controlled variable) ($\beta = -.51; p < .05$) which is unpredicted has a positive influence on performance. Moreover, the regression model shows that the $\Delta R^2 = .14$ ($p < .05$) when the four variables (i.e. company's age, size, industry, and competitive rivalry) are entered in Step 1 and the CSP variables in Step 2. The $\Delta R^2 = .23$ ($p < .05$) when the CSP variables are entered in Step 2 and the PGB in Step 3. This configuration model suggests that there are influences of both company's age and PGB variables (in terms of ATT and PBC) on performance as moderated by the *GMC-defender* strategic type. Accordingly, the proposed hypothesised relationships: H3a – H3c were assessed. The findings are reported as follows.

*Hypothesis 3a* posits that among GMC-defenders, there is a *negative* relationship between corporate level postures in terms of a risk-taking approach and performance.

The result is *supported.*

*Hypothesis 3b* posits that among GMC-defenders, there is a *negative* relationship between corporate level postures in terms of analytical approach and performance.

The result is *supported.*

*Hypothesis 3c* posits that among GMC-defenders, there is a *negative* relationship between a company's concern of competitive rivalry and performance.

The result is *supported.*

*Hypothesis 3d* posits that among GMC-defenders, there is a *positive* relationship between a company's concern of perceived-green-behaviours and performance.

The result is *supported.*

To sum up, the empirical findings of regression analysis provide substantial evidence from the configuration model among multiple variables (i.e. competitive rivalry, CSP, PGB and performance), and whether or not they are moderated by the effect of three distinctive GMC-strategic types. The research hypothesised relationships were examined and reported on in tables 6.11 and figure 6.1 as already discussed above. Furthermore, table 6.12 summarises the relationships between predictor variables and performance by alternative GMC-strategic types. The predicted and observed relationships (in the brackets) are reported as below. The majority of hypotheses were supported by the empirical analysis in this study.

**Table 6.12 Summary of the Test of Hypotheses 1 – 3: The Predicted and (Observed) Relationships between Predictor Variables and Performance (as criterion) by Alternative GMC-strategic Types**

| Variables | GMC-Prospectors | GMC-Analyzers | GMC-Defenders |
|---|---|---|---|
| Constructs | Predicted (Observed) | Predicted (Observed) | Predicted (Observed) |
| *Corporate Strategic Postures (CSP)* | | | |
| Analytical | **H1a:** Negative *(Negative)* | **H2a:** Positive *(Positive)* | **H3a:** Negative *(Negative)* |
| Risk-taking | **H1b:** Positive *(Positive)* | **H2b:** Negative *(Negative)* | **H3b:** Negative *(Negative)* |
| Competitive Rivalry | **H1c:** Positive *(Positive)* | **H2c:** Positive *(Negative)* | **H3c:** Negative *(Negative)* |
| Perceived-Green-Behaviours (PGB) | **H1d:** Negative *(Negative)* | **H2d:** Positive *(Negative)* | **H3d:** Positive *(Positive)* |

Source: Author

## 6.4.2 Study-3 (Part-1): The Investigations on the Moderating Effect of GMC-Strategic Types on the Link between GMC-Structures and GCA (H4 – H6)

This section reports on the hypothesis testing and results of study-3 (part-1: H4 – H6). This particular study further utilises a *configuration* approach in order to test the *fit-as-moderation* (or the moderating effect) of alternative *GMC-strategic types* in association with two main GMC-structures (i.e. *basic* and *advanced* GMC-structures) and green competitive advantage (GCA). In other words, it is to examine whether or not the operationalization of two main GMC-structures are moderated by the effect of various GMC-strategic types on GCA. In particular, companies' age, size, industry types and competitive rivalry are set as controlled variables.

The test of hypothesised relationships was performed by using a method of hierarchical regression analysis in order to test the moderating effects of alternative GMC-strategic types. Meanwhile past studies (e.g. Slater *et al*, 2010; Homburg *et al*, 2008; Olson *et al*., 2005, Slater *et al*., 2006, Slater and Mohr, 2006) support the fact of the usefulness of

regression models, which allows the researcher to explore and assess the relative impact of the two main GMC-structures (i.e. *basic* and *advanced* GMC-structures) on GCA with respect to various GMC-strategic types. With this approach, a critical implication arising from the intersection of the two main GMC-structures and the selection of target GMC-strategic types could reveal a positive contribution towards a critical source of GCA for companies.

Next, table 6.13 provides the results from the hierarchical regression analysis (see below). The controlled variables comprising of three categorical variables (company's age, size and industry) and one continuous variable (competitive rivalry) are entered in the step 1. While the remaining predictors based on the two main GMC-structures including: (1) *basic GMC-structures* (in terms of both pre-GMC and info-driven GMC), and (2) *advanced GMC-structures* (in terms of both product-driven GMC and synergistic GMC) are entered in step 2. The three GMC-strategic types' regression equations are significant at $p < .05$, and the adjusted $R^2$ values range from 0.18 for *GMC-defenders* to 0.32 for *GMC-analyzers*. Furthermore, figure 6.2 illustrates the regression results of the *configuration models of fit* among alternative GMC-strategic postures, the two main GMC-structures and GCA (see below). Next, more details of the empirical results are discussed in the following sections.

**Table 6.13 Summary of Results from Hierarchical Regression Analyses: GCA as Dependent Variable by Alternative GMC-Strategic Types**

| | GMC-Prospectors | GMC-Analyzers | GMC-Defenders |
|---|---|---|---|
| Predictor variables | | | |
| **Step 1** | | | |
| Firm's age | .07 | .21 | .18 |
| Firm's size | -.04 | -.02 | -.01 |
| Industry type | .02 | -.19 | -.06 |
| Competitive rivalry | .36* | .08 | -.05 |
| $R^2$ | .14 | .07 | .04 |
| *Adjusted $R^2$* | .04 | -.02 | -.10 |
| *F*-value | .1.46 | .74 | .28 |
| **Step 2** | | | |
| Firm's age | -.02 | .11 | .02 |
| Firm's size | -.14 | -.03 | -.09 |
| Industry type | .01 | -.19 | -.10 |
| Competitive rivalry | **.36*** | -.12 | .05 |
| Basic GMC (Pre-GMC) | .22 | .10 | -.01 |
| Basic GMC (Info-driven) | .15 | -.16 | -.11 |
| Advanced GMC (Product-driven) | .07 | **.48*** | **.45*** |
| Advanced GMC (Synergistic) | **.36*** | **.28*** | .27 |
| $R^2$ | .42 | .44 | .40 |
| *Adjusted $R^2$* | .28 | .32 | .18 |
| *F*-value | **2.96*** | **3.85*** | 1.85 |
| $\Delta R^2$ | .28 | .37 | .36 |

Note: standardized coefficients are reported. * indicates $p < 0.05$ level

Source: Author

**Figure 6.2 Regression Results: the Configuration Models of Fit among Alternative GMC-Strategic Types, Two Main GMC-Structures and GCA**
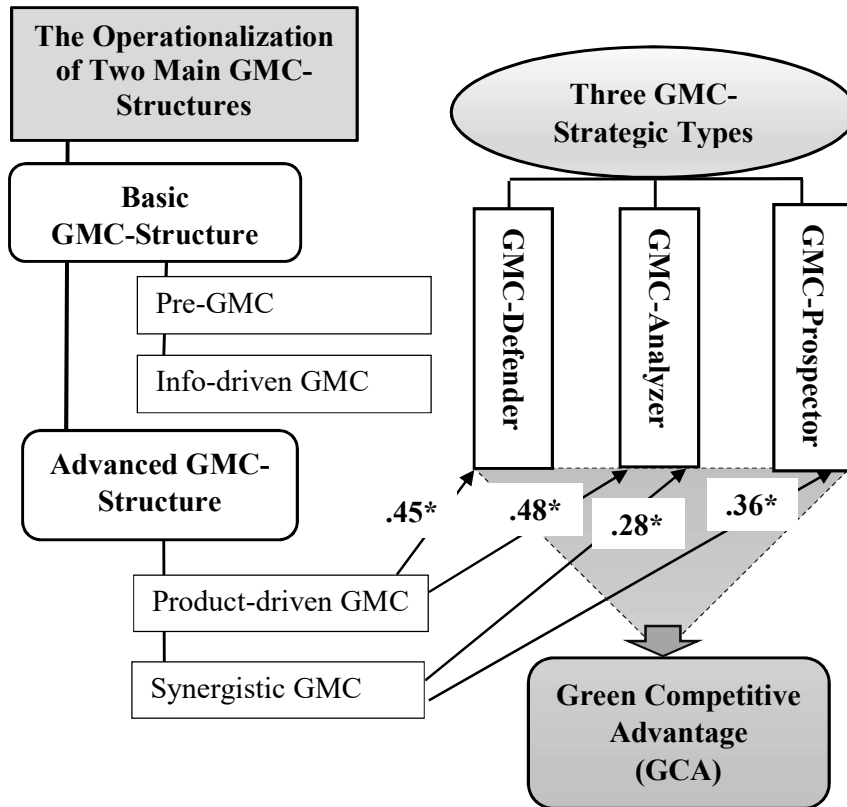


Source: Author

The next following sections will discuss the analysis of each *GMC-strategic type* which works as a moderator: GMC-Prospector as Moderator (H4a – H4b) in section 6.4.2.1. GMC-Analyzer as Moderator (H5a – H5b) in section 6.4.2.2. GMC-Defender as Moderator (H6a – H6b) in section 6.4.2.3 respectively.

### 6.4.2.1    GMC-Prospector as Moderator (H4a – H4b)

According to the empirical results from table 6.13 and figure 6.2, the regression model demonstrates the overall findings of *GMC-prospector* (as moderator) as follows. It is found that the adjusted $R^2$ =.04 (not significant) when the controlled variables are entered in Step

1. In Step 2, the $\Delta R^2 = .28$ (significant, $p < .05$) when all the predictors comprise of two main *GMC-structures* (the *basic* GMC-structures including: pre-GMC and info-driven GMC; and the *advanced* GMC-structures including: product-driven GMC and synergistic GMC) are entered. The results reveal a negative effect on the *basic GMC-structures* (in terms of pre-GMC and info-driven GMC) on GCA for the *GMC-prospectors*. In other words, this finding explains that there is no moderating effect of *GMC-prospectors* on the link between *basic* GMC-structures and GCA.

As predicted, however the *advanced* GMC-structures in terms of *synergistic GMC* have a positive effect on GCA, while *product-driven GMC* is negatively related to GCA for the *GMC-prospectors*. Meanwhile, the competitive rivalry (as a controlled variable) is also found to be positively associated with *GMC-prospector* and GCA in both steps 1 and 2. This configuration model suggests that for the *GMC-prospectors*, there is only *synergistic GMC* on the basis of the *advanced GMC-structures* which has a strong relationship with GCA. Consequently, the proposed hypothesised relationships: H4a – H4b were analysed. The findings are reported as below.

> ***Hypothesis 4a*** posits that among *GMC-prospectors*, there is a *positive* effect of the basic GMC-structures (in terms of pre-GMC and info-driven GMC) on the GCA.
> The result is *rejected.*

> ***Hypothesis 4b*** posits that among *GMC-prospectors*, there is a *positive* effect of the advanced GMC-structures (in terms of product-driven GMC and synergistic GMC) on the GCA.
> The result is *partially supported.*

### 6.4.2.2    GMC-Analyzer as Moderator (H5a – H5b)

According to the empirical results from table 6.13 and figure 6.2, the regression model reveals the overall findings of the *GMC-analyzers* (as moderator) as follows. It is found that

the adjusted $R^2$ =-.02 (not significant) when the controlled variables are entered in Step 1. In Step 2, the $\Delta R^2 = .37$ (significant, $p < .05$) when all the predictors comprise of two main *GMC-structures* (the *basic* GMC-structures including: pre-GMC and info-driven GMC; and the *advanced* GMC-structures including: product-driven GMC and synergistic GMC) are entered. The findings reveal the adjusted $R^2 = .32$, meanwhile the results show a negative effect of the *basic GMC-structures* (pre-GMC and info-driven GMC) on GCA for the *analyzers*. In other words, this model explains that there is no significant relationship between the *basic GMC-structures* (in terms of pre-GMC and info-driven GMC) and GCA for the *GMC-analyzers* strategic type.

However, as predicted both components of the *advanced GMC-structures* (in terms of product-driven GMC and synergistic GMC) have a positive effect on the GCA for the *analyzers*. The configuration model suggests that both product-driven GMC and synergistic GMC (on the basis of the *advanced* GMC-structures) have a strong relationship with GCA as moderated by the effect of the *GMC-analyzer*. Consequently, the proposed hypothesised relationships: H5a – H5b were analysed. The findings are reported as below.

> ***Hypothesis 5a*** posits that among GMC-analyzers, there is a *positive* effect of the basic GMC-structures (in terms of pre-GMC and info-driven GMC) on the GCA.
>
> The result is *rejected.*

> ***Hypothesis 5b*** posits that among GMC-analyzers, there is a *positive* effect of the advanced GMC-structures (in terms of product-driven GMC and synergistic GMC) on the GCA.
>
> The result is *supported.*

### 6.4.2.3    GMC-Defender as Moderator (H6a – H6b)

According to the empirical results from table 6.13 and figure 6.2, the regression model reveals the overall findings of *GMC-defender* (as moderator) as follows. It is found that

adjusted $R^2 = -.10$ (not significant) when the controlled variables are entered in Step 1. In Step 2, the $\Delta R^2 = .36$ (not significant) when all the predictors comprise of two main *GMC-structures* (the *basic* GMC-structures including: pre-GMC and info-driven GMC, and the *advanced* GMC-structures including: product-driven GMC and synergistic GMC) are entered. The findings show the adjusted $R^2 = .18$ (not significant) and reveal a negative effect of the *basic GMC-structures* (in terms of pre-GMC and info-driven GMC) on GCA for the *GMC-defenders* strategic type. In other words, this model explains that there is no significant relationship between the *basic GMC-structures* and GCA for the *defenders*.

However, as predicted the components of the *advanced GMC-structures* in relation to product-driven GMC has a positive effect on the GCA, while synergistic GMC is negatively related to the GCA for the *defenders*. The configuration model suggests that there is only a significant relationship between product-driven GMC (on the basis of *advanced* GMC-structures) and the GCA for the *GMC-defenders*. Consequently, the proposed hypothesised relationships: H6a – H6b were analysed. The findings are reported as below.

> ***Hypothesis 6a*** posits that among GMC-defenders, there is a *positive* effect of the basic GMC-structures (in terms of pre-GMC and info-driven GMC) on the GCA.
>
> The result is *rejected.*

> ***Hypothesis 6b*** posits that among GMC-defenders, there is a *positive* effect of the advanced GMC-structures (in terms of product-driven and synergistic GMC) on the GCA.
>
> The result is *partially supported.*

To sum up, the empirical findings of study-3 (part-1) reveal a substantial amount of evidence on the relationships between the two main GMC-structures (i.e. *basic* and *advanced* of GMC-structures) and GCA as moderated by the effect of alternative GMC-strategic types. The results of hypothesis testing expose some interesting characteristics among three

distinctive GMC-strategic types. In other words, each GMC-strategic type (with its unique characteristic) is positively associated with its strengths on the basis of the two main GMC-structures which might have an impact on a critical source of GCA for companies. In addition, the research outcomes to an interpretation of findings can be drawn from the evidence that the configuration model of the two main GMC-structures by alternative GMC-strategic types to achieving GCA may rely upon a representation and formation of strength at each stage of the development of the GMC-structures. More discussions and interpretation of findings can later be found in chapter 7.

Next, table 6.14 summarises the relationships between predictor variables on the basis of two main GMC-structures and GCA by alternative GMC-strategic types. The predicted and observed relationship (in the brackets) are reported as below.

**Table 6.14 Summary of the Test of Hypotheses 4 – 6: the Predicted and (Observed) Relationships between Predictor Variables (Two Main GMC-structures) and Green Competitive Advantage (as criterion) by Alternative GMC-Strategic Types**

| Predictor Variables | GMC-Prospectors | GMC-Analyzers | GMC-Defenders |
|---|---|---|---|
| **Two main GMC-Structures** | Predicted (Observed) | Predicted (Observed) | Predicted (Observed) |
| **Basic GMC-structures** (Pre-GMC & Info-driven GMC) | **H4a:** Positive *(Negative)* | **H5a:** Positive *(Negative)* | **H6a:** Positive *(Negative)* |
| **Advanced GMC-structures** (Product-driven GMC & Synergistic GMC) | **H4b:** Positive *(Positive)* | **H5b:** Positive *(Positive)* | **H6b:** Positive *(Positive)* |

Source: Author

### 6.4.3 Study-3 (Part 2 and 3): The Mediating Role of GCA Have on the Relationship between GMC-Structures and Performance (H7), and the Direct Effect of Various Components of GMC-Structures on Performance (H8)

This section reports the test of hypotheses and results of study-3 (part 2 and 3) including: H7 and H8. Hypothesis 7 assesses the mediating influence of GCA on the link between the overall operationalization of GMC-structures and performance. Hypothesis 8 examines the direct influence of the four components of GMC-structures on performance.

To be more precise, the test of the mediating role of GCA on the relationship between the overall operationalization of GMC-structures and performance (H7), and the direct influence of the four components of the GMC-structures on performance are examined by using the *procedural proposed* (Baron and Kenny, 1986) through a *structural equation model* (SEM) method. As past studies (e.g. Murray *et al*., 2011a, Carbonell and Rodriguez, 2006) support that the use of SEM model is widely acceptable to investigate the mediating role of competitive advantage on performance as well as to test the direct effect of GMC-structures on company's performance. In this particular study, the author estimates two structural models as follows. In SEM model#1, the mediating role of GCA that influences the relationship between the overall operationalization of GMC-structures and performance is assessed. In SEM model#2, the relationships between various components of GMC-structures and performance is analysed. Subsequently, the SEM results of model#1 are reported in table 6.15 and figure 6.3 for hypothesis 7. Following on from that, the SEM results of model#2 are reported in table 6.16 and figure 6.4 for hypothesis 8.

**Table 6.15 SEM Results: the Mediating Effect of GCA on the Relationship**

**between The Operationalization of GMC-structures, Green**

**Competitive Advantage and Performance (H7)**

**Model# 1**

| | |
|---|---|
| The mediating influence of GCA on the link between the overall operationalization of GMC-structures and Performance | |
| **The overall operationalization of GMC-Structures** | **Performance** |
| | **.29 (2.37)\*** |
| **GOF (Model fit indices)** | |
| $X^2(d.f.) = 50.08\ (33)\ / CFI = 0.97 / TLI = 0.96$ $RMSEA = 0.06 / SRMR = 0.05$ | |

Note: Standardized coefficients are reported with *t*-values in parentheses (\**p* <.05)

Source: Author

**Figure 6.3 SEM Results of Model#1 (H7)**
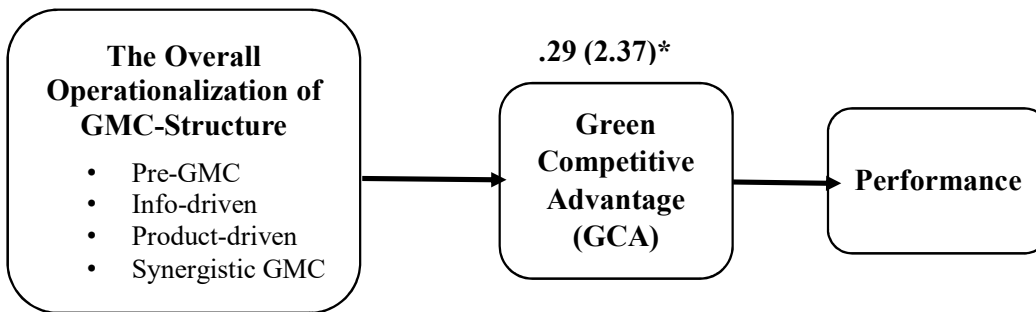


Source: Author

According to the empirical results from table 6.15 and figure 6.3, the SEM model#1 represents the relationship between the overall operationalization of GMC-structures and performance. The findings from this model show that the overall operationalization of GMC-structures is mediated by the effect of the GCA on performance. In other words, it is found that the role of the GCA significantly relates to the effect of overall operationalization

of GMC-structures on performance. The result of SEM model also suggests the mediating influence of the GCA with $t$-scores 2.37, and a significance at $p$-value < .05. In addition, the GOF indices (model fit indices: $X^2$ $(d.f.)$ = 50.08 (33), CFI = 0.97, TLI = 0.96, RMSEA = 0.06, SRMR = 0.05) reveal a model fit with the observed-data. In light of the SEM model#1, the author concludes the hypothesis testing as below.

> **Hypothesis 7** posits that the GCA mediates the effect of an overall operationalization of GMC-structures (in terms of pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) on the performance.
>
> The result is *supported.*

Next, the SEM results of model#2 are reported in table 6.16 and figure 6.4 for hypothesis 8 as below.

**Table 6.16 SEM Results: the Direct Influence of Various Components of GMC-Structures on Performance (H8)**

Model# 2

| The Four Components of GMC-Structures | Performance |
|---|---|
| **Pre-GMC** | .20 (1.81) |
| **Info-driven GMC** | **.36 (3.42)*** |
| **Product-driven GMC** | .09 (0.92) |
| **Synergistic GMC** | .08 (0.77) |
| **GOF (Model fit indices)** $X^2$ $(d.f.)$ = 14.53 (14) / CFI = 0.99/ TLI = 0.99 RMSEA = 0.01 / SRMR = 0.03 | |

Note: Standardized coefficients are reported with $t$-values in parentheses
(*$p$ < .05)
Source: Author

**Figure 6.4 SEM Results of Model#2 (H8)**
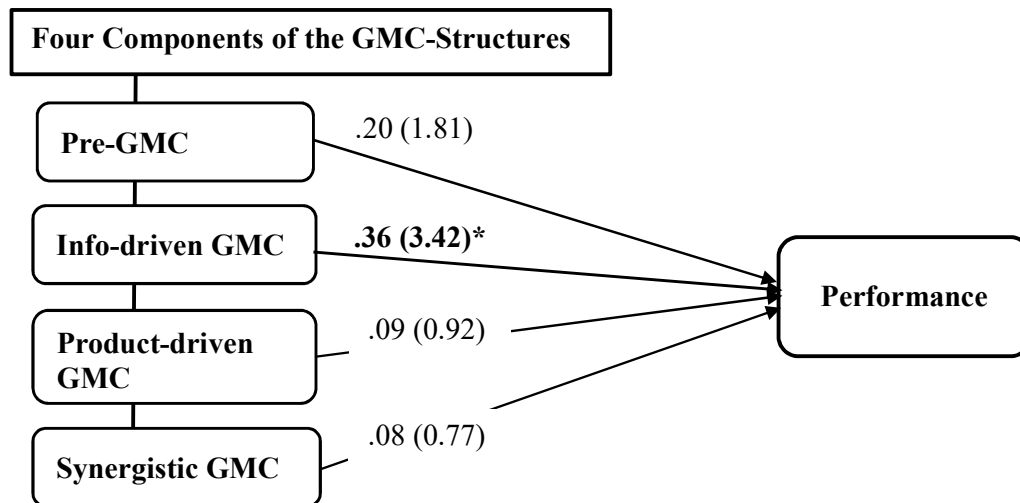


Source: Author

According to the empirical results from table 6.16 and figure 6.4, both contain the SEM results of model#2. This model assesses the direct influence of the four components of GMC-structures on performance. The findings show that the only one component in terms of *info-driven GMC* has a direct effect on performance (with *t*-score 3.42, a significance at *p* < .05). Meanwhile the GOF indices (model fit indices) suggests a good model fit with the observed-data ($X^2$ *(d.f.)* = *14.53(14), CFI = 0.99, TLI = 0.99, RMSEA = 0.01, SRMR = 0.03).* Consequently, the result of hypothesis testing is reported as below.

> *Hypothesis 8* posits that various components of GMC-structures (on the basis of pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) have a direct effect on the performance.
>
> The result is *partially supported.*

Finally, once all research hypothesised relationships from both studies 2 and 3 were analysed and reported. The empirical findings of all sub-studies will further be discussed and interpreted in the next chapter (chapter 7).

## 6.5 Chapter Summary

This chapter evaluates the measurement model and reports the test of hypotheses and the empirical results of both study-2 and -3. The empirical study-2 examines the configuration model of fit among alternative GMC-strategic types, corporate level postures, PGB and performance. The research findings, as predicted reveal that the hypothesised relationships were largely supported. Moreover, the empirical study-3 further tests three more relationships including: (1) the configuration model of fit among alternative GMC-strategic types, the operationalization of two main GMC-structures and GCA, (2) the mediating effect of GCA on the relationship between the overall operationalization of GMC-structures and performance, and (3) the direct influence of the four components of GMC-structures on performance. The results uncover an amount of substantial evidence based on the configuration approach (using a hierarchical regression analysis) and the SEM models. These research outcomes will later be discussed and interpreted in order to get the most meaningful research implications for management practice in the next chapter.

Next, chapter 7 will provide more discussions on all the results of sub-studies 1, 2 and 3, and research implications as well as an interpretation of major findings (for managerial practices).

# CHAPTER 7

# DISCUSSION, RESEARCH CONTRIBUTIONS AND IMPLICATIONS

## 7.1 Overview of the Chapter

The main objectives of this chapter are to summarise all findings from the research conducted, and provide discussions on the entire study (study-1, 2 and 3) (section 7.2). Particularly, the author aims to locate some knowledge gained from the study by reviewing the advantages of the implementation model/framework as well as validating the adopted analytical methods. This section also demonstrates the research contributions and implications of this thesis. In particular, it starts by discussing the research outcomes of study-1 which responds to RQ#1 and 2 (section 7.2.1). This specific study postulates a conceptual model of GMC and its principles (section 7.2.1.1), in turn it gives rise to the operationalization of GMC and four components of the GMC-structures (section 7.2.1.2) as well as the three GMC-strategic types (section 7.2.1.3).

Next, the findings of Study-2 (RQ#3) will be reviewed (section 7.2.2). In particular, the study that conducted an investigation into a configuration model of fit among GMC-strategic types, corporate strategic postures, perceived-green behaviour and performance is discussed (section 7.2.2.1). After that, this chapter continues by deliberating the data relating to Study-3 (section 7.2.3). This was an investigation that employed the following three sub-analyses consisting of: Part-1 (RQ#4) examines the configuration model of fit among the three GMC-strategic types, the operationalization of two main GMC-structures and green competitive advantage (GCA) (section 7.2.3.1). Part-2 (RQ#5) assesses the mediating effect of GCA on the link between the overall operationalization of GMC-structures and performance (section 7.2.3.2). Part-3 (RQ#6) investigates the direct influence of various components of the GMC-structures on performance (section 7.2.3.3).

Moreover, research contributions and implications based on theoretical and practical point of views are followed (section 7.3). Specifically, this section begins with contributions to academic research (section 7.3.1), then research implications and interpretation of findings for managerial practices are discussed (section 7.3.2). Besides, the author provides some in-depth insights into the implications of multi-dimensional models of GMC in terms of the operationalization of GMC-structures and the four components (section 7.3.2.1), strategic-behaviour-fit among the three GMC-strategic types (section 7.3.2.2), as well as strategic-GMC-fit among the three GMC-strategic types (section 7.3.2.3). Furthermore, the author articulates the insight of strategic implications through a guiding model which can be used as a GMC-strategic mind-map for marketing practitioners toward the development of GMC strategies (section 7.3.2.4). Lastly, the chapter is summarised (section 7.4).

## 7.2 Research Findings and Discussions

### 7.2.1 Empirical Study-1 (RQ#1 and 2): The Concept of GMC and Its Classifications Schemes

This section begins with a review on the major research findings of empirical study-1 (as presented in both chapters 2 and 4). Specifically, the research outputs have answered to two research questions which are: RQ#1: what is the conceptual definition of GMC and what are its principles? (Already discussed in chapter 2), and RQ#2: on the basis of a classificatory scheme, what are the specific characteristics of companies that can be categorised by their GMC-strategic types and performance differentials? (Already presented in chapter 4).

Strictly speaking, this study firstly posits the conceptualization of GMC by examining pertinent theoretical literature i.e. strategic marketing, the RBV and marketing resources and capabilities (responding to RQ#1). It then employs an integrative analytical approach that combines both classificatory methods including: a conceptual classification and an

empirical taxonomy in order to develop classifications of the GMC-structures and the GMC-strategic types (responding to RQ#1and #2). Next, the following sections shed light on to the empirical findings including: the conceptual model of GMC and its principles (section 7.2.1.1), the operationalization of GMC and its four components (section 7.2.1.2) and the three GMC-strategic types (section 7.2.1.3).

### 7.2.1.1 The Conceptual Model of GMC and Its Principles

As stated earlier, the research findings of study-1 correspond to research questions #1 and 2. This study aims to fill a knowledge gap by drawing attention to companies' green marketing capability (GMC), and attempts to find out how GMC can be operationalized, in other words, can be put into real practice for businesses. To date, there have been very few studies that have evaluated companies' green marketing capability by addressing an assessment upon the link between strategic marketing, the RBV and marketing resources and capabilities to conceptualising GMC and its principles. In addition, this study builds on a conceptual model of GMC in order to explore in-depth insights into its multi-facets and strategic implications.

To be more specific, this study offers up a salient conceptualization of GMC which draws on the insights into the theoretical foundations that consolidate the relationships between strategic marketing (Varadarajan, 2010), the RBV and marketing resources and capabilities (Morgan, 2012). Given the theoretical foundation of GMC, this study highlights the link between major theories across the fields of strategic management and marketing which encompass green marketing practices and strategies. On this basis, it makes substantial contributions to a body of knowledge towards the insight into the incorporation of strategic marketing (Varadarajan, 2010) and marketing knowledge-based resources and capabilities (Morgan, 2012) which has embedded environmentally-oriented issues to validate a conceptual model of 'green marketing capabilities' or GMC. This validation also sets out to

build on the idea of past studies (e.g. Morgan, 2012; Leonidou *et al*, 2013; Fraj *et al*, 2013) with an aim to integrate the role of RBV and marketing-based resources in order to improve companies' marketing capabilities in achieving target market objectives and superior performance outcomes. With this standpoint, the concept of GMC is grounded in the two principles consisting of: *architectural* and *specialized* marketing capabilities (which are anchored to the RBV theory and the marketing resources and capabilities literature) and incorporate into strategic marketing at a functional/operational level of an organisation (Varadarajan, 2010; Morgan, 2012).

In practice, the concept of GMC is fundamental to an integration of multi-tasking functions between individuals, groups, organisational systems, and structures combined with marketing knowledge-based resources and skills of a company (Morgan, 2012). The consolidation of resources and skills would transform into capabilities in ways that contribute to achieving marketing goals (Morgan, 2012; Mahoney and Pandian, 1992; Grant, 1996; Marino, 1996). In other words, the two principles of GMC are concerned with an incorporation of multi-level coordination and a complex bundles of marketing resources and capabilities based on both *architectural* and *specialized* marketing capabilities (Morgan, 2012). The combination of marketing capabilities can also be viewed as inter-connected marketing-based resource inputs and capabilities. These involve knowledge of marketing planning skills, selecting strategic marketing goals and strategic marketing decisions upon the deployment of various functional marketing strategies in a company (Morgan *et al*, 2003; Slotegraaf and Dickson, 2004). Based on this stance, this study makes substantial contributions to a body of knowledge by consolidating literature across the fields of strategic management and marketing to derive and affirm the two main principles of GMC which are central to companies' marketing resources and capabilities. Given the above critical groundwork, the two principles can be regarded as a specific set of drivers for companies in

achieving competitive advantage and superior performance (Morgan, 2012; Vorhies *et al*, 2009; Hunt, 1995; Vorhies *et al*, 1999).

Moreover, the essence of strategic marketing (as a domain of marketing strategy based on different purposes within a company) (Varadarajan, 2010) has come to light and has extended literature boundaries to articulate marketing strategies in various levels of an organisation. Based on this literature, the author focuses on practical marketing at an operational level with an implementation of the *marketing programs* (McCarthy, 1978). Particularly, this study attempts to emphasise companies' green marketing capabilities at an operational level which has attested to the need for change towards green/eco-friendly marketing practices, so as to meet a transformation of the role of marketing in relation to an *environmental imperative* (Kotler, 2011).

### 7.2.1.2 The Operationalization of GMC and Four Components of GMC-Structures

This section continues to discuss the findings in responding to research question 1 (partly brought forward from study-1) which aims to identify the different stages of GMC-structures (the operationalization of four components). Particularly by employing the integrative analytical approach, the author would be able to evaluate a multi-dimensional model of GMC and its implications. Given the combined-classificatory procedure (consisting of both classificatory schemes concerning a conceptual classification and an empirical taxonomy), it gives rise to a classification of the GMC-structures and taxonomy of the GMC-strategic types. Accordingly, the adopted integrative analytical approach has demonstrated its usefulness which can be said as advantageous approach for this study to derive substantial meanings and implementations of GMC. On this basis, the GMC-structures and the GMC-strategic types have been brought to light with some insightful implications. Furthermore, the classification of GMC-strategic types (based on an empirical

taxonomy which corresponds to RQ#2) will be discussed in the latter section (section 7.2.1.3).

Strictly speaking, the operationalization of GMC has been examined by a conceptual classification approach based on two main principles including: *architectural* and *specialized* marketing capabilities (Morgan, 2012). With this process, the GMC-structures can be operationalized and simplified as: (1) *basic* GMC-structures (concerning two components inclusive of *pre-GMC* and *info-driven GMC*) and (2) *advanced* GMC-structures (concerning two components comprised of *product-driven GMC*, and *synergistic GMC*). In practice, the operationalization of the GMC-structures involves a systematic process of green marketing knowledge-based resources and capabilities that enables companies to fully exploit their marketing capabilities, as well as to develop a-new (Teece *et al*, 1997). Given this standpoint, it integrates the insights into how different elements of green marketing practices and strategies (that embedded in companies' multi-leveled marketing resources and capabilities) could interact in ways contributing to a systematic and dynamic GMC (Morgan, 2012). Theoretically the operationalization of the GMC-structures which are a cornerstone to companies' marketing resources and capabilities (which are encompassed by the RBV) would generate a source of dynamic capabilities for the enhancement of competitive advantage and performance (Vorhies and Morgan, 2005). Likewise, numerous researchers (e.g. Eisenhardt and Martin, 2000; Grant, 1996; Teece *et al*., 1997) support, the role of RBV that could lead companies to obtaining a source of competitive advantage by continuously reconfiguring (that can change existing capabilities or create new ones) or reconsolidating various types of resources within an organisation to enhancing performance outcomes as well as differentiating companies to outperform other competitors over time.

To be consistent with the RBV, the operationalization of GMC-structures on the basis of the four components comprising of: *pre-GMC, info-driven GMC, product-driven GMC* and *synergistic GMC* can be considered as influential factors constituting a source of competitive advantage and superior performance as a result (Amit and Schoemaker, 1993, Peteraf, 1993). Moreover, the four components of GMC-structures have also been ratified by an integrative analytical approach, which involves a conceptual classification and a procedure for selecting the constructs of GMC in comparison with past relevant studies (e.g. Fraj *et al*, 2013; Leonidou *et al*, 2013) (as already presented in chapter 4: section 4.2.2). Given the rigorous procedure, the quality and features of the GMC-structures including four components have been successfully evaluated and established.

In brief, this study affirms that the operationalization of GMC-structures (concerning two main GMC-structures) including four components i.e. *pre-GMC*, *info-driven GMC, product-driven GMC* and *synergistic GMC* would depict a 'wholeness' of the GMC model. Particularly, the consolidated elements of the GMC-structures can be viewed as a representation of overall green marketing capabilities which is embedded in the RBV, marketing knowledge-based resources and capabilities of an organisation (Morgan, 2012). In its entirety it can help companies to evaluate a critical source of competitive advantage and superior performance (Vorhies and Morgan, 2005).

### 7.2.1.3 Three GMC-Strategic Types

This section continues to discuss on the research findings that are derived from the research question of study-1 (RQ#2) that is: on the basis of the classification of GMC-structures (from RQ1), what characteristics of companies can be categorised by their GMC-strategic types and performance differentials? In other words, this enquiry aims to empirically identify companies who are at different stages of the GMC-structures in order to better understand and explain their GMC-strategic types and characteristics.

As discussed earlier, based on the classification schemes of GMC (chapter 4), three GMC-strategic types are derived from an empirical taxonomy. With this approach, companies are clustered by their group shared-characteristics on the basis of a data-reduction technique or a clustering analysis. To be consistent with the robust literature review, the author aims to get the most meaningful cluster description which can be relevant to a broader perspectives of *organization's typologies* in relation to *product-market domains* (strategy) and *construct mechanisms* (structures) (Miles *et al*, 1978). With this purpose in mind, the author compared three clusters of companies with the Miles and Snow's (1978) conceptual typologies in order to derive different GMC strategic implications. As a result of that, the three GMC-strategic types which concern the diverse typologies i.e. *prospector, analyzer and defender* have given rise to a better view of the different organisation types with their unique characteristics based on the development of the GMC-structures. The three distinctive GMC-strategic types therefore have been labelled as follows: *GMC-prospector*, *GMC-analyzer* and *GMC-defender*. These findings have also been appraised and affirmed by the prominent studies across the fields of strategy research, organisation study, strategic management and marketing (i.e. Miles *et al*, 1978; Vorhies and Morgan, 2003; Olson *et al*, 2005; Song *et al*, 2007; Hughes and Morgan 2008; Slater *et al*, 2010 and 2006; Fiss, 2011; Li and Tan, 2013).

In addition to the above, the author further discusses the empirical findings of study-2 and -3 (from chapter 5 and 6) in the next following sections. The results of both studies provide substantial evidence on companies' characteristics based on their unique attributes in relation to the three GMC-strategic types. Particularly, each GMC-strategic type can be explained by its synthesis of strengths as to how a company approaches the operationalization of GMC-structures in different states and/or with various purposes. Moreover, each GMC-strategic type seems to expose its dominant characteristics and mindset which can be seen as a reflection of its deep-rooted behaviour (attribute) that shapes an organisation's cognitive thinking (Venkatraman, 1989). This in turn may influence

companies' forward thinking towards achieving strategic targets and goals (Slater and Mohr, 2006). Next, the empirical findings from the test of the research hypothesis in chapter 6 are brought forward to discuss in association with the three GMC-strategic types as below.

***GMC-Prospector.*** This type of strategy refers to a company which manifests itself as an *opportunity-seeker*. Owing to their distinctive characteristics, the GMC-prospectors tend to expose their expertise and enthusiasm for the exploitation of green product/market opportunity with a *proactive* gesture. Similarly, past studies (e.g. Miles *et al*, 1978; Slater *et al*, 2006) assert that the major attributes within the *prospectors* are that they are *enthusiastic* and *proactive* to new products or market development with a clear *goal-oriented* mission, and also prone to take risks more than other types (i.e. analyzers and defenders).

In addition, the empirical findings (from chapter 6) reveal that the relative strength of the GMC-prospectors lays in their *risk-taking* posture at a corporate level, which has an influence on the functional/operational level involving marketing strategy implementation. They are self-driven towards the development of the GMC-structures and the awareness of green market competitive environment. As such, they perceive competitive rivalry as incentives that motivate them towards the development of *differentiated strategy*, as well as *leading change* in the green product/market (Song *et al*, 2007). To be consistent with the empirical findings and some supporting literature (e.g. Fiss, 2011; Song *et al*, 2007; Olson *et al*., 2005; Vorhies and Morgan, 2003), it can be concluded that the GMC-prospectors express their synthesis of strengths incorporated in their core strategies as being an *opportunity seeker*. Meanwhile they employ a *first-mover advantage strategy* coupled with a *risk-taking* and *ambitious* attribute at their corporate level towards the development of GMC-structures and an exploitation of green product/market opportunity.

***GMC-Analyzer.*** This type of strategy refers to a company in which manifests itself as a *critical-adopter.* Owing to their distinctive characteristics, the GMC-analyzers tend to expose their selves as elaborate followers, adopting a thoughtful and thorough research program in exploiting green product/market opportunity. Likewise, some of the past research (e.g. Miles *et al*, 1978; Olson *et al*, 2005; Song *et al*., 2007) highlight that the major attributes of the *analyzers* are that they pursue an *analytical* strategy in response to marketing activities and demands. They also employ a *second-but-better* strategy whilst depending upon information-orientation for their decision-making process. This posture causes us to view them as being careful monitors of competitors, more than the other types (i.e. prospectors and defenders) as well as implementing a *balance/hybrid* strategy incorporated in its analytical approach (e.g. Miles *et al*, 1978; Olson *et al*, 2005; Song *et al*., 2007).

In addition, the empirical findings (from chapter 6) give evidence to the relative strength of the GMC-analyzers*,* which can be viewed as being elaborative followers with an *analytical* posture at a corporate level (a well-rounded mindset) which has an influence on their functional/operational level involving marketing strategy implementation. Although they are second to the GMC-prospectors*,* they are highly *self-driven* towards the development of the GMC-structures. To be consistent with the empirical findings and the supporting literature (e.g. Slater *et al*, 2010; Hughes and Morgan, 2008; Vorhies and Morgan, 2003; Miles *et al*, 1978), it can be concluded that the GMC-analyzers express their synthesis of strengths and core strategies as being a *critical adopter* or an *elaborative follower* coupled with *analytical* and careful attributes at their corporate level which enables them to safeguard their efficiency of GMC-structures towards the exploitation of a green product/market opportunity.

***GMC-Defender.*** This type of strategy refers to a company that manifests itself as a *conservative-adherent*. Owing to their distinctive characteristics, the GMC-defenders tend to expose their *isolation* with less attentiveness towards the development of GMC-structures. Similarly, past studies (e.g. Miles *et al*, 1978; Song *et al*., 2007) assert that the unique characteristics of the *defenders* can be seen as having a *defensive* mindset with its core defending strategy implementation in order to protect their target market domain. They also have a totally contrasting reflection imaged by the GMC-prospectors to achieving their target market objectives (Miles *et al*, 1978).

In addition, the empirical findings (from chapter 6) bear witness to the relative strength of the GMC-defenders as being isolated and rather conservative. They define their selves with a *defending* posture at a corporate level which has an impact on their functional/operational ability involving marketing strategy implementation. To be consistent with the empirical findings and the supporting literature (e.g. Fiss, 2011; Song *et al*., 2007; Slater and Narver, 1993; Miles *et al*, 1978), it can be concluded that the GMC-defenders tend to express a *risk-adverse* manner with a *reactive response* to new market trends and opportunities. Meanwhile they reveal a trait of being dependent upon cost efficiency, and show consistency with their own core strategy in order to maintain/protect their own product/market domain.

However, understandably, the GMC-defenders show emphasis on a more secure-established market (Miles *et al*, 1978) rather than approaching a green product/market opportunity. What is surprising is that they take into account the perceived-green-behaviour (PGB) as reflected by their stakeholders. In other words, the stakeholders' opinions from different sectors (i.e. customers, share-holders, suppliers, government and employees) do reflect on the defender's decision-making process. This is mostly apparent in decisions on whether or not to take on board green product/market in order to maintain and satisfy their market niche's demand. Based on this circumstance, it is witnessed that in order for the GMC-

defenders to attain their target market objectives they use their core strengths and strategy based on *risk-adverse* and *reactive* response to purposively develop the GMC-structures. The desired result is that, they could be able to retain their customers' needs whilst defending their market domain from other competitors in a more efficient way.

In brief, these three GMC-strategic types have been attested to by the review of past studies across the fields of strategy research, organisation's study, strategic management and marketing (e.g. Miles *et al*, 1978; Song *et al*, 2007; Hughes and Morgan, 2008; Slater *et al*, 2010; Fiss, 2011). Furthermore, details of the three distinctive GMC-strategic types and their strategic implications based on the interpretation of findings for managerial practices are later discussed in the sections: 7.3.2.

### 7.2.2    Empirical Study-2 (RQ#3)

#### 7.2.2.1 The Configuration Model of Fit among Alternative GMC-Strategic Types, Corporate Strategic Postures (CSP), Perceived-Green Behaviour (PGB) and Performance

This section aims to discuss the research outcomes of study-2 (from both chapters 5 and 6). Building on the classification of the GMC-strategic types (from study-1: chapter 4), this particular study deals with research question 3. That being: on the basis of various GMC-strategic types, how does the confluence of multiple variables i.e. alternative GMC-strategic types and the higher level corporate strategy and behaviour align with companies' performance?

This study utilises a configuration approach to investigate an alignment between higher level corporate posture, PGB and performance with alternative GMC-strategic types. Particularly, a *configuration model of fit* as suggested by past studies (e.g. Slater *et al*, 2010 and 2006; Olson *et al*, 2005) is found to be a useful method for this study. Owing to its effectiveness, this configuration model could articulate how well a corporate level posture and an

operational marketing strategy implementation are aligned; and whether or not the PGB works on influencing performance. In addition, each GMC-strategic type which works as a moderator (or an assessment of *fit-as-moderation*) (Venkatraman, 1989) also provides an appropriate means to understand an association between PGB, corporate posture and performance in which exhibits its unique *strategic-behaviour-fit* model.

Moreover, the hypothesis testing (from chapter 6) reveals various configuration of fit models among diverse GMC-strategic types (based on a regression analysis) which are largely in the predicted direction. Specifically, this study proposes a predictable *strategic-behaviour-fit* as exposed by the *configuration of fit model* among the three GMC-strategic types, corporate level postures, PGB and performance. The findings also give evidence to that both corporate level posture and strategic implications which are found to be incorporated into a company's dominant characteristics have an impact on its performance.

Strictly speaking, a *strategic-behaviour-fit* model can be defined as "a representation or formation of strategies and perceived-behaviour incorporated into each GMC-strategic type that fits with a corporate-level posture, and thus constitute performance effectiveness" (Author). In other words, this model reflects a set of internal patterns of an organisation's distinctive characteristic and its synthesis of strategies and behaviour based on the development of GMC-structures in contributing towards performance outcomes. Furthermore, the empirical results can also be interpreted by assigning different strategic implications based on the three *strategic-behaviour-fit* models (by alternative GMC-strategic types) for management practices. (More discussions can be found in section 7.3.2.2)

### 7.2.3 Empirical Study-3 (RQ#4, 5 and 6)

#### 7.2.3.1 Part-1 (RQ#4): The Configuration Model of Fit among Alternative GMC-Strategic Types, the Operationalization of two main GMC-Structures and GCA

This sub-section discusses the research findings of study-3 (from both chapters 5 and 6). Building on the classification of the GMC-strategic types and the operationalization of GMC-structures (from study-1: chapter 4), part-1 of study-3 deals with research question 4. That being: what is the association between alternative GMC-strategic types and the operationalization of GMC-structures in achieving a competitive advantage?

In this particular study, it utilises a configuration approach to examine an alignment between the operationalization of two main GMC-structures including *basic* and *advanced* GMC-structures and green competitive advantage (GCA) by alternative GMC-strategic types. Specifically, it builds on the idea of the past study (i.e. Slater, Olson and Hult, 2006) to explore the relationship between *strategy-capability-performance*. The author adopts a *configuration model of fit* as suggested by several past studies (e.g. Slater *et al*, 2010 and 2006; Olson *et al*, 2005). With this analysis approach, it allows the researcher to predict a *strategic-GMC-fit* model among different GMC-strategic types – a representation of a confluence of the operationalization of two main GMC-structures and alternative GMC-strategic types for the enhancement of competitive advantage.

Moreover, this study builds on the idea that explains the term *strategic fit* which is used as a normative concept. This notion describes the essentiality of synchronising complex organisational factors for an effective implementation of an adopted strategy (Stonich, 1982). Meanwhile, *strategic fit* stands for a pattern of strategy formulation, and the interaction of strategic fit which inherently leads organisations to attaining favourable performance implications (Zajac *et al*., 2000). Armed with the above insights, the *fit* reflects

an alignment among other components such as strategy, structure, systems, style, staff, shared values and skills which are essential for business success (Peters *et al.*, 1982). It is also suggested as a pattern of an interaction or a process aligning organisation and the environment which highlights an emergent configuration (Thorelli, 1977). Strictly speaking, in this study a *strategic-GMC-fit* model can be defined as "a merging of the synthesis of strengths (based on companies' unique characteristics and strategies) in line with the operationalization of two main GMC-structures to strengthening a green competitive advantage for companies by different GMC-strategic types" (Author).

Moreover, the interpretation of findings based on strategic implications (for management practices) in terms of *strategic-GMC-fit* among three GMC-strategic types can be found in section 7.3.2.3.

### 7.2.3.2 Part-2 (RQ#5):The Mediating Effect of GCA on the Link between the Overall Operationalization of GMC-Structures and Performance

This sub-section continues to discuss the findings of study-3 (part-2) (from chapters 5 and 6). Building on the classification of GMC-structures (from study-1: chapter 4), part-2 of study-3 deals with research question 5. That being: what is the impact of green-based competitive advantage on the relationship between the GMC-structures and companies' performance?

In this particular study, it examines the mediating effect of GCA on the link between the overall operationalization of GMC-structures and performance. A structural equation model (SEM) is performed in order to investigate whether or not GCA plays an important role as a mediator, influencing the overall operationalization of the GMC-structures on performance. Particularly, the extended role of GCA as a mediator is tested by employing the procedure proposed by Baron and Kenny (1986) based on a SEM approach. In light of this method, it aims to verify an imminent mediator of a green-competitive advantage

concept which impact on the relationship between GMC-structures and performance. In other words, it attempts to find out whether or not the GCA constitutes superior performance for companies which can be explained by the development of overall operationalization of GMC-structures. In addition, this study postulates the notion of GCA and assesses a mediating role of GCA which is built on Murray, Gao, Kotabe (2011)'s work.

Based on the empirical findings (from chapter 6: section 6.4.3), it can be concluded that the overall operationalization of GMC-structures potentially constitutes superior performance for companies as mediated by an effect of the GCA. Specifically, the practicality of GMC-structures that contributes performance effectiveness could be relying on the mediating role of GCA. Theoretically this study emphasises the relationship between *GMC*, *competitive advantage* and *performance* which draws upon an insight into the theoretical linkage concerning the RBV, marketing-based resources, capabilities and performance (Vorhies *et al*, 2009). Which could also contribute to a better understanding of why some companies may outperform their competitors over time (Morgan, 2012).

Strictly speaking, the mediating role of GCA could infer a reflection of companies' GMC that incorporate the RBV, marketing resources and capabilities for the development, and transformation of resources into *valued offerings* for customers (Morgan *et al*, 2003; Makadok, 2001; Teece *et al*, 1997). Based on this standpoint, in other words the role of GCA embodies the essence of overall operationalization of the GMC-structures which could constitute the effectiveness of organisation's performance. Particularly, the perception of green competitive advantage can be evident by companies who develop and implement the operationalization of GMC-structures. Meanwhile the operationalization of GMC-structures inclusive of: green marketing knowledge and planning skills (*pre-GMC*), green marketing information-orientation and implementation (*info-driven GMC*), green product design and development (*product-driven GMC*) and other coordinated green marketing practices

through communication with customers and commitment among partnerships (*synergistic GMC*) would constitute a perceived-green competitive advantage for companies. This in turn enhances the 'wholeness' of green marketing capabilities based on various aspects of operational/functional marketing towards an achievement of greater performance outcomes. For instance, green product development on the basis of using recyclable ingredients and eco-friendly packaging could help companies obtain not only a product-differentiated competitive position, but also attract a higher level of customer demand towards green products. As a result, companies could be able to increase sales margins, and profitability to achieving return on investment (ROI) as well as reaching green product investment financial goals (Leonidou *et al*, 2013; Fraj *et al*, 2013; Porter, 1995).

In short, this study assesses the role of GCA that works as a mediating effect on the relationship between an overall operationalization of the GMC-structures and performance. It also verifies the importance of the mediator on a competitive advantage that may influence marketing capabilities on performance. Subsequently, the relationship between *marketing capabilities-competitive advantage and performance* has given a testament to this study's assumption. The results uncover that the practicality of GMC-structures is regarded as a pivotal mechanism, or driver of green competitive advantage which contributes towards a greater organisation's performance.

### 7.2.3.3 Part-3 (RQ#6): The Direct Influence of Four Components of the GMC-Structures on Performance

This sub-section further discusses the research findings of study-3 (part-3) (from chapters 5 and 6). Part-3 of study-3 deals with research question 6. That being: how do the GMC-structures directly influence companies' performance? Building on the classification of the GMC-structures (from study-1: chapter 4), this particular study aims to investigate whether or not the four components of GMC-structures directly impact on performance outcomes.

The empirical results reveal that on the basis of the GMC-structures in relation to *info-driven GMC,* is found to be significantly related (as a direct effect) to improving performance outcomes for companies. It is suggested that the green marketing knowledge-based resource involving information-oriented practices can be seen as an influential factor. In other words, this particular element could contribute to companies' insights into how green marketing information can be effectively: accessed, interpreted and implemented in terms of internal organisation's decision-making process (Morgan, 2012; Morgan *et al*, 2012). In turn, it helps evaluate and strengthen companies' GMC towards achieving better performance as a result.

In addition, this study reaffirms the imminent role of the *info-driven GMC* factor which represents the *basic* GMC-structures. This component is concerned with a basic understanding of information-orientation which is rooted in *architectural* marketing capabilities (e.g. Leonidou *et al*, 2013; Morgan *et al,* 2012; Morgan *et al*, 2009). On this basis, the development of the GMC-structures involving information implementation and dissemination can help differentiate companies' performance. This can be facilitated by knowledge, in the form of information acquired in order to gain a better understanding of green product/market trend for decision making. Additionally, this can also articulate the idea that explains why some companies would be able to deploy knowledge-based resources more effectively in order to outperform other competitors over time (Morgan, 2012).

Besides, the *info-driven GMC* component enlightens companies' ability to interpret informational findings in terms of *know-how* of GMC, which is an essential step for undertaking the development of GMC-structures. Although other three components (i.e. pre-GMC, product-driven GMC and synergistic GMC) seem not to expose direct influences on performance, all four components (including: pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) are necessary and must be incorporated into the multi-

dimensional GMC model in order to capture a broader implication and its practicality. This combination therefore would constitute a 'wholeness' of the GMC model. More interpretation of findings on the basis of the GMC-structures and the four components for management practices can be found in section 7.3.2.1.

To sum up, collectively the research findings of all empirical sub-studies: 1, 2 and 3 (as discussed above) have evidenced and highlighted the true potential of GMC model and its practicability in various aspects on the basis of the operationalization of GMC-structures and the strategic implications. Particularly, the operationalization of two main GMC-structures (concerning the *basic* and *advanced* GMC-structures) and the four components (consisting of pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) contribute to a holistic view of the multi-faceted GMC model. In addition, the strategic implications on the basis of three GMC-strategic types (comprising of GMC-prospector, GMC-analyzer and GMC-defender) and their derivatives in terms of *strategic-behaviour* and *strategic-GMC-fit* models (which have been derived from a configuration approach) also contribute to a body of knowledge for a better understanding of the feasibility of GMC. Strictly speaking, the usefulness of the four components of GMC-structures, the implications of three GMC-strategic types, the strategic-behaviour and strategic-GMC fit models have been witnessed and attested to by the study's enquiries – *what* GMC is, *why* it is important and *how* it can be achievable. When the overall GMC-structures has been attained and sustained, it can be used as a critical driver for companies' to gaining competitive advantage and strengthening performance outcomes. Consequently, the multi-dimensional model of GMC and its implications have been successfully evaluated and ratified throughout by the empirical data of this thesis.

Next, the following sections present the study's contributions to academic research and interpretation of findings for management practices.

**7.3 Research Contributions and Implications**

This section begins by presenting research contributions based on an academic perspective (section 7.3.1) and research implications and interpretation of findings for managerial practices (section 7.3.2). On the basis of an interpretation of the findings, the author discusses the knowledge gained from the operationalization of GMC-structures and their four components (section 7.3.2.1), and follows with the strategic implications that are derived from the investigation of three GMC-strategic types based on a configuration approach concerning the strategic-behaviour-fit (section 7.3.2.2) and the strategic-GMC-fit (section 7.3.2.3) as well as a guiding model toward the development of GMC strategies (section 7.3.2.4) for practitioners respectively.

### 7.3.1 Contributions to Academic Research

This study makes substantial contributions to academic research in several aspects. First, it posits the foundation of the conceptual model of GMC and its principles (as already discussed in chapter 4), which are derived from a robust review of literature in the fields of strategic management and marketing. In order to capture the whole idea of what is green marketing capability and how it can be conceptualised, the author argues that the relationship between theories which crosses the boundaries of marketing and strategic management studies i.e. strategic marketing (Varadarajan, 2010), the RBV and marketing resources and capabilities (Morgan, 2012) are fundamental to the development of the GMC model. In addition, the author not only draws attention to the above theoretical foundation that links strategic marketing (Varadarajan, 2010), marketing resources and capabilities within the RBV theory (Morgan, 2012), but also emphasises a robust review of past studies based on green marketing strategies (Fraj *et al*, 2011; Fraj *et al*, 2013) and green marketing practices (Leonidou *et al*, 2013) to develop the notion of GMC. Given the above informational background, it provides focal points and principles of theoretical review with

parsimonious groundwork towards conceptualising the GMC model. Particularly, the origins of GMC, which stems from the integrated role of operational strategic green marketing is embedded in companies' marketing resources and capabilities and the RBV of an organisation. Accordingly, the conceptual model of GMC has been well grounded by thoroughly researched theoretical literature which was built and validated on the basis of rigorous procedure of academic research in the domain.

Building on the foundation of the GMC model, this study further delves deeper into the theoretical literature in order to explain the role of GMC and how it can be operationalized and effectively implemented. With the aim in mind, the author postulates the illustration of an overall strategic green marketing plan at an operational level (Varadarajan, 2010). This was done through an evaluation of marketing based capabilities on a *strategic* and *tactical approach* (e.g. Kotler, 2011; Polonsky and Rosenberger, 2001) combined with the insights into an organisation's marketing resources and capabilities (based on the RBV) (Morgan, 2012). By which it is encompassed by environmentally-oriented issues throughout the development of the GMC model. Based on this stance, this study makes significant contribution by validating the conceptual model of GMC which is not only grounded in the prominent theories but also elaborately reviewed based on past studies pertaining marketing and strategic management. As a result, the operationalization and the implementation of GMC became effective and successfully assigned.

Following on from the above theoretical background, the author also sought to explain what might constitute performance effectiveness for companies who develop the GMC model. On the basis of the two principles of GMC (based on *architectural* and *specialized* marketing) which stem from the theory of RBV is fundamental to companies' marketing resources and capabilities (Morgan, 2012). Given the above eminent principles, the combined marketing capabilities have been scrutinised and enhanced by the speculative idea

based on the resource-based theory (Barney, 1991; 2001). The speculated reason why some companies could outperform other competitors over time, would depend on how companies effectively exploit and fully utilise their GMC in achieving greater performance outcomes. On this basis, this study proposes, reaffirms and validates the essence of the two principles of GMC (i.e. *architectural* marketing and *specialized* marketing capabilities) which is the cornerstone to the development of companies' marketing resources and capabilities and the RBV of an organisation (Morgan, 2012) could lead companies to attaining their target performance goals as a result.

In addition to the above, this study contends that the notable GMC model which is grounded in the RBV could contribute a source of competitive advantage and better performance for companies (Morgan, 2012). In doing so, the author builds on Morgan (2012)'s framework which links an organisation's capabilities, to the role of marketing with competitive advantage and performance. Specifically, the focus is on strategic marketing of an organisation that embraces environmentally-friendly aspects at an operational level and embodies these aspects with a combination of *architectural* marketing and *specialized* marketing capabilities to formulate the GMC model. Based on the critical foundations of GMC, the incorporated marketing capabilities are configured within companies' marketing resource-base and capabilities for a creation of competitive advantage and superior performance (Morgan, 2012). To be consistent with the above realised-capability, the GMC model has been empirically tested and proven by the significance of the RBV of an organisation. This can also be viewed as a key information contributing to academic researchers which provides substantial evidence to better understand why some companies could gain a critical source of green competitive advantage and superior performance to outperform other competitors over time (e.g. Barney, 1991; .Teece *et al*, 1997).

Furthermore, the operationalization of the four components of GMC-structures which are connected to the idea that brings together functional/practical marketing within *strategic* marketing and *tactical* issues (e.g. Kotler, 2011; Vorhies *et al*, 2009; Hunt, 1995; Vorhies *et al*, 1999). The results of which embrace an organisation's deployment and exploitation of marketing resource inputs, as well as a coordination of multi-leveled functions to fully comprehend a 'wholeness' of the GMC model in various aspects. In general, the operationalization of the GMC-structures can be viewed as a representation of two main GMC-structures including: *basic* GMC-structures (consisting of pre-GMC and info-driven GMC) and *advanced* GMC-structures (consisting of product-driven GMC and synergistic GMC). The simplification of the two main GMC-structures is to capture a broader view of marketing functions of GMC involving some basic insights of marketing knowledge-base and other advanced marketing practices based on the two principles of GMC including: *architectural* and *specialized* marketing capabilities (Morgan *et al*, 2012).

Particularly, the highlight of the four components of GMC-structures is on their hierarchical categories which demonstrate the feasibility and viability of the GMC model. Hence, the classification of GMC-structures can be effectively implemented which has been developed and evaluated by a thorough process: an integrative analytical approach (which combines a theoretical reviewing classification and procedure for selecting the constructs of GMC). This process is done by deliberating the two principles of GMC model (based on *architectural* and *specialized* marketing capabilities) in order to classify structures of GMC, and after that comparing them with other selected past studies emphasising on green marketing strategies and green marketing practices (e.g. Leoniou *et al*, 2013, Fraj *et al*, 2013) (as already discussed in chapter 4). With this particular approach, the four components of the GMC-structures have been validated and ratified by a review of robust theoretical classification within the domain of strategic management and other pertinent studies in the field of marketing.

Next, more contributions to academic research can also be addressed: the step-wise methodological bases for the data analysis purpose of all three sub-studies 1, 2 and 3, and a methodological contribution based on a configuration model (that depicts strategic implications among the three GMC-strategic types). Some methodological contributions that this study has witnessed are the multiple methodological approaches which were adopted for the data analysis purpose. In order to achieve the research goals, this study employs various analytical methods in order to undertake different investigations and explain some multi-facets of the GMC-model and its strategic implications. In line with the research aims, the adopted analytical approaches based on sequential steps of all sub-studies: 1, 2 and 3 have given witness to the empirical findings in contributing to an appropriate and adequate interpretation of the results of the entire study.

To be more precise, the adopted methodological bases are inclusive of a review of theoretical literature, the classificatory schemes on the basis of an integrated procedure including: a theoretical approach and an empirical taxonomy (which involve a clustering analysis), a configuration model, a mediating influence and a direct effect respectively. Owing to their useful specifications, the author has deployed these analyses to proceed with several consecutive steps in accordance with specific research questions and objectives in order to obtain resilient research outputs. With the step-wise analysis procedure (as presented in all three sub-studies of this thesis), the research outcomes that derived from one study were brought forward to the next study for further investigation. In other words, the results of study-1 have been linked to studies 2 and 3 based on the conceptually-derived GMC model and the classifications of the GMC-structures and strategic types. Following on from that, both studies 2 and 3 (part-1) were undertaken in order to gain in-depth insights into some multi-faceted GMC models based on a configuration approach so as to explain some of the strategic implications. A continuance was study-3 (part-2 and -3), in particular

it performed two more analytical methods based on the mediating influence of green competitive advantage and the direct effect of the GMC-structures on performance.

Given the adopted analytical methods, this thesis contends that the merging of the analytical bases has attested to the salience of the GMC-structures which have been found to significantly contribute to companies' competitive advantage and superior performance. As such, the utilisation of multiple analytical approaches has been validated and proven by the empirical data of the whole study. Which makes substantial contribution towards articulating in-depth insights into *what* are the qualities (functionalities) of the GMC-model, *how* can it be operationalized in order to explain its multi-faceted models, and to the extent of its strategic implications, as well as explain *why* GMC is important in improving an organisation's performance effectiveness as an end result.

Another methodological contribution in terms of an analytical technique used in this study namely a 'configuration approach' can also be evident. In light of the configuration of fit model, it has given rise to the 'strategic implications' of GMC in terms of *strategic-behaviour fit* (from study-2) and *strategic-GMC fit* (from study-3: part-1) among three GMC-strategic types. In both studies 2 and 3 (part-1), the author asserts that a configuration method is concerned with an appropriate approach to depict a *configuration of fit* model among multiple variables. To be more specific, both sub-studies focus on an assessment of *fit-as-moderation* (or the moderating effect) (Venkatraman, 1989) by alternative GMC-strategic types. Given its significant specification, the configuration model also illustrates the establishment of *fit* within internal contexts to explain attributes which can be viewed as an appearance of archetype (a set of relationships which are in a temporary state of balance), in other words, the implications of the *holistic* and *characteristic* of an organisation (Miller and Friesen, 1977). Owing to its usefulness, the author is able to interpret and validate the empirical findings based on the configuration of fit model in terms of 'strategic-behaviour-

fit' and 'strategic-GMC-fit'. These outcomes accordingly can be regarded as important research implications which stemmed from the configuration method. Based on all significant groundwork and the adopted methodological bases as discussed above, this thesis asserts the meaningful contributions to academic research.

### 7.3.2 Research Implications and Interpretation of Findings for Managerial Practices

This section aims to discuss some research implications and interpretation of findings based on management perspectives. First, it begins the review on the operationalization of GMC-structures and the four components (section 7.3.2.1). Next, by interpreting the findings based on a configuration model the author offers up some strategic implications of GMC in terms of strategic-behaviour-fit (section 7.3.2.2) and strategic-GMC-fit among three GMC-strategic types (section 7.3.2.3). After that, the author proposes a guiding model for marketing practitioners to take on board the development of GMC strategies (section 7.3.2.4).

#### 7.3.2.1 The Operationalization of GMC-Structures and Four Components

Having discussed the research findings of study-1 (both chapters 2 and 4) in the previous sections, this section starts with the idea that the operationalization of GMC-structures and the four components are critical for marketing practitioners to take on board which can be highlighted as follow. In general, the operationalization of GMC-structures can be seen as a combined process which includes: the *basic GMC-structures* and the *advanced GMC-structures.* Specifically, the *basic GMC-structures* depict critical green marketing knowledge and information resources for marketing practitioners for undertaking green marketing planning, strategies and skills as well as aiding a decision-making process toward an effective development of the GMC-structures. Which in turn could lead companies to improve their overall marketing capabilities for the enhancement of a competitive position

and performance whilst improving environmental quality by reducing negative impacts on to the environment (Leonidou *et al*, 2013; Morgan *et al*, 2012; Kotler, 2011).

Meanwhile, the *advanced GMC-structures* represent critical strategic green marketing programs for marketing practitioners for the undertaking of green marketing practices and the implementation of marketing strategies to achieve an effective development of the GMC-structures. This is done in ways that incorporate inter-organisations' communications and promotional activities (among partnership, distributors, suppliers and with customers) for environmentally-friendly commitment towards the development of GMC to attaining target market objectives. In other words, the functionality of *advanced GMC-structures* manifests a useful set of green marketing practices for marketers to understand how GMC can be effectively achievable. This implementation could also lead companies to improving their overall marketing capabilities for the enhancement of a competitive position and performance as well as environmental integrity (through an environmentally-friendly commitment and agreement among business partnerships) (Leonidou *et al*, 2013; Morgan *et al,* 2012).

In addition, this study emphasises the importance of the four components of GMC-structures which are fundamental to a creation of companies' specific resources, or a critical source of competitive advantage and performance (Morgan, 2012). The empirical results also witness how each component or a particular feature of GMC-structure potentially contributes towards heightening a company's green competitive advantage and performance which could be implemented and followed by marketing practitioners.  Accordingly, this study uncovers the feasibility of the GMC-structures and the extent to how marketing practitioners can make changes in their marketing practices in order to meet the need for change in line with the *environmental imperative* (Kotler, 2011). Next, the significant constituents of the

GMC-structures including four elements which can be advised for marketers to better understand their usefulness are briefly described as below.

***Component 1: Pre-GMC.*** This component refers to a pre-stage or a fundamental level of GMC-structures. It involves green marketing knowledge-base and planning skills (Morgan, 2012). In other words, this basic step is to help evaluate companies' green marketing knowledge-based resources, and ensure whether or not they have a clear green marketing goal with creative green marketing strategies and a thorough knowledge of green marketing planning process (Leonidou *et al*, 2013; Morgan *et al*, 2012). The 'pre-GMC' is also regarded as substantial groundwork which helps assure adequate effective knowledge of green marketing for marketing practitioners to embark on a green product/market opportunity.

***Component 2: Info-driven GMC.*** This component refers to prerequisite information orientation to the implementation and dissemination in an organisation (Morgan, 2012). Prerequisite information-orientation to implementation and dissemination, could help marketing practitioners gain insights into the current situation (what is going on) of green product/market which facilitates a better decision-making process for companies. For instance, the information implementation activities are to ensure whether or not companies integrate all available knowledge of green market. This informative aspect also combines new information with past research in order to build a richer green market view as well as an analysis of market information to better understand green market trends in the green marketplace (e.g. Leonidou *et al*, 2013; Morgan *et al*, 2012). In addition, the information dissemination related activities within an organisation can ascertain that green market information is available to internal decision making, and allow other units within an organisation to access the green marketing information. Accordingly, the 'info-driven GMC' could contribute to a critical information-orientation of green marketing knowledge,

which has potential to directly evaluate and strengthen companies' capabilities in achieving better performance outcomes.

***Component 3: Product-driven GMC.*** This component refers to a company's ability to develop green products that are designed and made of environmentally-friendly materials/ingredients (Fraj *et al*, 2013; Leonidou *et al*, 2013). Based on the green product-insights, marketers could gain a better understanding of how to develop and design green products. For instance, the green product development is concerned with the use of green/environmentally-friendly ingredients, contents, materials, and recyclable packaging. In addition, this product-related component suggests appropriate labelling which has an emphasis on natural environmental benefits (Leonidou *et al*, 2013). Hence, the eco-friendly product-related activities could enhance companies' development of green products and design towards the right direction in order to capture target green consumers' demands as well as increase economic outcomes (Fraj *et al,* 2013).

***Component 4: Synergistic GMC.*** This component refers to a hybrid process concerning green marketing programs which incorporate a coordination with partnerships (i.e. suppliers/distributors) and communication skills throughout an organisation, this is also extended to customers towards the development of an environmental commitment and responsiveness. The focus is on a systematic process which consolidates specialised marketing functions, corporate communication activities within an organisation and with external green network/partnership, as well as promotional practices with customers (Morgan, 2012). On this basis, it could help marketers gain some insights into a coordination among inter-organisations in order to develop green marketing programs for environmental responsibility (Leonidou *et al*, 2013). For instance, this cooperation aims to achieve a clear direction and specification of natural environmental preservation and responsibilities among business partnerships, as well as to monitor members' responses upon their environmental

commitment. Consequently, the synergistic GMC could heighten companies' capability to move forward in achieving corporate social responsibility through environmentally-friendly communication and responsiveness.

### 7.3.2.2 Strategic-Behaviour-Fit among Three GMC-Strategic Types

Having discussed the major research findings in the previous sections, this section aims to articulate some insights into the research outcomes of empirical study-2. The findings can be interpreted in order to get the most meaningful strategic implications for management practices in terms of various *strategic-behaviour fit* models among the three GMC-strategic types.

As stated earlier, a *strategic-behaviour-fit* which is stemmed from a configuration model, can be viewed as a reflection of a set of an organisation's internal patterns which combined its dominant strengths with a corporate-level posture and perceived-behaviour towards the development of GMC-structures. This model also reveals a manifestation of *posture-behaviour-structure-performance* relationship. In other words, it may infer a company's actual *strategic-behaviour* based on its corporate mindsets in association with its self-driven perspectives towards the development of GMC-structures which has an impact on *performance*. Specifically, 'strategic-behaviour' refers to an alignment of 'strategic-intent' and perceived-behaviour that fit with performance in order to achieve target market objectives (Venkatraman, 1989).

Given the uniqueness of *strategic-behaviour-fit* among the three GMC-strategic types, each archetype offers a good example (as represented by its distinctive attribute to achieving different target market objectives) for business enterprises to understand alternative GMC-strategies and their strategic-behaviour-fit models. Particularly, it helps identify which strategies should be implemented depend on the objective to achieve target performance outcomes on the basis of a specific market condition. Consequently, the author summarises

a representation of *strategic-behaviour-fit* model which is illustrated by an association of companies' dominant strengths and strategies, and a reflection of self-driven attribute towards the development of GMC-structures among the three GMC-strategic types (see below, table 7.1).

**Table 7.1 Illustration of Strategic-Behaviour-fit Model among three GMC-Strategic Types**

| High ➡ | | GMC-Analyzer | GMC-Prospector |
|---|---|---|---|
| | **A Conservative Adherent** | **A critical-Adopter** | **An Opportunity-seeker** |
| | *Defending* <br><br> *Conservative* <br><br> *Protective strategy implementation* | *Analytical* <br><br> *Thoughtful* <br><br> *Balance/Hybrid strategy implementation* | *Risk-taking* <br><br> *Fast-adaptive* <br><br> *First-mover advantage strategy implementation* |
| Low ➡ GMC-Defender | | | |

*(Left vertical axis label: Self-driven Attribute towards the development of GMC-structures)*

Source: Author

More details of each GMC-strategic type and its *strategic-behaviour-fit* model are briefly discussed as follow.

***For GMC-prospector***. Table 7.1 shows that the GMC-prospectors are an *opportunity-seeker expert* with a change leading manner towards the exploitation of a green product/market opportunity. The findings suggest that they possess a *risk-taking* posture at a corporate level. Moreover, the dominant strengths of the GMC-prospectors can be viewed on the basis of synthesis of strengths which expresses their *self-drive* with full commitment towards the development of the GMC-structures. They operate with a clear goal/mission, change leading

characteristic and are proactive with a *fast-adaptiv*e gesture in order to gain *first-mover advantage* (Fiss, 2011; Song *et al*, 2007; Hughes and Morgan, 2008). However, the GMC-prospectors seem to have a weak side shown by a relative lack of appropriate analytical-oriented skills at a corporate level which is evident by the results of the configuration model of fit (from study-2). This lacking exposes the need for the GMC-prospectors to improve their ability in relation to analysis orientation and skills.

In addition, drawing on the insights from the observed-data it can be ascertained that some companies who adopt the GMC-prospector strategic type, are capable of incorporating *fast-adaptive* self-driven attributes. These companies in particular seem to be *proactive* in *leading change* as well as being *first-mover* (e.g. Miles *et al*, 1978; Hughes and Morgan 2008) in corresponding to a green product/market trend. Owing to their specific strategic-behaviour, it could enable them to sustain their environmental commitment as well as providing a clear and transparent business platform for the stakeholders (Bonilla Priego *et al*, 2011).

*For GMC-analyzer.* Table 7.1 shows that the GMC-analyzers are *critical-adopters* (elaborative-follower) with a thoughtful manner towards the exploitation of a green product/market opportunity. The findings suggest that they possess an *analytical* posture at a corporate level. In addition, the dominant strengths of the GMC-analyzer can be viewed on the basis of a synthesis of strengths, which expresses *self-drive* with consciousness towards the development of the GMC-structures. They also have a clear goal/mission whilst implementing a *balanced/hybrid* strategy (between stability and flexibility) (Song *et al*, 2007; Olson *et al*, 2005). Owing to the analyzer's nature, it is evident that the GMC-analyzers do not expose a risk-taking attitude at their corporate level, but rather stick with an *analytical or mindful* approach.

Moreover, the GMC-analyzers also demonstrate their core strategies i.e. *second-but-better* (Miles *et al*, 1978) incorporated into a *balance/hybrid* approach (Song *et al*, 2007; Olson *et al*, 2005) that might transform into one of their dominant strengths, one of *cost-efficient* awareness for long term growth with stability. Drawing on the insights into some observations (from the observed-data), it can be visualised that for companies who approach the GMC-analyzer strategic type, are capable of incorporating a *balanced/hybrid* strategy (Song *et al*, 2007) across multi-leveled organisation's marketing capabilities, whilst undertaking the operationalization of the GMC structures. These companies seem to be more *conscious* and *elaborative* toward cost-saving effectiveness (Fiss, 2011; Vorhies and Morgan, 2003; Olson *et al*, 2005) for the development of green product/market.

***For the GMC-defender.*** Table 7.1 shows that the GMC-defenders are a *conservative adherent* with a defensive manner towards the exploitation of a green product/market opportunity. The findings suggest that they tend to stick with their core *defending* posture at a corporate level. In addition, the dominant strengths of the GMC-defender can be viewed on the basis of their synthesis of strengths, which expresses their focus on protecting their market domain (market niches) with a core defensive approach (Song *et al*, 2007; Miles *et al*, 1978). However, what is surprising is that the GMC-defenders do take into consideration of perceived-green behaviour (PGB) (a reflection from stakeholders' view) which might impact on their decision-making to whether or not take on board the development of GMC. This circumstance seems to be counter-intuitive and contrasting to those of the GMC-prospectors and the GMC-analyzers.

Based on the *strategic-behaviour-fit* model of the GMC-defenders, it is evident that they represent an *isolated defending* group with a *risk adverse* response (Song *et al*, 2007) towards the development of GMC-structures. This gesture is consistent with their core defending approach in order to protect and maintain their market domain. In other words,

they tend protect and build on what is already current. In addition, drawing on the insights into some observations (from the observed-data) it can be visualised that for companies who approach the GMC-defender strategic type, might assimilate a *core defending* strategy (Vorhies and Morgan, 2003) at the corporate level. This would be apparent across their multi-leveled marketing capabilities, especially when they wholly depend on a narrow *market niche* domain (Miles *et al*, 1978). Their protection would also include a defensive posture of business against outsiders from entering their established domain. Although they have a capability to deploy a *value marketer* strategy by developing their high-quality and innovative products (Olson *et al*, 2005), they choose to protect and feed their niche's demand and ensure stability in their chosen posture of security (Fiss, 2011; Miles *et al*, 1978). This scenario adds proof to the study's outcomes in the sense that the GMC-defenders are taking the slowest pace towards undertaking the operationalization of the GMC structures with a *risk adverse* strategic plan whilst remaining isolated (Song *et al*, 2007; Vorhies and Morgan, 2003; Olson *et al*, 2005). Nevertheless, their strategic behaviour may in turn help them accomplish target marketing goals with a product quality which could only add strength towards their image (Miles *et al*, 1978) as being environmentally aware and friendly specifically within their market domain.

To sum up, based on the configuration approach, the three GMC-strategic types and their *strategic-behaviour-fit* models provide meaningful strategic implications for managerial practices as described above. The interpretation of findings can be articulated in-depth insights into *strategic-behaviour-fit* among alternative GMC-strategic types which may help companies to better understand the nature and practicality of each GMC strategy and its effectiveness towards achieving target performance outcomes. What is abundantly clear about the three GMC-strategic types, is their correct implantation in order to fit a given situation and/or market condition within their industries to attaining target marketing goals.

### 7.3.2.3 Strategic-GMC-Fit among Three GMC-Strategic Types

This section continues to present 'strategic implication' of GMC in terms of *strategic-GMC-fit* among the three GMC-strategic types which have been derived from study-3 (part-1). Based on a configuration approach, the *configuration of fit* model among multiple variables (i.e. the operationalization of two main GMC-structures, three GMC-strategic types and GCA) derives distinctive patterns of variables relationships. The findings can be interpreted in order to get the most meaningful strategic implications in relation to the two main GMC-structures and green competitive advantage for managerial perspectives as follow.

According to the empirical results of study-3 (part-1), a configuration of fit model manifests an alignment of the *GMC-structures – strategy – outcomes* (or competitive advantage). In other words, this model suggests the matching of *strategic intent* (based on alternative GMC-strategic types), *structure* (based on different components of GMC-structures) and *performance outcomes* (based on green-competitive advantage) which is built on the past study (i.e. Slater, Olson and Hult, 2006). Strictly speaking, this study highlights an association between alternative *GMC-strategic types* (companies' strategic intent) and the operationalization of two main GMC-structures which can be explained as a *strategic-GMC-fit* model to gaining green competitive advantage. In reality, when companies approach the right *strategic intent* (choosing an appropriate strategic type) towards *actions* (an implementation of GMC-structures) it could lead companies towards an improvement of a critical source of competitive advantage and superior performance (Porter, 1991, Ketchen *et al.*, 2007).

To be more specific, the *strategic-GMC-fit* model focuses on the synthesis of strengths and dominant strategies in line with the two main GMC-structures in contributing toward a competitive advantage for companies. The notion of *strategic-GMC-fit* refers to a complete view of the synthesis of strengths combined with the dominant characteristics of each GMC-

strategic type in association with the two main GMC-structures (*basic* and *advanced* GMC-structures). This in turn leads towards a creation of critical source of green competitive advantage for companies. In particular, each GMC-strategic type represents its unique strategic-GMC that fits and contributes to a competitive advantageous position. Next, the author illustrates three distinctive *strategic-GMC-fit* models by alternative GMC-strategic types as below (see table 7.2).

**Table 7.2 Illustration of Strategic-GMC-Fit Model in Achieving Green Competitive Advantage by Alternative GMC-Strategic Types**

|  | **GMC-Prospector** *(An opportunity seeker)* | **GMC-Analyzer** *(A critical adopter)* | **GMC-Defender** *(A conservative adherent)* |
|---|---|---|---|
| **Strategic-GMC-Fit** | Synergistic GMC | Product-driven GMC & Synergistic GMC | Product-driven GMC |
| **Synthesis of Strengths** | Communications, co-operation with green channel/network, partnerships and customers for green commitment | Thorough green product/market search & developing green products, communications, and co-operation with green network partnerships and customers for green commitment | Developing green product to serve and maintain the market-niche purpose |
| **Dominant Characteristics** | *Fast-adaptive* with full exploitation of GMC, *first-mover* advantage strategy & implementation | Safeguarded procedures with GMC, maintaining *balance/hybrid* with core *analytical* strategy & implementation | Being *conservative* in driving business, maintaining core *defensive* strategy & implementation |

Source: Author

According to table 7.2 and as stated earlier, the *strategic-GMC-fit* model of each GMC-strategic type depicts an association of the synthesis of strengths and dominant strategies which is derived from an interaction between the two main GMC-structures (i.e. *basic* and *advanced* GMC-structures) and various GMC-strategies. To be more specific, the two main GMC-structures are comprised of the *basic GMC-structures* (including pre-GMC and info-

driven GMC) and the *advanced GMC-structures* (consisting of product-driven GMC and synergistic GMC). Based on the strategic-GMC-fit model, the synthesis of strengths of each GMC-strategic type which are immersed into the implementation of two main GMC-structures can be seen as a driving force of green competitive advantage for companies. Particularly, the interpretation of findings articulate how the implementation based on the two main GMC-structures would be incorporated in companies' dominant strategies which could in turn strengthen a critical source of their competitive position. Next, more discussions of the *strategic-GMC fit* among three GMC-strategic types are provided and can be advised for management practices as follow.

***Strategic-GMC-fit of prospector.*** The synthesis of strengths for the GMC-prospector are evident based on the implementation of the GMC-structures in relation to *synergistic GMC*. Specifically, a *strategic-GMC-fit* model of the prospectors can infer a hybrid process of green marketing programs which combines organisation's communication and coordination among inter-organisations (channel network/partnerships) to the development of green marketing practices for environmental responsiveness. This practice in turn leads towards an improvement of a critical source of GCA. To be consistent with its dominant characteristics which is incorporated in *synergistic GMC*, the GMC-prospectors are keen in developing green marketing programs based on the hybrid process *(synergistic)* of GMC-structures with *fast-adaptive* gesture combined with *first-mover advantage* strategy implementation (Fiss, 2011; Hughes and Morgan, 2008; Song *et al*, 2007; Vorhies and Morgan, 2003). As a result, it can be concluded that an incorporation of the synthesis of strengths in which are merged with the s*ynergistic-GMC* and dominant characteristics gives rise to *strategic-GMC-fit* for the GMC-prospector towards an evaluation of GCA and better performance outcomes.

In reality, the *strategic-GMC-fit* model among the prospectors can be viewed as a factual circumstance, in which companies are keen and enthusiastic about corporate social responsibility. Particularly, the practice on the basis of *synergistic GMC* manifests a coordinated green marketing program and environmental commitment of a company with other partners as well as customers. Owing to the strengths in this area, it could heighten a critical source of companies' competitive advantage to achieving target performance goals. This information accordingly can be adopted by management executives and marketing practitioners to gain an insightful nature and strategic-GMC fit of the GMC-prospectors.

***Strategic-GMC-fit of analyzer.*** The synthesis of strengths of the GMC-analyzers have been evidenced based on an implementation of the *advanced* GMC-structures in terms of both *product-driven GMC* and *synergistic GMC* factors. The *strategic-GMC-fit* of the analyzers is associated with the development and design of green products, as well as a hybrid process of green marketing programs which combines organisation's communication and inter-organisations (channel network/partnerships) to the development of green marketing practices and activities towards environmental responsiveness. This combined practices in turn lead companies to gain a green-based competitive advantage. To be consistent with their dominant characteristics that incorporated in both *product-driven GMC* and *synergistic GMC* components, the GMC-analyzers do focus on creating safeguard procedures (balance between stability and flexibility between the two extremes: prospectors and defenders) (Fiss, 2011; Song *et al*, 2007; Olson *et al*, 2005) with a thorough scheme of searching for green product design and development. In addition, they are analytical with a consistency in their core characteristic to undertake a hybrid process (synergistic) of the GMC-structures. As a result, it can be concluded that an incorporation of a synthesis of strengths which is merged with the *advanced GMC-structures* (in terms of both *product-driven GMC* and *synergistic-GMC)* and dominant characteristics, gives rise to a *strategic-GMC-fit* model for the analyzers towards the enhancement of GCA and superior performance.

Moreover, the GMC-analyzers in particular, have both areas of strengths based on the *advanced GMC-structures* (i.e. product-driven GMC and synergistic GMC) in line with their core strategies which are: valuable, rare, un-substitutable and inimitable (Grant, 1991, Menguc and Ozanne, 2005). This merging dominant characteristic can hardly be imitated by the prospectors and defenders. Essentially, the formation of strengths on the basis of both green product development and a coordinated green marketing program combined with their core *analytical* approach could be viewed as an outstanding quality for the GMC-analyzers. This circumstance may be visualised by an implementation of a *hybrid/balance* strategy (Olson *et al*, 2005) in achieving target market objectives.

Given the above knowledge, it agrees with the study's observation that, the implementation of a *second-but-better* strategy (Miles *et al*, 1978), by the GMC-analyzers enables them to beat other competitors in the green marketplace with their unique *balance/hybrid*, *analytical* approach (Olson *et al*, 2005). In reality, the strategic-GMC-fit model of the analyzers exposes factual evidence of their thoroughness in green product development with cost-efficiency as well as an enthusiasm for a corporate social responsibility based on a coordinated green marketing program and environmental commitment with other partners as well as customers. Which in turn could lead them to obtain a critical source of competitive advantage and superior performance. Consequently, this information can be adopted by management executives and marketing practitioners to better understand the insightful nature and strategic-GMC fit of the GMC-analyzers.

***Strategic-GMC-fit of the defenders.*** The synthesis of strengths of the GMC-defenders are evident based on the implementation of the GMC-structures in terms of *product-driven GMC*. The *Strategic-GMC-fit* model of the defenders is in line with the development and design of green products towards an improvement of a critical source of competitive advantage. Owing to their defending characteristics, the GMC-defenders are *conservative*

in driving businesses with their core *defensive* strategy. To be consistent with the dominant characteristics that incorporated in the *product-driven GMC*, the defenders focus on developing green product design and development in order to serve their target market and to maintain their market-niche purpose (e.g. Miles *et al*, 1978; Song *et al*, 2007; Fiss, 2011).

In addition, it can be concluded that an incorporation of the synthesis of strengths and dominant characteristics which are merged with the *product-driven GMC* gives rise to the *strategic-GMC-fit* model of the GMC-defenders to gaining a green-based competitive advantage. However, the GMC-defenders may seem counter-intuitive which can be seen by a factual circumstance that on the one hand, they are found to be an isolated group in moving towards the development of GMC-structures, on the other hand they tend to pay attention on the development of green products with a purpose to protect and maintain their market-niche demand.

Likewise, past studies (e.g. Miles *et al*., 1978; Hughes and Morgan, 2008) note that although the defenders' core strategy is related to being *highly-cost-efficient* in their product domain*,* they are capable of developing new products to serve their market niche purpose. Owing to their strength in this area, the strategic-GMC fit model could infer their main effort that lays in developing green products for a particular purpose to achieving target market objectives, as well as sustaining a critical source of competitive advantage and performance. Accordingly, this information can be utilised by management executives and marketing practitioners to better understand the insightful nature and strategic-GMC fit of the GMC-defenders.

To sum up, the empirical findings of study-3 (part-1) have validated the three different *strategic-GMC-fit* models among alternative GMC-strategic types (i.e. GMC-prospector, GMC-analyzer and GMC-defender). Particularly, the *strategic-GMC-fit* model reflects the synthesis of strengths and dominant characteristics of each GMC-strategic type in

association with the GMC-structures on basis of the four components. In light of the *configuration model,* it becomes clear that there is a relatively consistent pattern among distinctive strategic-GMC fit by various GMC-strategic types. With this analytical approach, the *fit* could be applicable when matched with: conditions, objectives, businesses and target performance goals (Venkatraman, 1989). Moreover, the alignment of each *GMC-strategic type* with its synthesis of strengths through the development of the four components of the GMC-structures (which exposes through its strategic-GMC fit model) could constitute companies' capabilities in attaining a better competitive position and performance effectiveness as a result (Leonidou *et al*, 2013, Miller, 1996).

### 7.3.2.4 A Guiding Model toward the Development of GMC Strategies

All in all, this study has achieved its goals by responding to various research objectives in order to explain *what* GMC is, *why* it is important, and *how* it can be put into practices for businesses to accomplish their desired outcomes. Additionally, the salient role of the multi-dimensional model of GMC has also been evaluated by the empirical data throughout all sub-studies: 1, 2 and 3. The research outputs of the entire study have also highlighted the quality and the feasibility of GMC on the basis of the operationalization of two main GMC-structures and the four components for the enhancement of performance outcomes. In addition to that, some strategic implications based on the interpretation of findings in terms of *strategic-behaviour and strategic-GMC fit* models are regarded as crucial information for business/marketing practitioners to understand: what is the right strategy to take on board for the development of their GMC based on a specific market environment to attaining and improving a source of competitive advantage and superior performance (Morgan, 2012). As it is noted that each strategic type can obtain its target market objectives or performance outcomes when companies implement an appropriate strategy (or a particular strategy) that *fits* with its given environment (or setting) (McDaniel and Kolari, 1987). Lastly, beyond

what is anticipated and proven by the empirical results of this entire thesis, the viability of GMC model becomes evident as a prominent tool for companies to take on board in order to evaluate their marketing capabilities and effectively embark on a green product/market opportunity. The GMC model as well enlightens some possible ways to meet the need for change in overall marketing practices to be in line with environmentally-friendly commitment toward a sustainable-growth of business (Kotler, 2011).

In this particular section, the author incorporates the outcomes which have been derived from an interpretation of findings in terms of strategic implications of GMC and demonstrates a useful guiding model (see figure 7.1, below). Strictly speaking, figure 7.1 can be used as a strategic mind-map, in order to facilitate management executives and marketing practitioner's decision making toward the development of alternative GMC-strategies based on a given market condition. This as well could lead them to better understand the strengths and effective performances that can be matched with their strategic intent in achieving target market objectives.

**Figure 7.1 Guiding Model of Strategic Mind-Map toward the Development of GMC**

| | **Strategic-behaviour-fit Model**<br>*(A corporate perceived behavioural intention toward the development of GMC that fits performance effectiveness)* | **Strategic-GMC-fit Model**<br>*(The synthesis of strengths and marketing strategies incorporated into the development of GMC for an enhancement of competitive advantage)* |
|---|---|---|
| **GMC-Prospector** | ▪ *Risk-taking posture*<br>▪ *Opportunity seeker with fast adaptive manner*<br>▪ *First-mover advantage strategy implementation* | **'Synergistic GMC'**<br>➢ Communicating and co-operating with other green channel/network/partners and customers toward natural-environmental agreement/commitment, in order to meet with corporate social responsibility to reinforcing strategic competitive advantage |
| **GMC-Analyzer** | ▪ *Analytical posture*<br>▪ *Critical adopter with thoughtful manner*<br>▪ *Balance/hybrid with core analytical strategy implementation* | **'Product-driven & Synergistic GMC'**<br>➢ Thorough green product design and development, plus communicating and co-operating with other green channel/network/partners and customers toward natural-environmental agreement/commitment, in order to sustain green market demand and meet with corporate social responsibility to reinforcing strategic competitive advantage |
| **GMC-Defender** | ▪ *Defending posture*<br>▪ *Conservative adherent with isolated manner*<br>▪ *Protective strategy implementation* | **'Synergistic GMC'**<br>➢ Thorough green product design and development in order to serve and maintain green market-niche demand to reinforcing strategic competitive advantage |

Source: Author

## 7.4 Chapter Summary

This chapter discusses all the empirical findings from sub-studies: 1, 2 and 3. It starts by reviewing the research outcomes and then clarifies some research contributions based on an academic perspective. On the basis of research contribution, it discusses the conceptual model of GMC and its principles which are derived from a review of theoretical literature and anchored to the theoretical relationship including: strategic marketing, the RBV and marketing resources and capabilities. This theoretical foundation has been expanded into a broader view across the fields of strategic management and marketing. In light of the theoretical background, the operationalization of the GMC-structures and their four components are grounded in companies' marketing knowledge-based resources and capabilities. Next, the GMC-strategic types stem from an empirical classificatory approach, and are compared with the conceptual definitions of *organization's typologies* (Miles and Snow, 1978) in order to get a broader view of literature across the fields of strategy and marketing. With this approach, the three GMC-strategic types consisting of GMC-prospectors, GMC-analyzers and GMC-defenders have been attested to by a robust literature review.

In addition, the interpretation of findings for managerial practices is discussed. The author articulates an in-depth insight into strategic implications in terms of *strategic-behaviour* and *strategic-GMC fit* models of the three GMC-strategic types. In light of the strategic-behaviour-fit model, it represents an alignment of corporate level posture and the perceived-green behaviour which constitutes a fit with performance by alternative GMC-strategic types. Moreover, the strategic-GMC fit model depicts a matching of the synthesis of strengths and dominant characteristics in association with the development of GMC-structures, which leads companies to obtaining a critical source of green-based competitive

257

advantage (GCA) by alternative GMC-strategic types. Lastly, the author offers up a guiding model toward the development of GMC strategies for management practices.

Next, chapter 8 will conclude the entire study and summarise the limitations of the present study as well as suggest some directions for future research projects.

**CHAPTER 8**

**CONCLUSION, LIMITATIONS OF THE PRESENT STUDY AND DIRECTIONS FOR FUTURE RESEARCH**

**8.1 Overview of the Chapter**

This is the final chapter of the present thesis. Its main objectives are to conclude what have been done in this entire study and summarise the main propositions that emanate from the research. It also clarifies some disadvantages this study has had to overcome as well as suggest some directions for future research.

The chapter is structured as follow. It starts by summarising what have been undertaken and presented in the three sub-studies: 1, 2 and 3, as well as offering the important propositions that stem from the whole study (section 8.2). Later, some limitations of the present study and the directions for future research are clarified (section 8.3). Lastly, the chapter is summarised (section 8.4).

**8.2 Conclusion and the Main Propositions of the Study**

This section provides a summary of the entire study concerning three sequential studies (1, 2 and 3 as already discussed in chapter 2, 4, 5 and 6). It starts by summarising the empirical sub-study 1: developing a conceptual model of GMC (based on two research questions: #1 and #2) which has been partly presented in chapter 2 and 4. Next, it presents a conclusion of the empirical study-2: the configuration model of fit among various GMC-strategic types, corporate strategic postures (CSP), perceived-green behaviour (PGB) and performance (based on research question #3) which have been discussed in both chapters 5 and 6. Lastly, it is followed up by a summary of the empirical study-3. In this particular study, it deals with three research questions (from research questions #4 through #6) based on three

different investigations as follow. Part-1: the moderating effect of alternative GMC-strategic types on the relationship between GMC-structures and green competitive advantage by utilising a configuration approach (research question #4). Part-2: the mediating effect of green competitive advantage (GCA) have on the link between GMC-structures and performance (research question #5), and Part-3: the direct influence of the four components of GMC-structures on performance (research question #6).

The overall aim of this thesis is to develop and operationalize a conceptual model of GMC. The thesis also sets out to give a better understanding of the implications of this model, reviewing the GMC-structures and strategies which could contribute towards an organisation's performance effectiveness. To fully capture a conceptual model of GMC, the author began with an argument that laid out some of the theoretical literature in relation to strategic marketing (Varadarajan, 2010), the RBV and marketing resources and capabilities (Morgan, 2012) to conceptualize GMC. To be more precise, the author employed an integrative analytical approach in order to evaluate the concept of GMC and identify the classifications based on its structures and strategic types. Specifically, the GMC model stems from the idea that links all aspects of environmentally-friendliness with marketing strategies and practices (which encompasses companies' RBV and marketing resources and capabilities) as a theoretical foundation. Bearing this in mind, the author incorporated environmental aspects which have been assimilated into marketing strategies and practices for the development of green marketing capabilities (GMC).

In addition, the author attempted to explain *what* the features of GMC are; and *how* GMC can feasibly contribute to a competitive advantageous position and better performance for companies. Ultimately this study did demonstrate *why* the salient role of GMC has become prominent, which not only fosters companies' environmentally-friendly commitment and responsiveness, but also stimulates growth towards sustainability of their businesses

(Kotler, 2011). As it is anticipated that GMC in turn could improve companies' green marketing practices and their environmental awareness towards reducing a negative impact on the environment. It could as well strengthen and sustain business competitive positioning and performance in the market place.

To be more precise, on the basis of the theoretical foundation of GMC study-1 (chapter 2) has presented reviews of major theories across the fields of strategic management and marketing i.e. the RBV and organisation's capabilities concerning marketing resources and capabilities (Morgan, 2012), and strategic marketing (Varadarajan, 2010) for a development of the GMC model. As stated earlier, this study proposed an integrative analytical approach in order to evaluate a conceptualization of GMC and its multi-dimensional models in terms of structures and strategies. Particularly, the GMC model refers to a coordinated process of strategic and practical green marketing at an operational level which is embedded in companies' marketing resources and capabilities as a background. Additionally, what have been derived are two principles of GMC based on *architectural* and *specialized* marketing capabilities (Morgan, 2012). Building on the two principles of GMC, the author then defined a classification of the GMC-structures by utilising a conceptual classification approach. With this process, it gave rise to an operationalization of two main GMC-structures which can be categorised into four components i.e. pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC. By integrating a conceptual classification and procedure for selecting construct of GMC (in comparison to past relevant studies in the field of marketing), the four components of GMC-structures have been well grounded and represented as a 'wholeness' of green marketing capabilities at a functional level. Based on this perspective, strategic green marketing and practices that embrace an operationalization of two main GMC-structures and the four components can be fully implemented and exploited in an organisation's operational as well as across different marketing levels.

Building on the conceptual model of GMC, the author further identified GMC by utilising an empirical classification or a taxonomic approach in order to develop its implications in terms of 'GMC-strategies'. This process derived three distinctive GMC-strategic types which include: GMC-prospectors, GMC-analyzers and GMC-defenders. Given these three strategic types, the author compared them with the conceptual classification based on *organization's typologies* of Miles and Snow (1978). By doing so, the three GMC-strategies have added clarity to the usefulness of the three organisation's types which are well represented by their unique characteristics and performance differentials. The empirical findings from a taxonomic analysis have been validated and provided substantial contributions for a better understanding of multi-faceted GMC model and its implications.

On the basis of a configuration approach, the author built on and utilised the research outputs from study-1 i.e. three GMC-strategic types for further analysis. By investigating a configuration of fit among various GMC-strategic types, corporate strategic posture (CSP), perceived-green behaviour (PGB) and performance, the author attempted to find out an alignment of multiple variables with alternative GMC-strategic types in order to depict a strategic implication in terms of *strategic-behaviour-fit* model among the three groups of GMC-strategies. With this process, the empirical findings have revealed prominent outcomes which can articulate the uniqueness of each GMC-strategic type as follow. First, the GMC-prospectors are represented as an opportunity seeker, who possess a *risk-taking* posture at a corporate level. They are *proactive* with a *fast-adaptive* manner as well as self-ambition towards undertaking the development of GMC through an implementation of a *first-mover strategy* (e.g. Miles *et al*, 1978; Song *et al*, 2007; Fiss, 2011). Second, the GMC-analyzers are represented as a critical adopter who possess an *analytical* posture at a corporate level. They are *careful* and *thorough* in approaching a new product/market trend with a mindful *analytical* strategy in order to meet cost-efficient purposes in their businesses (e.g. Miles *et al*, 1978; Vorhies and Morgan, 2003). Lastly, in contrast to the above two

groups, the GMC-defenders are represented as a conservative adherent who possess a *defending* posture at a corporate level. They are rather *conservative* consistent with a core *defensive strategy* in approaching new products/market as well as adhering to *risk-adverse* in planning in order to protect and maintain their narrow-market domain (e.g. Miles *et al*, 1978; Song *et al*, 2007).

Provided with some significant insights into the above strategic implications, the configuration model of each GMC-strategic type (based on a hierarchical regression analysis of study-2) can be interpreted and designated as a unique 'strategic-behaviour-fit' model among three strategic typologies. Owing to its distinctiveness, each strategic type demonstrates its diverse strategic-intent to achieving its target (different) performance outcomes. Accordingly, these directional strategies could inform and facilitate management executives and marketing practitioners to gaining a better understanding of the utilisation/implementation and performance of alternative GMC-strategies. In particular, which strategies could be considered as a right tool or means for companies/businesses to take on in order to tackle a specific market condition (environment) depends on their aims toward accomplishing the desired market objectives and performance goals.

Following on from the above, the author conducted study-3. In particular, this study consists of three different investigations which aims to verify the salient role of GMC in contributing toward competitive advantage and superior performance. By employing three different analytical methods including: (1) the moderating role of alternative GMC-strategic types (based on a configuration model), (2) the mediating effect of GCA, and (3) the casual influence of the four components of GMC-structures, these analyses have been performed in order to explain and gain in-depth insights into the practicality of GMC model (based on the operationalization of GMC-structures and the four components), and whether or not it

makes contributions towards an improvement of companies' competitive advantageous position and superior performance.

To be more specific with the empirical results of study-3 (part-1), the configuration of fit model can be explained by an alignment of the two main GMC-structures (based on *basic* and *advanced* GMC-structures) and green competitive advantage (GCA) with alternative GMC-strategic types. In light of the configuration approach, the findings can be articulated as the strategic implications in terms of 'strategic-GMC-fit' models among various GMC-strategic types. In other words, this suggests that by approaching different GMC-strategic types the two main GMC-structures (on the basis of *basic* and *advanced* GMC-structures) are immersed in companies' dominant strengths and marketing strategies which can be viewed as a driving force in contributing towards a critical source of competitive advantage for companies.

Next, the empirical results of study-3 (part-2) show that the overall operationalization of GMC-structures has been mediated the effect by green competitive advantage (GCA) on performance. This particular part of the analysis has revealed substantial outcomes that affirm the salience of the operationalization of GMC-structures (based on the two main GMC-structures including their four components) which are seen as a set of pivotal driving forces (an important mechanism) of companies' marketing capabilities in obtaining a critical source of green-based competitive advantage. Which in turn leads toward achieving better performance outcomes. Lastly, the empirical findings of study-3 (part-3) give evidence to the fact that on the basis of the four components of the GMC-structures, the 'info-driven GMC' seems to have a direct impact on performance. In other words, this component depicts a significant effect (an important factor in terms of information orientation) influencing companies' decision-making process for embarking on a green product/market as well as leads them toward performance effectiveness.

Additionally, combining the results from parts 2 and 3 of study-3 leads to the conclusion that the operationalization of GMC-structures on the basis of two main structures (i.e. *basic* and *advanced* GMC-structures) including the four components (i.e. pre-GMC, info-driven GMC, product-driven GMC and synergistic GMC) completely illustrates a holistic view or a wholeness of the GMC model which is anchored to the RBV and marketing resources and capabilities of companies (Morgan, 2012). That said, the holistic GMC model, is mainly concerned with the critical mechanisms or a set of powerful strategic marketing and practices at an operational level (which are embedded in environmentally-friendly aspects) could be able to create and reinforce a source of green competitive advantage and superior performance for companies (Morgan *et al*, 2012; Murray *et al*, 2011).

As discussed earlier, this research has made substantial contributions to new body of knowledge in the field of marketing. Besides, it has also postulated several concepts that have been used as variables in the empirical studies. These meaningful conceptions which are inclusive of: corporate strategic posture (CSP), perceived-green behaviour (PGB) and green competitive advantage (GCA) (which have already been discussed and listed in table 2.1 of chapter 2) have been brought to light and found to be useful factors for the whole empirical studies. All in all, this thesis has achieved its goals by responding to all research questions as well as giving rise to the main propositions of the entire study.

Next, the following section clarifies some limitations of the present study and recommendations for future research.

## 8.3 Limitations of the Present Study and Directions for Future Research

Having presented the entire study in all previous chapters, this section aims to define some of the drawbacks that this study has come up against. To be more specific, this study attempts to achieve its purpose by conducting a piece of research in order to explain *what* is green marketing capability and *how* it can be put into practice for a better understanding of

its multi functionalities and practicalities for businesses. By which in turn it helps improve companies' competitive position and performance. However, regardless of the substantial and interesting research outputs, this study became subject to some disadvantages or limitations whilst undertaking it. These limitations can be addressed as a recognition for a wider audience across the fields of management studies and marketing. It can also be used as advisory research for future studies to acquire a better understanding and obtain information to build upon.

As stated earlier, this study has made a number of contributions to academic research and management practices by providing interesting insights into a new body of knowledge based on a multi-faceted GMC model and its implications. Some drawbacks which this study has tackled can be clarified by different stages i.e. before, during, and after a data collection process as well as some other related issues during the data analysis as follows. First, prior to undertaking this study, the author attempted to follow a mail-survey (postal mail) approach. Owing to its advantageous aspects in terms of: cost-savings, convenient and a popular method for conducting a piece of research in business (as already discussed in chapter 3), some possible limitations were found when the survey-questionnaires were sent out. It can be suggested that researchers should take follow-up steps in order to maintain the level of response from target participants. Although the author had contacted the majority of participants before sending out the survey-questionnaires, what was required was a follow up call to check upon the delivery and status. This would ensure that the survey had not only reached the business, but was also in the right hands. A survey approach does require some follow up effort, as with most survey methods it is difficult to guide people when you are not in front of them.

Next, once the data was collected it became apparent that the sample size would be an issue for a statistical analysis. In particular, this study followed a quantitative research design

which is subject to a sufficient amount of responses in order for a data analysis purpose. At first, the total numbers of returned surveys were initially 158. However, after a data cleaning process (for a quantitative-data purpose) the usable numbers of surveys dropped to 120. To handle the issue, based on the final sample size of 120, the author deliberately followed the steps of measurement model or a measurement purification process as suggested by Homburg, Jensen and Krohmer (2008) in order to validate all the adopted study's constructs. By doing so, the measurements of all the constructs (as already discussed in chapter 6) have been ratified by multiple criteria before undertaking further data analysis. As a result, this process proved that the observed-data was free from violations caused by a sample size issue.

Strictly speaking, the author deemed to follow appropriate analysis methods in order to tackle some possible drawbacks of the sample-size issue. All the adopted constructs have already been validated by a measurement purification process before undertaking further empirical analysis. Specifically, a structural equation model or SEM has been utilised in the study-3, part-2 and 3 as suggested by Baron and Kenny (1986) which is rather sensitive to a small sample size (MacKenzie *et al*, 2011). With SEM analysis, however the empirical results have revealed that the hypothesised relationships among observed variables were significantly derived with meaningful interpretation of all findings (as already discussed in chapter 6 and 7).

In addition, based on a quantitative research which is required for a check of validity of study's constructs, the measurement purification has been proved to be a necessary process. To be consistent with this robust procedure, the author can be assured that all the constructs of interest were seen to fit with the observed-data of the entire study. On this basis, a conclusion can be drawn that the limitations of sample size to which this study has overcome. This as well can be inferred as a recognition of the measurement model (scale

development to purification of measurement) which should be appropriately performed before following through other statistical analyses for future study.

With regard to some specific recommendations for future research, it can be suggested that data collection to be undertaken through a longitudinal study might be a useful approach. Due to a limited time frame for a PhD research project, this study was conducted within eight to nine months through a mail-survey approach for a cost saving purpose. The obtained observations of this study would be found to be small in comparison to a general quantitative survey study. However, with a longitudinal study it may provide the benefit of a longer time scale which allows the researcher to obtain a larger number of respondents in order to capture a broader view of the study's relationships as well as gain some insights into a comparison between different points in time.

Moreover, this study has assessed the performance outcomes of companies by using a subjective survey-questionnaire with respondents. In general, this type of questionnaire is acceptable by researchers in the fields of management and marketing (e.g. Morgan *et al*, 2012). However, it is noticeable that other recent marketing studies such as Leonidou *et al*, 2013a and Leonidou *et al* 2013b make use of a secondary data source in order to examine companies' performance on the basis of financial/economic results. As a matter of fact, a secondary data may help researchers cross check some objective fact based on companies' performance outcomes. In this study, it was found that to access financial performance of companies from a secondary source was not possible. This is due to some limitations when using a public database especially from the Industrial Authority of Thailand. In other words, this particular database has no financial information available for public access. Consequently, this situation would be viewed as another limitation which can also be considered as a caution for further research.

Overall, despite these limitations, this study offers a concept of GMC and some major research findings which have been assessed and witnessed by three sub-studies of the entire thesis. The whole study has also made contributions to management practices from the interpretation of findings in terms of strategic implications i.e. strategic-behaviour and strategic-GMC fit among the three GMC-strategic types, as well as academic research (as already discussed in the previous section). Moreover, owing to the effectiveness of various analytical methods, the empirical findings expansively provide a body of knowledge which can be built on by future research. For instance, the operationalization of GMC-structures and the four components consisting of pre-GMC, info-driven GMC, product-driven GMC and Synergistic GMC can be brought forward to further study by applying them into other business contexts and industrial sectors i.e. export ventures, Business-to-Business or Business-to-Customer and etc.

Furthermore, it can be recommended that future study might look at several aspects concerning the research contributions of this study based on the theoretical foundations of GMC and its principles which have been grounded in robust review of literature in the fields of strategic management and marketing. Future research project may delve into the link between other aspects of marketing resources and capabilities in terms of dynamic capabilities and tacit knowledge, and the impact on performance (Morgan, 2012). Lastly, on the basis of the strategic implications in terms of three GMC-strategic types including: GMC-prospector, GMC-analyzer and GMC-defender, future study may take an opportunity to investigate the influence of these distinctive strategic types in relation to other green marketing-related contexts, such as the launch of new green products/services and the development of green innovative products on performance, etc.

## 8.4 Chapter Summary

This chapter is the final chapter. It aims to provide a concluding remark of the entire thesis. It summarises the whole three sub-studies: 1, 2 and 3 as well as states the main propositions that have been emerged from the research. Then, a discussion on some limitations that the present study has encountered, during and after the data collection process as well as between the data analysis is followed. While some difficulties have been overcome by other possible solutions, very few drawbacks have been detected and recognised in order for future studies to take on as a caution. Finally, this chapter ends with some suggestions and directions for future research projects.

**BIBLIOGRAPHIES**

Ajzen, I. (1985) *From intentions to actions: A theory of planned behavior.* Berlin, Heidelberg: Springer.

Ajzen, I. (1991) 'The theory of planned behavior', *Organizational Behavior and Human Decision Process,* 50(2), pp. 179-211.

Ajzen, I., and Madden, T.J. (1986) 'Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral controal', *Journal of Experimental Social Psychology,* 22(5), pp. 453-474.

Amit, R., and Schoemaker, P. J. (1993) 'Strategic assets and organizational rent', *Strategic Management Journal,* 14, pp. 33-46.

Anderson, J. C., and Gerbing, D. W. (1988) 'Structural equation modeling in practice: A review and recommended two-step approach', *Psychological Bulletin,* pp. 103, 411.

Auh, S., and Menguc, B. (2005) 'Balancing exploration and exploitation: The moderating role of competitive intensity', *Journal of Business Research,* 58, pp. 1652-1661.

Bagozzi, R. P., and Yi, Y. (1991) 'Multitrait-multimethod matrices in consumer research', *Journal of Consumer Research*, pp. 426-439.

Baird, I. S., and Thomas, H. (1985) 'Toward a contingency model of strategic risk taking', *Academy of Management Review,* 10, pp. 230-243.

Baker, W.E., and Sinkula, J.M. (2005) 'Environmental marketing strategy and firm performance: effects on new product performance and market share', *Journal of the Academy of Marketing Science,* 33, pp. 461-475.

Banerjee, S. B., Gulas, C. S., and Iyer, E. (1995) 'Shades of green: a multidimensional analysis of environmental advertising', *Journal of Advertising,* 24, pp. 21-31.

Banerjee, S. B. (2001) 'Managerial perceptions of corporate environmentalism: interpretations from industry and strategic implications for organizations', *Journal of Management Studies,* 38, pp. 489-513.

Banerjee, S. B., Iyer, E. S., and Kashyap, R. K. (2003) 'Corporate environmentalism: antecedents and influence of industry type', *Journal of Marketing*, pp. 106-122.

Barney, J. B., (1991) 'Firm resources and sustained competitive advantage', *Journal of Management,* 17, pp. 99-120.

Barney, J. B., (2001) 'Is the resource-based "view" a useful perspective for strategic management research? Yes', *Academy of Management Review,* 26, pp. 41-56.

Baron, R. M., and Kenny, D. A. (1986) 'The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations', *Journal of Personality and Social Psychology,* 51, pp. 1173.

Bentler, P. M., and Bonett, D. G. (1980) 'Significance tests and goodness of fit in the analysis of covariance structures', *Psychological Bulletin,* 88, pp. 588.

Bergeron, F., Raymond, L., and Rivard, S. (2004) 'Ideal patterns of strategic alignment and business performance', *Information & Management,* 41, pp. 1003-1020.

Bernard, H. R. (2012) *Social research methods: Qualitative and quantitative approaches.* 2nd edn. Thousand Oaks, C.A: Sage.

Bollen, K. A. (1998) 'Structural equation models', in Armitage, P., and Colton, T. (ed.) *Encyclopedia of biostatistics*. Sussex, England: Wiley, pp. 4363-4372.

Bonilla Priego, M. J., Najera, J. J., and Font, X. (2011) 'Environmental management decision-making in certified hotels', *Journal of Sustainable Tourism,* 19**,** pp. 361-381.

Bunn, M. D. (1993) 'Taxonomy of buying decision approaches', *The Journal of Marketing*, pp. 38-56.

Carbonell, P., and Rodriguez, A. I. (2006) 'The impact of market characteristics and innovation speed on perceptions of positional advantage and new product performance', *International Journal of Research in Marketing,* 23, pp. 1-12.

Carper, W. B., and Snizek, W. E. (1980) 'The nature and types of organizational taxonomies: An overview', *Academy of Management Review,* 5, pp. 65-75.

Chan, R. Y., He, H., Chan, H. K., and Wang, W. Y. (2012) 'Environmental orientation and corporate performance: The mediation mechanism of green supply chain management and moderating effect of competitive intensity', *Industrial Marketing Management,* 41, pp. 621-630.

Chan, R. Y., and Lau, L. B. (2002) 'Explaining green purchasing behavior: A cross-cultural study on American and Chinese consumers', *Journal of International Consumer Marketing,* 14, pp. 9-40.

Chang, C. H. (2011) 'The influence of corporate environmental ethics on competitive advantage: the mediation role of green innovation', *Journal of Business Ethics,* 104, pp. 361-370.

Chang, S. J., Van Witteloostuijn, A., and Eden, L. (2010) 'From the editors: Common method variance in international business research', *Journal of International Business Studies,* 41, pp. 178-184.

Chang, M. K. (1998) 'Predicting unethical behavior: a comparison of the theory of reasoned action and the theory of planned behavior', *Journal of Business Ethics,* 17, pp. 1825-1834.

Charter, M. (ed.) (1992) *Greener marketing: A responsible approach to business*. Sheffield, UK: Greenleaf Publishing.

Chen, M. F., and Tung, P. J. (2014) 'Developing an extended theory of planned behavior model to predict consumers' intention to visit green hotels', *International Journal of Hospitality Management,* 36, pp. 221-230.

Chen, T. B., and Chai, L. T. (2010) 'Attitude towards the environment and green products: Consumers' perspective', *Management Science and Engineering,* 4, pp. 27-39.

Christopher, M., Peck, H., and Towill, D. (2006) 'A taxonomy for selecting global supply chain strategies', *International Journal of Logistics Management,* 17, pp. 277-287.

Cobanoglu, C., Warde, B., and Moreo, P. J. (2001) 'A comparison of mail, fax and web-based survey methods', *International Journal of Market Research,* 43, pp. 441-452.

Coddington, W. (1993) *Environmental marketing: positive strategies for reaching the green consumer*. New York: McGraw-hill.

Collis, D. J. (1994) 'Research note: how valuable are organizational capabilities?', *Strategic Management Journal,* 15, pp. 143-152.

Coltman, T., Devinney, T. M., Midgley, D. F., and Venaik, S. (2008) 'Formative versus reflective measurement models: Two applications of formative measurement', *Journal of Business Research,* 61, pp. 1250-1262.

Conant, J. S., Mokwa, M. P., and Varadarajan, P. R. (1990) 'Strategic types, distinctive marketing competencies and organizational performance: a multiple measures-based study', *Strategic Management Journal,* 11, pp. 365-383.

Cordano, M., and Frieze, I. H. (2000) 'Pollution reduction preferences of US environmental managers: applying Ajzen's theory of planned behavior', *Academy of Management Journal,* 43, pp. 627-641.

Cova, B., and Svanfeldt, C. (1993) 'Societal innovations and the postmodern aestheticization of everyday life', *International Journal of Research in Marketing,* 10, pp. 297-310.

Craighead, C. W., Ketchen, D. J., Dunn, K. S., and Hult, G. T. M. (2011) 'Addressing common method variance: guidelines for survey research on information technology, operations, and supply chain management', *Engineering Management, IEEE Transactions,* 58, pp. 578-588.

Crane, A. (1998) 'Exploring green alliances', *Journal of Marketing Management,* 14, pp. 559-579.

Cronbach, L. J. (1951) 'Coefficient alpha and the internal structure of tests', *Psychometrika,* 16, pp. 297-334.

Day, G. S. (1994) 'The capabilities of market-driven organizations', *the Journal of Marketing*, pp. 37-52.

Della Porta, D., and Keating, M. (eds.) (2008) *Approaches and methodologies in the social sciences: A pluralist perspective*. New York: Cambridge University Press.

Denscombe, M. (2010) *Ground Rules for Good Research: Guidelines for Good Practice*. Buckingham: Open University Press.

Dess. G. G., Newport, S., and Rasheed, A. M. (1993) 'Configuration research in strategic management: Key issues and suggestions', *Journal of Management,* 19, pp. 775-795.

Diamantopoulos, A., and Schlegelmilch, B. B. (1996) 'Determinants of industrial mail survey response: a survey-on-surveys analysis of researchers' and managers' views', *Journal of Marketing Management,* 12, pp. 505-531.

Dillman, D. A. (1978) *Mail and telephone surveys: the total design method*. New York: Wiley Interscience.

Dillman, D. A. (1983) 'Mail and other self-administered questionnaires', in Rossi, P. H., Wright, J. D., and Anderson A. B. (eds.) *Handbook of survey research*. New York: Academic Press, pp. 359-377.

Dillman, D. A. (1991) 'The design and administration of mail surveys', *Annual Review of Sociology*, 17, pp. 225-249.

Distefano, C., Zhu, M., and Mindrila, D. (2009) 'Understanding and using factor scores: considerations for the applied researcher', *Practical Assessment, Research & Evaluation,* 14, pp. 1-11.

Dobni, C. B., and Luffman, G. (2000) 'Market orientation and market strategy profiling: an empirical test of environment-behaviour-action coalignment and its performance implications', *Management Decision,* 38, pp. 503-522.

Doty, D. H., Glick, W. H., and Huber, G. P. (1993) 'Fit, equifinality, and organizational effectiveness: a test of two configurational theories', *Academy of Management Journal,* 36, pp. 1196-1250.

Drumwright, M. E. (1994) 'Socially responsible organizational buying: environmental concern as a noneconomic buying criterion', *The Journal of Marketing*, pp. 1-19.

Dyer, B., and Song, X. M. (1997) 'The impact of strategy on conflict: a cross-national comparative study of US and Japanese firms', *Journal of International Business Studies*, pp. 467-493.

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

Engardio, P., Capell, K., Carey, J., and Hall, K. (2007) 'Beyond the green corporation: imagine a world in which eco-friendly and socially responsible practices actually help a company's bottom line. it's closer than you think', *Business Week,* 4019, pp. 50.

Everitt, B. S., Landau, S., Leese, M., and Stahl, D. (2011) 'Hierarchical clustering', *Cluster Analysis.* 5th edn**,** Edited by David J. Balding, Noel A.C. Cressie, Garrett M. Fitzmaurice, Harvey Goldstein, Geert Molenberghs, David W. Scott, Adrian F.M. Smith, Ruey S. Tsay and Sanford Weisberg. London: Wiley, pp. 71-110.

Fan, X., Thompson, B., and Wang, L. (1999) 'Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes', *Structural Equation Modeling: A Multidisciplinary Journal,* 6, pp. 56-83.

Fayyad, U. M., Piatetsky-shapiro, G., and Smyth, P. (1996) 'From data mining to knowledge discovery in databases', *AI Magazine,* 17(3), pp. 37.

Fisk, G. (1973) 'Criteria for a theory of responsible consumption', *The Journal of Marketing*, pp. 24-31.

Fiss, P. C. (2011) 'Building better causal theories: A fuzzy set approach to typologies in organization research', *Academy of Management Journal,* 54, pp. 393-420.

Fornell, C., and Larcker, D. F. (1981) 'Structural equation models with unobservable variables and measurement error: Algebra and statistics', *Journal of Marketing Research*, pp. 382-388.

Fraj-Andres, E., Martínez-Salinas, E., and Matute-Vallejo, J. (2009) 'A multidimensional Approach to the Influence of Environmental Marketing and Orientation on the Firm's Organizational Performance', *Journal of Business Ethics,* 88, pp. 263-286.

Fraj, E., Martínez, E., and Matute, J. (2011) 'Green marketing strategy and the firm's performance: the moderating role of environmental culture', *Journal of Strategic Marketing,* 19**,** pp. 339-355.

Fraj, E., Martínez, E., and 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,* 28, pp. 396-410.

Fuller, D. A. (1999) *Sustainable marketing: Managerial-ecological issues*. C. A: Sage Publications.

Gerbing, D. W., and Anderson, J. C. (1992) 'Monte Carlo evaluations of goodness of

fit indices for structural equation models', *Sociological Methods & Research,* 21, pp. 132-160.

Ginsberg, A., and Venkatraman, N. (1992) 'Investing in new information technology: the role of competitive posture and issue diagnosis', *Strategic Management Journal,* 13, pp. 37-53.

Gonzalez-Benito, J., and Gonzalez-Benito, O. (2005) 'An analysis of the relationship between environmental motivations and ISO14001 certification', *British Journal of Management,* 16, pp. 133-148.

Grant, R. M. (1991) 'The resource-based theory of competitive advantage: implications for strategy formulation', *California Management Review,* 33(3)*,* pp. 114-135.

Grant R. M. (1996) 'Prospering in dynamically-competitive environments: organizational capability as knowledge integration', *Organization Science,* 7, pp. 375-387.

Greer, T. V., Chuchinprakarn, N., and Seshadri, S. (2000) 'Likelihood of participating in mail survey research: business respondents' perspectives', *Industrial Marketing Management,* 29, pp. 97-109.

Grewal, R., and Slotegraaf, R. J. (2007) 'Embeddedness of organizational capabilities', *Decision Sciences,* 38, pp. 451-488.

Gujarati, D. (2003) *Basic Econometrics*. 4th edn. New Delhi: Mcgraw-Hill.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, R. L. (2006) *Multivariate data analysis*. 6th edn. Upper Saddle River, N. J: Pearson Prentice Hall.

Halkidi, M., Batistakis, Y., and Vazirgiannis, M. (2001) 'On clustering validation techniques', *Journal of Intelligent Information Systems,* 17, pp. 107-145.

Hambrick, D. C. (1984) 'Taxonomic approaches to studying strategy: some conceptual and methodological issues', *Journal of Management,* 10, pp. 27-41.

Han, H., Hsu, L. T., and Sheu, C. (2010) 'Application of the theory of planned behavior to green hotel choice: testing the effect of environmental friendly activities', *Tourism Management,* 31, pp. 325-334.

Hart, S. L. (1995) 'A natural-resource-based view of the firm', *Academy of Management Review,* 20, pp. 986-1014.

Helfat, C. E. (1997) 'Know-how and asset complementarity and dynamic capability accumulation: the case of R&D', *Strategic Management Journal,* 18, pp. 339-360.

Hinkin, T. R. (1995) 'A review of scale development practices in the study of organizations', *Journal of Management,* 21, pp. 967-988.

Hennison, K., and Kinnear, T. (1976) *Ecological marketing*. Englewood Cliffs, N.J: Prentice Hall.

Homburg, C., Jensen, O., and Krohmer, H. (2008) 'Configurations of marketing and sales: a taxonomy', *Journal of Marketing,* 72, pp. 133-154.

Hu, L. T., and Bentler, P. M. (1998) 'Fit indices in covariance structure modeling: sensitivity to underparameterized model misspecification', *Psychological Methods,* 3**,** pp. 424.

Hughes, P., and Morgan, R. E. (2008) 'Fitting strategic resources with product-

market strategy: performance implications', *Journal of Business Research,* 61, pp. 323-331.

Hunt, S. D., and Morgan, R. M. (1995) 'The comparative advantage theory of competition', *The Journal of Marketing*, pp. 1-15.

Iacobucci, D. (2010) 'Structural equations modeling: Fit indices, sample size, and advanced topics', *Journal of Consumer Psychology,* 20, pp. 90-98.

Jaworski, B. J., and Kohli, A. K. (1993) 'Market orientation: antecedents and consequences', *The Journal of Marketing*, pp. 53-70.

Judge, J. W. Q., and Douglas, T. J. (1998) 'Performance implications of incorporating natural environmental issues into the strategic planning process: an empirical assessment', *Journal of Management Studies,* 35, pp. 241-262.

Kabadayi, S., Eyuboglu, N., and Thomas, G. P. (2007) 'The performance implications of designing multiple channels to fit with strategy and environment', *Journal of Marketing,* 71, pp. 195-211.

Kalafatis, S. P., Pollard, M., East, R., and Tsogas, M. H. (1999) 'Green marketing and Ajzen's theory of planned behaviour: a cross-market examination', *Journal of Consumer Marketing,* 16, pp. 441-460.

Katsikeas, C. S., Samiee, S., and Theodosiou, M. (2006) 'Strategy fit and performance consequences of international marketing standardization', *Strategic Management Journal,* 27, pp. 867-890.

Ketchecn, D. J., Combs, J. G., Russell, C. J., Shook, C., Dean, M. A., Runge, J., Lohrke, F. T., Naumann, S. E., Haptonstahl, D. E., and Baker, R. (1997) 'Organizational configurations and performance: a meta-analysis', *Academy of Management Journal,* 40, pp. 223-240.

Ketchen, D. J., Hult, G. T. M., and Slater, S. F. (2007) 'Toward greater understanding of market orientation and the resource-based view', *Strategic Management Journal,* 28, pp. 961-964.

Ketchen, D. J., and Shook, C. L. (1996) 'The application of cluster analysis in strategic management research: an analysis and critique', *Strategic Management Journal,* 17, pp. 441-458.

Ketchen, D. J., Thomas, J. B., and Snow, C. C. (1993) 'Organizational configurations and performance: a comparison of theoretical approaches', *Academy of Management Journal,* 36, pp. 1278-1313.

Kim, Y., & Han, H. (2010) 'Intention to pay conventional-hotel prices at a green hotel–a modification of the theory of planned behavior', *Journal of Sustainable Tourism,* 18, pp. 997-1014.

Klecka, W. R. (1980) *Quantitative applications in the social sciences series*. Thousand Oaks, California: Sage. no. 19.

Knussen, C., Yule, F., Mackenzie, J., and Wells, M. (2004) 'An analysis of intentions to recycle household waste: the roles of past behaviour, perceived habit, and perceived lack of facilities', *Journal of Environmental Psychology,* 24, pp. 237-246.

Kotler, P. (2011) 'Reinventing marketing to manage the environmental imperative', *Journal of Marketing,* 75, pp. 132-135.

Leonidou, C. N., Katsikeas, C. S., and Morgan, N. A. (2013). 'Greening the marketing mix: do firms do it and does it pay off?', *Journal of the Academy of Marketing Science,* 41, pp. 151-170.

Leonidou, L. C., Katsikeas, C. S., Fotiadis, T. A., and Christodoulides, P. (2013) 'Antecedents and consequences of an eco-friendly export marketing strategy: the moderating role of foreign public concern and competitive intensity', *Journal of International Marketing,* 21, pp. 22-46.

Leonidou, L. C., Leonidou, C. N., Fotiadis, T. A., and Zeriti, A. (2013) 'Resources and capabilities as drivers of hotel environmental marketing strategy: implications for competitive advantage and performance', *Tourism Management,* 35, pp. 94-110.

Li, Y., and Tan, C. H., (2013) 'Matching business strategy and CIO characteristics: The impact on organizational performance', *Journal of Business Research,* 66, pp. 248-259.

Luo, X., and Bhattacharya, C. B. (2006) 'Corporate social responsibility, customer satisfaction, and market value', *Journal of Marketing*, pp. 1-18.

Mackenzie, S. B., and Podsakoff, P. M. (2012) 'Common method bias in marketing: causes, mechanisms, and procedural remedies', *Journal of Retailing,* 88, pp. 542-555.

Mackenzie, S. B., Podsakoff, P. M., and Podsakoff, N. P. (2011) 'Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques', *MIS Quarterly,* 35, pp. 293-334.

Mahoney, J. T., and Pandian, J. R. (1992) 'The resource-based view within the conversation of strategic management', *Strategic Management Journal,* 13**,** pp. 363-380.

Maignan, I., and Ferrell, O. (2004) 'Corporate social responsibility and marketing: an integrative framework', *Journal of the Academy of Marketing Science,* 32, pp. 3-19.

Makadok, R. (2001) 'Toward a synthesis of the resource-based and dynamic-capability views of rent creation', *Strategic Management Journal,* 22, pp. 387-401.

Malhotra, N. K. (2008) *Marketing research: An applied orientation.* 5th edn. New Delhi, India: Pearson Education.

Manu, F. A., and Sriram, V. (1996) 'Innovation, marketing strategy, environment, and performance', *Journal of Business Research,* 35, pp. 79-91.

Marino, K. E. (1996) 'Developing consensus on firm competencies and capabilities', *The Academy of Management Executive,* 10, pp. 40-51.

McCarthy, E. J. (1978) *Basic marketing: a managerial approach.* Homewood: R. D. Irwin.

McDaniel, S. W., and KOLARI, J. W. (1987) 'Marketing strategy implications of the Miles and Snow strategic typology', *The Journal of Marketing*, pp. 19-30.

McKelvey, B. (1982) *Organizational systematics--taxonomy, evolution, classification*. Berkeley: University of California Press.

Menguc, B., Auh, S., and Ozanne, L. (2010) 'The interactive effect of internal and external factors on a proactive environmental strategy and its influence on a firm's performance', *Journal of Business Ethics,* 94, pp. 279-298.

Menguc, B., and Ozanne, L. K. (2005) 'Challenges of the "green imperative": a natural resource-based approach to the environmental orientation–business performance relationship', *Journal of Business Research,* 58, pp. 430-438.

Menon, A., and Menon, A. (1997) 'Enviropreneurial marketing strategy: the emergence of corporate environmentalism as market strategy', *The Journal of Marketing*, pp. 51-67.

Menon, A., Menon, A., Chowdhury, J., and Jankovich, J. (1999) 'Evolving paradigm for environmental sensitivity in marketing programs: a synthesis of theory and practice', *Journal of Marketing Theory and Practice*, pp. 1-15.

Meyer, A. D., Tsui, A. S., and Hinings, C. R. (1993) 'Configurational approaches to organizational analysis', *Academy of Management Journal,* 36, pp. 1175-1195.

Miles, R. E., Snow, C. C., Meyer, A. D., and Coleman, H. J. (1978) 'Organizational strategy, structure, and process', *Academy of Management Review,* 3, pp. 546-562.

Miller, D., and Friesen, P. H. (1984) *Organizations: A quantum view*. Englewood Cliffs, N. J: Prentice Hall.

Miller, D. (1986) 'Configurations of strategy and structure: Towards a synthesis', *Strategic Management Journal,* 7, pp. 233-249.

Miller, D. (1996) 'Configurations revisited', *Strategic Management Journal,* 17, pp. 505-512.

Miller, D., and Friesen, P. H. (1977) 'Strategy-making in context: ten empirical archetypes', *Journal of Management Studies,* 14, pp. 253-280.

Miller, D., and Friesen, P. H. (1978) 'Archetypes of Strategy Formulation', *Management Science,* 24, pp. 921-933.

Milligan, G. W., and Hirtle, S. C. (2003) 'Clustering and classification methods', in Schinka, J. A., and Velicer, W. F. (eds.) *Handbook of psychology: research methods in psychology.* Hoboken, N. J: Wiley.

Mintzberg, H. (1989) *Mintzberg on management: Inside our strange world of Organizations*. New York: Simon and Schuster.

Morgan, N. A. (2012) 'Marketing and business performance', *Journal of the Academy of Marketing Science,* 40, pp. 102-119.

Morgan, N. A., Katsikeas, C. S., and Vorhies, D. W. (2012) 'Export marketing strategy implementation, export marketing capabilities, and export venture performance', *Journal of the Academy of Marketing Science,* 40, pp. 271-289.

Morgan, N. A., Vorhies, D. W., and Mason, C. H. (2009) 'Market orientation, marketing capabilities, and firm performance', *Strategic Management Journal,* 30, pp. 909-920.

Morgan, N. A., Zou, S., Vorhies, D. W., and Katsikeas, C. S. (2003) 'Experiential and informational knowledge, architectural marketing capabilities, and the adaptive performance of export ventures: A cross-national study', *Decision Sciences,* 34, pp. 287-321.

Morgan, R. E., and Strong, C. A. (1998) 'Market orientation and dimensions of strategic orientation', *European Journal of Marketing,* 32, pp. 1051-1073.

Morgan, R. E., and Strong, C. A. (2003) 'Business performance and dimensions of strategic orientation', *Journal of Business Research,* 56, pp. 163-176.

Morrison, A., and Roth, K. (1994) 'Relating Porter's configuration/coordination framework to competitive strategy and structural mechanisms: analysis and implications', *Journal of Management,* 19, pp. 797-818.

Murray, J. Y., Gao, G. Y., and Kotabe, M. (2011) 'Market orientation and performance of export ventures: the process through marketing capabilities and competitive advantages', *Journal of the Academy of Marketing Science,* 39, pp. 252-269.

Narver, J. C., Slater, S. F., and Maclachlan, D. L. (2004) 'Responsive and Proactive Market Orientation and New-Product Success', *Journal of Product Innovation Management,* 21, pp. 334-347.

Neuman, W. L. (2006) *Social research methods: qualitative and quantitative approaches.* 6[th] edn. Boston, M. A: Allyn and Bacon.

Newbert, S. L. (2008) 'Value, rareness, competitive advantage, and performance: a conceptual-level empirical investigation of the resource-based view of the firm', *Strategic Management Journal,* 29, pp. 745-768.

Olson, E. M., Slater, S. F., and Hult, G. T. M. (2005) 'The performance implications of fit among business strategy, marketing organization structure, and strategic behavior', *Journal of Marketing*, pp. 49-65.

Ottman, J. A. (1993) *Green marketing*. Lincolnwood, Illinois: NTC Business books.

Paulraj, A. (2009) 'Environmental motivations: a classification scheme and its impact on environmental strategies and practices', *Business Strategy and the Environment,* 18, pp. 453-468.

Peattie, K., and Charter, M. (1994) 'Green marketing', *The marketing book.* Oxford, UK: Butterworth-Heinemann.

Peteraf, M. A. (1993) 'The cornerstones of competitive advantage: A resource-based view', *Strategic Management Journal,* 14, pp. 179-191.

Peters, T. J., Waterman, R. H., and Jones, I. (1982) *In search of excellence: Lessons from America's best-run companies*. New York: Harper & Row.

Podsakoff, P. M., Mackenzie, S. B., Lee, J. Y., and Podsakoff, N. P. (2003) 'Common method biases in behavioral research: a critical review of the literature and recommended remedies', *Journal of Applied Psychology,* 88, pp. 879.

Podsakoff, P. M., Mackenzie, S. B., and Podsakoff, N. P. (2012) 'Sources of method bias in social science research and recommendations on how to control it', *Annual Review of Psychology,* 63, pp. 539-569.

Podsakoff, P. M., and Organ, D. W. (1986) 'Self-Reports in Organizational Research: Problems and Prospects', *Journal of Management,* 12**,** pp. 531.

Polonsky, M. J., and Rosenberger, P. J. (2001) 'Reevaluating green marketing: a strategic approach', *Business Horizons,* 44, pp. 21-30.

Porter, M. E. (1980) *Competitive strategy: techniques for analyzing industries and competitors.* New York: The free press.

Porter, M. E. (1991) 'Towards a dynamic theory of strategy', *Strategic Management Journal,* 12, pp. 95-117.

Porter, M. E., and Van der Linde, C. (1995) 'Green and competitive: ending the stalemate', *Harvard Business Review,* 73, pp. 120-134.

Pujari, D. (2006) 'Eco-innovation and new product development: understanding the influences on market performance', *Technovation,* 26, pp. 76-85.

Pujari, D., Wright, G., and Peattie, K. (2003) 'Green and competitive: influences on environmental new product development performance', *Journal of Business Research,* 56, pp. 657-671.

Rich, P. (1992) 'The organizational taxonomy: Definition and design', *Academy of Management Review,* 17, pp. 758-781.

Richardson, H. A., Simmering, M. J., and Sturman, M. C. (2009) 'A tale of three perspectives: examining post hoc statistical techniques for detection and correction of common method variance', *Organizational Research Methods,* 12, pp. 762-800.

Robinson, W. T., Fornell, C., and Sullivan, M. (1992) 'Are market pioneers intrinsically stronger than later entrants?', *Strategic Management Journal,* 13, pp. 609-624.

Sausen, K., Tomczak, T., and Herrmann, A. (2005) 'Development of a taxonomy of strategic market segmentation: a framework for bridging the implementation gap between normative segmentation and business practice', *Journal of Strategic Marketing,* 13, pp. 151-173.

Schermelleh-Engel, K., Moosbrugger, H., and Müller, H. (2003) 'Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures', *Methods of Psychological Research Online,* 8, pp. 23-74.

Shang, K. C., Lu, C. S., and Li, S. (2010) 'A taxonomy of green supply chain management capability among electronics-related manufacturing firms in Taiwan', *Journal of Environmental Management,* 91, pp.1218-1226.

Sharma, S. (2000) 'Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy', *Academy of Management Journal,* 43, pp. 681-697.

Sharma, S., Durand, R. M., and Gur-Arie, O. (1981) 'Identification and analysis of moderator variables', *Journal of Marketing Research*, pp. 291-300.

Shiffer, R. E. (1988) 'Maximum Z scores and outliers', *The American Statistician,* 42, pp. 79-80.

Slater, S. F., Hult, G. T. M., and Olson, E. M. (2010) 'Factors influencing the relative importance of marketing strategy creativity and marketing strategy implementation effectiveness', *Industrial Marketing Management,* 39, pp. 551-559.

Slater, S. F., and Mohr, J. J. (2006) 'Successful development and commercialization of technological innovation: insights based on strategy type', *Journal of Product Innovation Management,* 23, pp. 26-33.

Slater, S. F., and Narver, J. C. (1993) 'Product-market strategy and performance: an analysis of the Miles and Snow strategy types', *European Journal of Marketing,* 27, pp. 33-51.

Slater, S. F., Olson, E. M., and Hult, G. T. M. (2006) 'The moderating influence of strategic orientation on the strategy formation capability–performance relationship', *Strategic Management Journal,* 27, pp. 1221-1231.

Slife, B. D. (1995) 'Information and time', *Theory & Psychology,* 5, pp. 533-550.

Slotegraaf, R. J., and Dickson, P. R. (2004) 'The paradox of a marketing planning

capability', *Journal of the Academy of Marketing Science,* 32, pp. 371-385.

Sneath, P. H., and Sokal, R. R. (1973) *Numerical taxonomy: the principles and practice of numerical classification*. San Francisco: W.H. Freeman and Co.

Song, M., Di Benedetto, C. A., and Nason, R. W. (2007) 'Capabilities and financial performance: the moderating effect of strategic type', *Journal of the Academy of Marketing Science,* 35, pp. 18-34.

Speed, R. (1993) 'Maximizing the potential of strategic typologies for marketing strategy research', *Journal of Strategic Marketing,* 1, pp. 171-188.

Stevens, J. P. (2012) *Applied multivariate statistics for the social sciences*. New York: Routledge.

Stonich, P. J. (1982) *Implementing strategy: Making strategy happen*. Cambridge, M.A: Ballinger Publishing.

Tabachnick, B., and Fidell, L. (2007) 'Multivariate analysis of variance and covariance', *Using Multivariate Statistics,* 3, pp. 402-407.

Talke, K., and Hultink, E. J. (2010) 'The impact of the corporate mind-set on new product launch strategy and market performance. *Journal of Product Innovation Management,* 27, pp. 220-237.

Teece, D. J., Pisano, G., and Shuen, A. (1997) 'Dynamic capabilities and strategic management', *Strategic Management Journal,* 18, pp. 509-533.

Theodoridis, S., and Koutroubas, K. (1999) 'Feature generation II', *Pattern Recognition.* 4th edn. New York: Academic Press, pp. 233-270.

Thorelli, H. B. (1977) 'Organizational theory: an ecological view', in Hans, B. T. (ed.) *Strategy plus structure equals performance: the strategic planning imperative.* Bloomington, Indiana: Indiana University Press.

Tucker, L. R., and Lewis, C. (1973) 'A reliability coefficient for maximum likelihood factor analysis', *Psychometrika,* 38, pp. 1-10.

Van Dam, Y. K., and Apeldoorn, P. A. (1996) 'Sustainable marketing', *Journal of Macromarketing,* 16, pp. 45-56.

Van de Ven, A. H., and Drazin, R. (1984) *The concept of fit in contingency theory.* (no. SMRC-DP-19). Minnesota university, Minneapolis. Strategic management research center.

Varadarajan, R. (2010) 'Strategic marketing and marketing strategy: domain, definition, fundarnental issues and foundational premises', *Journal of the Academy of Marketing Science,* 38(2), pp. 119-140.

Varey, R. J. (2011) 'A sustainable society logic for marketing', *Social Business,* 1, pp. 69-83.

Venkatraman, N. (1989) 'The concept of fit in strategy research: toward verbal and statistical correspondence', *Academy of Management Review,* 14, pp. 423-444.

Venkatraman, N., and Camillus, J. C. (1984) 'Exploring the concept of "fit" in strategic management', *Academy of Management Review,* 9, pp. 513-525.

Vorhies, D. W., Harker, M., and Rao, C. (1999) 'The capabilities and performance advantages of market-driven firms', *European Journal of Marketing,* 33, pp. 1171-1202.

Vorhies, D. W., and Morgan, N. A. (2003) 'A configuration theory assessment of marketing organization fit with business strategy and its relationship with marketing performance', *Journal of Marketing,* 67, pp. 100-115.

Vorhies, D. W., and Morgan, N. A. (2005) 'Benchmarking marketing capabilities for sustainable competitive advantage', *Journal of Marketing*, pp. 80-94.

Vorhies, D. W., Morgan, R. E., and Autry, C. W. (2009) 'Product-market strategy and the marketing capabilities of the firm: impact on market effectiveness and cash flow performance', *Strategic Management Journal,* 30, pp. 1310-1334.

Walker Jr, O. C., and Ruekert, R. W. (1987) 'Marketing's role in the implementation of business strategies: a critical review and conceptual framework', *The Journal of Marketing*, pp. 15-33.

Waller, R. A., and Duncan, D. B. (1969) 'A Bayes rule for the symmetric multiple comparisons problem', *Journal of the American Statistical Association,* 64, pp. 1484-1503.

Wernerfelt, B. (1984) 'A resource-based view of the firm', *Strategic Management Journal,* 5, 171-180.

Yeung, A., Chan, L., and Lee, T. (2003) 'An empirical taxonomy for quality management systems: a study of the Hong Kong electronics industry', *Journal of Operations Management,* 21, pp. 45-62.

Yin, R. (1994) *Case study research: design and methods.* 2nd edn. Beverly Hills, C.A: Sage publishing.

Zajac, E. J., Kraatz, M. S., and Bresser, R. K. (2000) 'Modeling the dynamics of strategic fit: a normative approach to strategic change', *Strategic Management Journal,* 21, pp. 429-453.

**APPENDIX A. Copy of Covering Letter for Survey (English)**



Dear Sir/Madam,

Re: covering letter and survey questionnaire

Attachment: a questionnaire set

My name is Angsaya Siepong. I am a PhD candidate from Norwich Business School (NBS), University of East Anglia, United Kingdom. I am writing this letter to ask for your participation in my research project focusing on 'Green Marketing Capability'.

The objective of this study is to find out what facilitates the development of green marketing capabilities. This study will help your organization to benchmark itself against competitors on use of green marketing capabilities and improve its performance. This survey will require only 15 minutes to complete, and your response will be kept strictly confidential. Neither the company nor the respondents will be identifiable.

In return for your participation I will produce a fully anonymized summary report for your company and I will be happy to benchmark your green marketing capability and potential, and identify areas for improvement. Please feel free to contact me as details provided below.

Yours sincerely,

Angsaya Siepong
PhD candidate
Norwich Business School (NBS), University of East Anglia, UK NR4 7TJ
E-mail: angsaya.s@gmail.com; a.siepong@uea.co.uk
Contact number: 081-8082388

## APPENDIX B. Copy of Survey Questionnaire (English)

**General instructions**

1. It is important for the quality of this research that you answer all the questions.
2. All information provided will be held in strictest confidence and anonymity.

Thank you so much in advance for your help with this.

**Q.1.** Which of the following titles matches your current position in the company? (please tick the right box)

| | |
|---|---|
| CEO/MD | ( ) |
| Finance manager | ( ) |
| Marketing manager | ( ) |
| Operations manager | ( ) |
| Sales manager | ( ) |

Other (please specify):_____

**Q.2.** How long have you held this position?

| | |
|---|---|
| Less than 1 year | ( ) |
| 1 – 3 years | ( ) |
| Over 3 years | ( ) |

**Q.3.** How long have you been working for this company?

| | |
|---|---|
| Less than 1 year | ( ) |
| 1 – 3 years | ( ) |
| Over 3 years | ( ) |

**Q.4.** To what extent do you agree with the following statements about your company?

*Please circle one of the options where 1 = Not at all, to 7 = To a great extent.*

**In our company:**

| | Not at all | | | | | | To a great extent |
|---|---|---|---|---|---|---|---|
| 4.1. _We continuously gather customer data on demand and buying behavior. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.2. _We systematically analyze our competitors' actions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.3. _We formally track significant industry trends. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.4. _Our market related planning activities explicitly consider long-term future developments. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.5. _We adopt a rather progressive view when making major decisions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.6. _We tend to support promising projects, even if the expected market success is uncertain. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.7. _When making major market related decisions, we tend not to shy away from taking risks. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.8. _Our market related activities generally follow the "tried and proven" path. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Q.5.** Green marketing capabilities are reflected in a firm's marketing practices that include effective and efficient consideration of the natural environment (in other words they reflect the capacity of the firm to green its marketing practices).

To what extent do you agree with the following statements about your company?

*Please circle one of the options where 1 = Not at all, to 7 = To a great extent.*

| | Not at all | | | | | | To a great extent |
|---|---|---|---|---|---|---|---|
| 5.1. _Our organization views development of strong green marketing capabilities as a key component of its competitive strategy. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.2. _Our organization is determined to develop a strong green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.3. _Our organization believes that a strong green marketing capability is necessary for long-term success. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.4. _Our organization believes that it is not necessary to develop a strong green marketing capability for competitive success in our industry. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.5. _Our key suppliers expect us to develop a strong green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.6. _Our key customers expect us to develop a strong green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.7. _Our employees expect us to develop a strong green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.8. _Our government expect us to develop a strong green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.9. _Our key shareholders expect us to develop a strong green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.10. _Our organization has appropriate internal knowledge to implement green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.11. _Our organization has appropriate leadership to implement green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.12. _Our organization has appropriate internal structure to implement green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.13. _Our organization has appropriate internal capacity to implement green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.14. _Our organization has appropriate support from the top management to implement green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.15. _Our main competitors are developing a strong green marketing capability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Q.6.** Please rate your firm's green marketing capabilities, relative to your major competitors (in your main market) in the following areas.

*Please circle one of the options running -3 (Much worse than competitors) to +3 (Much better than competitors).*

| | Much worse than competitors | | | | | | Much better than competitor |
|---|---|---|---|---|---|---|---|
| 6.1. _Green marketing planning skills | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.2. _Setting clear green marketing goals | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6.3. _Formulating creative green marketing strategies | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.4. _Thoroughness of green marketing planning processes | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.5. _Integrating all available information to gain insights about the green market | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.6. _Combining new information with past research to build a richer market view | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.7. _Analyzing market information to effectively understand the green market | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.8. _Identifying emerging trends in the green marketplace | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.9. _Making relevant green market information available to decision-makers | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.10. _Sharing available market information widely within the green venture | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.11. _Ensuring green market information reaches all interested parties | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.12. _Giving other units in the firm easy access to our green market information | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

**Q.7.** Please indicate how much you agree/disagree with each of the following statements.

*Please circle one of the options where 1 = Strongly disagree to 7 = Strongly agree.*

| | Strongly disagree | | | | | | Strongly agree |
|---|---|---|---|---|---|---|---|
| 7.1. _We are careful when choosing the contents, ingredients, and raw materials of our products in order to be environmentally friendly. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.2. _We are geared to designing and developing products that are friendly to the environment. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.3. _We have significantly increased the recycling content of our packaging over the past few years. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.4. _We tend to modify our packaging and labeling decisions to emphasize any environment benefits. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.5. _We team up with our channel members to develop appropriate product and packaging after-use arrangements. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.6. _We cooperate with our channel members to make joint commitments to environmental protection. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.7. _We cooperate with our suppliers and distributors to develop (environmentally-friendly) marketing programs. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.8. _We encourage our suppliers and distributors to embrace and reflect environmental responsibility and responsiveness in their activities. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.9. _We set out clear directives and specifications for environmental responsibilities and monitor our channel members' responses. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.10. _We communicate the environmental friendliness of a product by positioning its features or ingredients in our branding efforts. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7.11. _We make efforts to reduce any negative impact of our marketing promotions on the natural environment. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.12. _We emphasize the environmental aspects of our products in our advertisement. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.13. _We highlight our commitment to environmental preservation in our corporate communications. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.14. _Our promotions highlight and inform customers about the firm's environmental efforts. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Q.8.** Please indicate how much you agree/disagree with each of the following statements.

*Please circle one of the options where 1 = Strongly disagree to 7 = Strongly agree.*

| | Strongly disagree | | | | | | Strongly agree |
|---|---|---|---|---|---|---|---|
| 8.1. Competition in our industry is cut-throat. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8.2. There are many 'promotion' wars in our industry. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8.3. Competition is a major hallmark in this industry. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8.4. Our competitors are relatively weak. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Q.9.** Please indicate how much you agree/disagree with each of the following statements.

*Please circle one of the options where 1 = Strongly disagree to 7 = Strongly agree.*

| | Strongly disagree | | | | | | Strongly agree |
|---|---|---|---|---|---|---|---|
| 9.1. _Our business has realized significant cost savings by improving the environmental quality of our products/services. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.2. _By regularly investing in new eco-friendly technologies, processes and strategies, our business can be a leader in the market. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.3. _Our business can enter lucrative new markets by adopting green (environmental) marketing strategies. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.4. _Our business can increase product quality by making its current processes more green (environmentally friendly) strategies. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.5. _Reducing the negative environmental impact of our business' activities will lead to a quality improvement in its green products/processes. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Q.10.** Please evaluate the performance of your firm's venture and finance over the past year relative to your major competitors.

*Please circle one of the options running -3 (Much worse than competitors) to +3 (Much better than competitors)*

| | Much worse than competitors | | | | | | Much better than competitors |
|---|---|---|---|---|---|---|---|
| 10.1. Green product investment profitability | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 10.2. Increase of green product sales margins | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 10.3. Return on Investment (ROI) | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 10.4. Reaching green product investment financial goals | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

## COMPANY DEMOGRAPHICS

**Q.11.** What industry type is your company?

(  ) Food & Beverage        (  ) Consumer goods        (  ) Garment/textiles        (  ) Chemicals

(  ) Steel/Metals        (  ) Wood/Furniture/Households     (  ) Electronics        (  ) Others

**Q.12.** How long have your company been established?

(  ) 0 – 5 years        (  ) 6 – 10 years        (  ) 11 – 15 years

(  ) 16 – 20 years        (  ) Over 20 years

**Q.13.** What is the number of your company's full-time employees?

(  ) < 10 employees        (  ) < 50 employees

(  ) < 250 employees        (  ) 250 employees and up

**Q.14.** What is your company's annual sales range in the past year? (MB = Million Bath)

(  ) < 100 MB/year        (  ) < 500 MB/year

(  ) < 1,000 MB/year        (  ) 1,000 MB/year and up

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**THANK YOU FOR YOUR KIND CO-OPERATION!**

# APPENDIX C. Copy of Covering Letter for Survey (Thai version)



เรียน ท่านผู้บริหารและผู้จัดการบริษัท
เรื่อง ขอความอนุเคราะห์ช่วยตอบแบบสอบถามงานวิจัย
สิ่งที่แนบมาด้วย แบบสอบถามงานวิจัย จำนวน 1 ชุด

ดิฉันนางสาวอังศญา ศีพงศ์ ปัจจุบันเป็นนักศึกษาในระดับปริญญาเอก สาขาวิชาการตลาด ณ นอริชบิสเนสสคูล มหาวิทยาลัยแห่งอีสต์-แองเกลีย ประเทศอังกฤษ ใคร่ขอความอนุเคราะห์ร่วมมือจากท่านช่วยตอบแบบสอบถามงานวิจัย ในหัวข้อที่เกี่ยวข้องกับประสิทธิภาพการปฏิบัติการตลาดที่เป็นมิตรกับสิ่งแวดล้อม (Green Marketing Capability)

วัตถุประสงค์หลักของการศึกษานี้     เพื่อแสวงหาว่าสิ่งใดมีส่วนช่วยสนับสนุนการพัฒนาประสิทธิภาพการปฏิบัติการตลาดที่เป็นมิตรกับสิ่งแวดล้อม โดยงานศึกษาวิจัยนี้จะช่วยให้บริษัทและธุรกิจต่าง ๆ ได้เข้าใจถึงมาตรฐานในเชิงการเปรียบเทียบ ด้านความสามารถในการพัฒนาประสิทธิภาพการปฏิบัติการตลาดที่เป็นมิตรกับสิ่งแวดล้อม ซึ่งจะช่วยส่งผลต่อการยกระดับปรับปรุงผลประกอบการและการดำเนินกิจกรรมด้านต่าง ๆ รวมถึงการลงทุนที่เกี่ยวข้องให้ดียิ่งขึ้น

การตอบแบบสอบถามชุดนี้จะใช้เวลาโดยประมาณ 15 นาที สำหรับข้อมูลที่ท่านได้กรุณาตอบมานั้นจะถูกนำไปใช้เพื่อเป็นประโยชน์ทางวิชาการ     โดยจะไม่มีการเปิดเผยชื่อผู้ให้ข้อมูลและบริษัทของท่านเป็นอันขาด     ภายใต้กฎข้อบังคับการรักษาข้อมูลของผู้ให้ข้อมูล (respondents' confidentiality) ทางวิชาการของมหาวิยาลัยแห่งอีสต์แองเกลีย ประเทศอังกฤษอย่างเคร่งครัด

ดิฉันขอขอบพระคุณอย่างสูงที่ท่านได้ให้ความอนุเคราะห์ร่วมมือและเสียสละเวลาอันมีค่าในการตอบแบบสอบถามชุดนี้     และได้โปรดกรุณาส่งแบบสอบถามคืน ทั้งนี้เพื่อเป็นการตอบแทนในความอนุเคราะห์ความร่วมมือของท่าน ดิฉันยินดีที่จะสรุปรายงานผลการวิจัย การเปรียบเทียบศักยภาพ และผลลัพธ์ของการพัฒนาการตลาดที่เป็นมิตรกับสิ่งแวดล้อม เพื่อการนำข้อมูลไปปรับใช้ให้เกิดประโยชน์ในธุรกิจของท่านได้ต่อไป โดยหากท่านมีความประสงค์ที่จะรับรายงานสรุปดังกล่าว ท่านสามารถติดต่อกลับดิฉันโดยทางอีเมล์ หรือโทรศัพท์ที่ให้ไว้ด้านล่างนี้

ขอแสดงความนับถือ


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## APPENDIX D. Copy of Survey Questionnaire (Thai version)

<u>คำแนะนำโดยทั่วไป</u>

1. ขอความกรุณาท่านได้โปรด<u>ตอบทุกข้อ</u>สอบถามในแบบสอบถามนี้ เพื่อความสมบูรณ์ของข้อมูลในการศึกษาวิจัยครั้งนี้ และใน
   แบบสอบถามชุดนี้ บางข้อคำถามจะมีการใช้คำภาษาอังกฤษเพื่อทับศัพท์ภาษาไทยที่ใช้กันอย่างกว้างขวางทางการตลาด และเป็นที่
   เข้าใจได้โดยทั่วกัน

2. ข้อมูลที่ท่านได้ตอบมานั้นจะถูกเก็บเป็นความลับทางวิชาการโดยจะไม่มีการเปิดเผยชื่อบริษัทและผู้ตอบเป็นอันขาด

ขอขอบพระคุณอย่างสูง สำหรับการให้ความร่วมมือในการตอบแบบสอบถามนี้

<u>ข้อ 1. ข้อใดต่อไปนี้ ตรงกับตำแหน่งปัจจุบันของท่าน</u> (กรุณาทำเครื่องหมายลงในช่องว่างด้านล่าง)

[  ] CEO/MD　　　　[  ] Finance manager　　[  ] Marketing manager　　[  ] Operations manager　　[  ] Sales manager

[  ] อื่น ๆ กรุณาระบุ.............................................

<u>ข้อ 2. ท่านได้อยู่ในตำแหน่งปัจจุบันมาเป็นระยะเวลานานเท่าใด</u>

[  ] ต่ำกว่า 1 ปี　　　　　　　　　[  ] 1 – 3 ปี　　　　　　　　　[  ] มากกว่า 3 ปีขึ้นไป

<u>ข้อ 3. ท่านได้เข้าร่วมปฏิบัติงานกับบริษัทมาเป็นระยะเวลานานเท่าใดจนถึงปัจจุบัน</u>

[  ] ต่ำกว่า 1 ปี　　　　　　　　　[  ] 1 – 3 ปี　　　　　　　　　[  ] มากกว่า 3 ปีขึ้นไป

<u>ข้อ 4. ท่านมีความคิดเห็นต่อข้อความต่าง ๆ ด้านล่าง ที่เกี่ยวข้องกับบริษัทของท่านอย่างไร</u>

| กรุณาเลือกตอบโดยทำเครื่องหมาย วงกลม ล้อมหมายเลขที่ท่านเลือก ด้านล่างทางขวามือ จาก อันดับ 1 (ไม่มีความใกล้เคียงอย่างยิ่ง) ถึง อันดับ 7 (มีความใกล้เคียงอย่างยิ่ง)<br><u>ภายในบริษัทของเรา</u> | ไม่มีความ ใกล้เคียง อย่างยิ่ง | | | | | | มีความ ใกล้เคียง อย่างยิ่ง |
|---|---|---|---|---|---|---|---|
| 4.1. บริษัทเรามีการเก็บรวบรวมข้อมูลจากลูกค้าอย่างต่อเนื่องเกี่ยวกับเรื่องความต้องการ (อุปสงค์) และพฤติกรรมการซื้อสินค้า | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.2. บริษัทเรามีการวิเคราะห์การทำงานของคู่แข่งทางการค้าอย่างเป็นระบบ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.3. บริษัทเราติดตามแนวโน้มทางธุรกิจที่สำคัญ ๆในอุตสาหกรรมที่เกี่ยวข้องอย่างเป็นทางการ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.4. การวางแผนทางการตลาดที่เกี่ยวข้องกับกิจกรรมต่าง ๆ ของบริษัทมักจะพิจารณาถึงการพัฒนาในระยะยาว | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.5. บริษัทเรายอมรับมุมมองแบบก้าวหน้า เมื่อต้องมีการตัดสินใจในปัญหาสำคัญๆ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.6. บริษัทเรามีแนวโน้มสนับสนุนโครงการที่พอเป็นไปได้ แม้นว่าผลสำเร็จทางการตลาดอาจจะยังไม่ชัดเจน | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.7. เมื่อมีการตัดสินใจครั้งสำคัญที่เกี่ยวข้องกับการตลาด บริษัทเรามีแนวโน้มจะยอมรับความเสี่ยง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4.8. กิจกรรมต่างๆ ที่เกี่ยวข้องกับการตลาดโดยทั่วไปของบริษัทเรามักจะปฏิบัติตามวิธีที่ได้ทดลองและพิสูจน์มาแล้ว (ตามมาตรฐาน) ที่มีอยู่ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

ประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อม (green marketing capability) สะท้อนถึงกระบวนการปฏิบัติ
ทางการตลาดที่เป็นผลจากการพิจารณาความสำคัญของสิ่งแวดล้อมทางธรรมชาติ (หรืออีกนัยหนึ่งสะท้อนถึง ขีด
ความสามารถของบริษัทในการดำเนินกิจกรรมทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อม)

ข้อ 5 .กรุณาประเมินการทำงานของบริษัทท่านว่ามีความใกล้เคียงกับข้อความต่าง ๆ ด้านล่างนี้อย่างใร

| กรุณาเลือกตอบโดยทำเครื่องหมาย วงกลม ล้อมหมายเลขที่ท่านเลือก ด้านล่างทางขวามือ จากอันดับ 1 (ไม่มีความใกล้เคียงอย่างยิ่ง) ถึง อันดับ 7 (มีความใกล้เคียงอย่างยิ่ง) | ไม่มีความใกล้เคียงอย่างยิ่ง | | | | | | มีความใกล้เคียงอย่างยิ่ง |
|---|---|---|---|---|---|---|---|
| 5.1. บริษัทเรามองการพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมเป็นส่วนหนึ่งของกลยุทธ์ทางการแข่งขัน | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.2. บริษัทเราให้ความสำคัญกับการพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมอย่างเข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.3. บริษัทเราเชื่อว่าการพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมอย่างเข้มแข็งเป็นสิ่งจำเป็นที่จะทำให้บริษัทประสบผลสำเร็จในระยะยาว | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.4. บริษัทเราเชื่อว่าการพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมอย่างเข้มแข็งไม่มีส่วนสำคัญในการสร้างความสำเร็จทางการแข่งขันในอุตสาหกรรมของเรา | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.5. ซัพพลายเออร์หลัก ของบริษัทเรา คาดหวังให้บริษัทพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.6. ลูกค้าหลัก ของบริษัทเรา คาดหวังให้บริษัทพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.7. พนักงานของบริษัทเรา คาดหวังให้บริษัทพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.8. ภาคหน่วยงานราชการที่เกี่ยวข้อง คาดหวังให้บริษัทพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.9. ผู้ถือหุ้นหลักของบริษัทเรา คาดหวังให้บริษัทพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.10. บริษัทเรามีความรู้ภายในองค์กรที่เหมาะสม ที่จะนำการตลาดที่เป็นมิตรกับสิ่งแวดล้อมไปปฏิบัติจริง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.11. บริษัทเรามีสภาวะความเป็นผู้นำที่เหมาะสมที่จะนำการตลาดที่เป็นมิตรกับสิ่งแวดล้อมไปปฏิบัติจริง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.12. บริษัทเรามีโครงสร้างภายในองค์กรที่เหมาะสมที่จะนำการตลาดที่เป็นมิตรกับสิ่งแวดล้อมไปปฏิบัติจริง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.13. บริษัทเรามีขีดความสามารถภายในองค์กรที่เหมาะสมที่จะนำการตลาดที่เป็นมิตรกับสิ่งแวดล้อมไปปฏิบัติจริง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.14. บริษัทเราได้รับการสนับสนุนอย่างเหมาะสมจากผู้บริหารระดับสูงที่จะนำการตลาดที่เป็นมิตรกับสิ่งแวดล้อมไปปฏิบัติจริง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5.15. คู่แข่งทางการค้าหลักของบริษัท กำลังพัฒนาประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อมที่เข้มแข็ง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

ข้อ 6 .กรุณาประเมินประสิทธิภาพทางการตลาดที่เป็นมิตรกับสิ่งแวดล้อม (green marketing capability) ของบริษัทท่าน เมื่อเปรียบเทียบกับคู่แข่งขันหลักในตลาด ในด้านต่าง ๆ ดังต่อไปนี้

| กรุณาเลือกตอบโดยทำเครื่องหมาย วงกลม ล้อมหมายเลขที่ท่านเลือกทางขวามือ จากอันดับ -3 (ต่ำกว่าคู่แข่งขันอย่างยิ่ง) ถึง อันดับ +3 (เหนือกว่าคู่แข่งขันอย่างยิ่ง) | ต่ำกว่าคู่แข่งขันอย่างยิ่ง | เหนือกว่าคู่แข่งขันอย่างยิ่ง |
|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6.1. ทักษะการวางแผนการตลาดที่เป็นมิตรกับสิ่งแวดล้อม | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.2. กำหนดเป้าหมายที่ชัดเจนในการทำตลาดที่เป็นมิตรกับสิ่งแวดล้อม | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.3. กำหนดกลยุทธ์การทำตลาดที่เป็นมิตรกับสิ่งแวดล้อมเชิงสร้างสรรค์ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.4. วางแผนการทำตลาดที่เป็นมิตรกับสิ่งแวดล้อมอย่างถี่ถ้วน | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.5. รวบรวมข้อมูลที่มีอยู่เพื่อนำไปใช้ทำความเข้าใจเกี่ยวกับกลุ่มตลาดที่เป็นมิตรกับสิ่งแวดล้อม | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.6. รวบรวมข้อมูลการวิจัยทั้งใหม่และเก่ามาช่วยในการสนับสนุนความเข้าใจให้ดียิ่งขึ้นถึงภาพรวมของตลาด | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.7. วิเคราะห์ข้อมูลทางการตลาด เพื่อให้เข้าใจกลุ่มตลาดที่เป็นมิตรกับสิ่งแวดล้อมอย่างมีประสิทธิภาพ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.8. วิเคราะห์แนวโน้มที่เกิดขึ้นใหม่ในกลุ่มตลาดที่เป็นมิตรกับสิ่งแวดล้อม | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.9. จัดทำข้อมูลที่มีอยู่ของกลุ่มตลาดที่เป็นมิตรกับสิ่งแวดล้อม เพื่อช่วยในการตัดสินใจ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.10. กระจายข้อมูลทางการตลาดที่มีอยู่อย่างกว้างขวาง ภายในการลงทุนของกลุ่มตลาดที่เป็นมิตรกับสิ่งแวดล้อม | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.11. มั่นใจว่าข้อมูลที่เกี่ยวข้องกับกลุ่มตลาดที่เป็นมิตรกับสิ่งแวดล้อมส่งไปถึงผู้ที่มีความสนใจในส่วนต่าง ๆ ได้ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 6.12. เปิดให้หน่วยงานอื่น ๆ ในองค์กรสามารถเข้าถึงข้อมูลที่เกี่ยวข้องกับกลุ่มตลาดเป็นมิตรกับสิ่งแวดล้อมได้อย่างสะดวก | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

<u>ข้อ 7. กรุณาแสดงความคิดเห็นของท่านต่อข้อความต่าง ๆ ด้านล่างนี้</u>

| กรุณาเลือกตอบโดยทำเครื่องหมาย วงกลม ล้อมรอบข้อที่ท่านเลือกทางขวามือ จากอันดับ 1 (ไม่เห็นด้วยอย่างยิ่ง) ถึง อันดับ 7 (เห็นด้วยอย่างยิ่ง) | ไม่เห็นด้วยอย่างยิ่ง | | | | | | เห็นด้วยอย่างยิ่ง |
|---|---|---|---|---|---|---|---|
| 7.1. บริษัทเราระมัดระวังการเลือกสรรองค์ประกอบ ส่วนผสมและวัตถุดิบต่าง ๆ ในตัวสินค้าเพื่อให้เป็นมิตรกับสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.2. บริษัทเราเดินหน้าด้านการออกแบบและการพัฒนาสินค้าที่เป็นมิตรกับสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.3. ในช่วงสองสามปีที่ผ่านมา บริษัทเราเพิ่มการใช้องค์ประกอบสินค้าประเภทรีไซเคิล มาในบรรจุภัณฑ์อย่างจริงจัง | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.4 .บริษัทเรามีแนวโน้มปรับปรุงบรรจุภัณฑ์และฉลากที่เน้นให้ความสำคัญกับสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.5. บริษัทเราร่วมมือกับสมาชิกในกลุ่มเครือข่ายการค้า เพื่อพัฒนาการจัดการหลังจากการใช้งานแล้วของสินค้าที่เป็นมิตรกับสิ่งแวดล้อมและบรรจุภัณฑ์ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.6. บริษัทเราร่วมมือกับสมาชิกในกลุ่มเครือข่ายการค้า มุ่งมั่นดำเนินกิจกรรมด้านการปกป้องสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.7. บริษัทเราร่วมมือกับซัพพลายเออร์ และผู้จัดจำหน่าย ในการพัฒนากิจกรรมการทำการตลาดสินค้าที่เป็นมิตรกับสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.8. บริษัทเราสนับสนุนซัพพลายเออร์ และผู้จัดจำหน่าย ด้วยสำนึกความรับผิดชอบต่อสิ่งแวดล้อมในการทำกิจกรรมต่าง ๆ ที่มี | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7.9. บริษัทเราวางเป้าหมายและขั้นตอนการทำงานที่ชัดเจน รวมถึงการตรวจสอบ กลุ่มเครือข่ายการค้า ในความร่วมมือด้านความรับผิดชอบต่อสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.10. บริษัทเราสื่อสารตัวสินค้าที่เป็นมิตรกับสิ่งแวดล้อม ด้วยการวางตำแหน่ง (positioning) ตามคุณลักษณะหรือองค์ประกอบวัตถุดิบภายใต้แบรนด์ของเรา | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.11. บริษัทเราพยายามลดผลกระทบต่อสิ่งแวดล้อมทางธรรมชาติ ในการทำ กิจกรรมโปรโมชั่นต่าง ๆทางการตลาด | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.12. บริษัทเราเน้นย้ำแง่มุมสินค้าที่เป็นมิตรกับสิ่งแวดล้อม ในการทำโฆษณา ประชาสัมพันธ์ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.13. บริษัทเราเน้นย้ำความมุ่งมั่นสู่การปฏิบัติการรักษาสิ่งแวดล้อม ด้วยการ สื่อสารในระดับองค์กร | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7.14. การทำโปรโมชั่นทางการตลาดของบริษัทจะเน้นให้ข้อมูลแก่ลูกค้า เกี่ยวกับความมุ่งมั่นขององค์กรในการปฏิบัติที่เป็นมิตรกับสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

<u>ข้อ 8.</u> กรุณาแสดงความคิดเห็นของท่านต่อข้อความต่าง ๆ ด้านล่างนี้

| **กรุณาเลือกตอบโดยทำเครื่องหมาย วงกลม ล้อมรอบข้อที่ท่านเลือกทางขวามือ จากอันดับ 1 (ไม่เห็นด้วยอย่างยิ่ง) ถึง อันดับ 7 (เห็นด้วยอย่างยิ่ง)** | ไม่เห็น ด้วย อย่างยิ่ง | | | | | | เห็นด้วย อย่างยิ่ง |
|---|---|---|---|---|---|---|---|
| 8.1. มีการแข่งขันที่รุนแรงในกลุ่มอุตสาหกรรมของเรา | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8.2. มีการแข่งขันการทำโปรโมชั่นทางการตลาดที่รุนแรง ในธุรกิจอุตสาหกรรมของเรา | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8.3. การแข่งขันด้านราคาเป็นปัจจัยหลักสำคัญในอุตสาหกรรมของเรา | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8.4. คู่แข่งทางการค้าของเรานั้นค่อนข้างจะอ่อนแอ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

<u>ข้อ 9.</u> กรุณาแสดงความคิดเห็นของท่านต่อข้อความต่าง ๆ ด้านล่างนี้

| **กรุณาเลือกตอบโดยทำเครื่องหมาย วงกลม ล้อมรอบข้อที่ท่านเลือกทางขวามือ จากอันดับ 1 (ไม่เห็นด้วยอย่างยิ่ง) ถึง อันดับ 7 (เห็นด้วยอย่างยิ่ง)** | ไม่เห็นด้วย อย่างยิ่ง | | | | | | เห็นด้วย อย่างยิ่ง |
|---|---|---|---|---|---|---|---|
| 9.1...บริษัทเราตระหนักถึงความสำคัญของการประหยัดค่าใช้จ่ายด้วยการ ปรับปรุงคุณภาพด้านการรักษาสิ่งแวดล้อมของตัวสินค้าและบริการ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.2. ...การลงทุนในด้านเทคโนโลยีที่เป็นมิตรกับสิ่งแวดล้อมรวมถึงกระบวนการ และกลยุทธ์ต่าง ๆ อย่างสม่ำเสมอ ทำให้บริษัทเราสามารถดำรงการเป็นผู้นำ ในตลาด | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.3. ...บริษัทเราสามารถเข้าสู่ตลาดใหม่ที่จะทำกำไร ด้วยการนำกลยุทธ์การตลาด ที่เป็นมิตรกับสิ่งแวดล้อมมาใช้ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.4. ...บริษัทเราสามารถปรับเพิ่มคุณภาพของสินค้าด้วยการทำกระบวนการต่าง ๆ ที่มีอยู่ในปัจจุบันให้เป็นมิตรกับสิ่งแวดล้อม | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9.5. ...การลดผลกระทบที่มีต่อสิ่งแวดล้อมในการดำเนินธุรกิจของเรา จะนำไปสู่ การปรับปรุงคุณภาพของสินค้าที่เป็นมิตรกับสิ่งแวดล้อมตลอดจน กระบวนการต่าง ๆ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

ข้อ 10. กรุณาประเมินผลประกอบการของบริษัทท่าน ด้านการลงทุนและรายได้ ว่าท่านมีความพึงพอใจในระดับใดต่อผล

ประกอบการในรอบปีที่ผ่านมา เมื่อเปรียบเทียบกับคู่แข่งทางการค้าหลักของท่านในตลาด

| กรุณาทำเครื่องหมาย วงกลมล้อมรอบข้อที่ท่านเลือกทางขวามือจาก -3 (ต่ำกว่าคู่แข่งขัน อย่างยิ่ง) ถึง +3 (เหนือกว่าคู่แข่งขันอย่างยิ่ง) | ต่ำกว่าคู่แข่งขัน อย่างยิ่ง | | | | | | เหนือกว่า คู่แข่งขัน อย่าง ยิ่ง |
|---|---|---|---|---|---|---|---|
| 10.1. ผลกำไรที่ได้จากการลงทุนในกลุ่มสินค้าที่เป็นมิตรกับสิ่งแวดล้อม | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 10.2. การเพิ่มขึ้นของส่วนต่างอัตราการขายสินค้าที่เป็นมิตรกับ สิ่งแวดล้อม (sales margins) | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 10.3. ผลตอบแทนการลงทุน Return on Investment (ROI) | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 10.4. การบรรลุเป้าหมายทางการเงินในการลงทุนของกลุ่มสินค้าที่เป็นมิตร กับสิ่งแวดล้อม | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

ข้อมูลจำเพาะของบริษัท

ข้อ 11. บริษัทของท่านจัดอยู่ในกลุ่มธุรกิจใด (กรุณาเลือกข้อที่ใกล้เคียงที่สุด 1 ข้อเท่านั้น)

[  ] อาหารและเครื่องดื่ม          [  ] สินค้าอุปโภคทั่วไป          [  ] สิ่งทอ          [  ] เคมีภัณฑ์

[  ] โลหะหนัก/เหล็ก          [  ] ไม้/เฟอร์นิเจอร์/อุปกรณ์เกี่ยวกับบ้าน   [  ] ไฟฟ้า/อิเล็กทรอนิกส์     [  ] อื่น ๆ

ข้อ 12. บริษัทของท่านเปิดดำเนินงานจนถึงปัจจุบัน จัดอยู่ตามช่วงเวลาใด

[  ] 0 – 5 ปี          [  ] 6 – 10 ปี          [  ] 11 – 15 ปี          [  ] 16 - 20 ปี          [  ] มากกว่า 20 ปีขึ้นไป

ข้อ 13. บริษัทของท่านมีจำนวนพนักงานประจำปัจจุบัน จัดอยู่ในเกณฑ์ใด

[  ] < 10 คน          [  ] > 50 คน          [  ]> 250 คน          [  ] 250 คน และ/หรือมากกว่า

ข้อ 14. บริษัทของท่านมียอดรายได้รวมในรอบปีที่ผ่านมา จัดอยู่ในเกณฑ์ใด

[  ] < 100 ล้านบาท/ปี          [  ] < 500 ล้านบาท/ปี          [  ] < 1,000 ล้านบาท/ปี       [  ] 1,000 ล้านบาท/ปี และ/หรือมากกว่า

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