THE PROCESSES FOR DEVELOPING AND DISSEMINATING MARKETING KNOWLEDGE IN ORGANIZATIONS: A GHANAIAN PERSPECTIVE

BY

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Abstract

This study investigated the development and dissemination of marketing knowledge, from the perspective of business organizations in Ghana. It specifically looked at the inter-relationship between facets of the processes for developing and disseminating marketing knowledge, and developed, empirically tested and validated a model in the form of Guttman's measurement scale that defined the inter-relationships between these facets and their elements. The purpose was to provide a tool to help business organizations in Ghana to improve these processes when building marketing capabilities.

The marketing literature has been searched for the concepts which are relevant to the development and dissemination of marketing knowledge in Ghana. This task became complex because of the diverse and fragmented nature of the literature. The author, therefore, has created a multifaceted understanding of the topic and wants this research to continue to have a multifaceted rich, complex focus on the whole of the processes for developing and disseminating marketing knowledge. After examining the theoretical perspectives and methodological issues involved in the processes under study, the author turned to Facet Theory approach to research. Three key facets and their elements were discerned in the literature, which were used to develop the first definitional model (mapping sentence) of the area under study.

The three facets served as the basis for the development of Guttman measurement scale (questionnaire items) for the first survey pilot study conducted with business organizations in Ghana to establish the reliability and validity of the facets' multivariate structure. The outcome of the first pilot study served as a basis for the development of the second and third mapping sentences, which were used to develop Guttman measurement scales, for the second and third pilot studies respectively. The second pilot study "mapping sentence" was not empirically recovered, and was, therefore, abandoned. The third pilot study "mapping sentence" was empirically recovered and retained, including its 20-item questionnaire, for the main survey study.

The study focuses on how organizations evaluate the interrelationships between facets of the processes for developing and disseminating marketing knowledge in organizations. These evaluations are based on analysis of quantitative data from 101 marketing and general managers in Ghanaian business organizations, using the 20-item questionnaire. Similarity Structure Analysis (SSA), the non-metric MDS procedure introduced by Guttman, (in a
Clear empirical evidence was obtained to support the inter-relationships proposed between facets. The results indicate that there are three key facets of the processes for developing and disseminating marketing knowledge in organizations.

This study makes a contribution to marketing knowledge in four ways. It re-organizes and renders coherent the otherwise fragmented marketing literature relating to the processes for developing and disseminating marketing knowledge in organizations, by organizing this literature around a coherent conceptual framework. Secondly, it expands the knowledge element of the market-orientation debate, by getting the absolute kernel of the debate of marketing knowledge out of the literature. Thirdly, it defines the boundaries of this area in the form of a multifaceted definitional framework. Finally, it provides a tool for helping organizations to contextualise this model, which illustrates the processes for developing and disseminating marketing knowledge in their organizations.
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# Table of Contents

Abstract ........................................................................................................................... ii

Acknowledgements ........................................................................................................ iv

Table of contents ............................................................................................................ v

List of tables .................................................................................................................... x

List of figures .................................................................................................................... xi

Appendices ....................................................................................................................... xii

Chapter 1: Introduction ............................................................................................... 1

1.0 Outline ....................................................................................................................... 1

1.1 Background of the Ghanaian study ......................................................................... 1

1.2 Statement of the problem ....................................................................................... 4

1.3 Aims of the study .................................................................................................... 5

1.4 Objectives ............................................................................................................... 5

1.5 Significance ............................................................................................................. 5

1.6 Research methodology ......................................................................................... 6

   1.6.1 Research approach ....................................................................................... 9

   1.6.2 The model development process ............................................................... 10

   1.6.3 Definition of terms ..................................................................................... 13

1.7 Study structure ....................................................................................................... 14

1.8 Summary ................................................................................................................. 15

Chapter 2: The processes for developing and disseminating marketing knowledge 16

2.0 Introduction ............................................................................................................ 16

2.1 The context of the processes ............................................................................. 16

2.2 What is knowledge? .......................................................................................... 17

   2.2.1 Types of knowledge ................................................................................. 19

2.3 Marketing knowledge: nature and types ......................................................... 20
3.3 Marketing knowledge approach: top management factors ................................. 68
3.4 Marketing Knowledge infrastructure goals .......................................................... 70
3.5 The concept of effectiveness .................................................................................... 71
3.6 Summary ................................................................................................................... 72

Chapter 4: Developing and disseminating marketing knowledge: the Ghanaian context ........................................................................ 74
4.0 Introduction ................................................................................................................74
4.1 Marketing thought development .............................................................................74
4.2 Applicability of marketing thought in developing economy ................................. 75
4.3 Prospects of conducting marketing studies in Ghana ............................................77
4.4 Starting points............................................................................................................78
4.5 Conclusion .................................................................................................................. 78

Chapter 5: Methodology ...................................................................................................79
5.0 Introduction ...............................................................................................................79
5.1 Objectives of study ................................................................................................... 79
5.2 The research process ............................................................................................... 79
  5.2.1 Selection of research paradigm ........................................................................80
  5.2.2 Methodologies for providing a model ............................................................ 84
5.3 The FT methodology ...............................................................................................88
  5.3.1 Critique of FT methodology ............................................................................91
  5.3.2 FT adherents’ response .................................................................................. 92
  5.3.3 Lack of acceptance of FT by researchers in the social sciences .................. 94
  5.3.4 FT’s SSA, nonmetric MDS technique and the issue of causality .............. 95
  5.3.5 Summary ......................................................................................................... 97
5.4 Implementation of the FT method ............................................................................97
  5.4.1 Defining the domain of study ........................................................................100
  5.4.2 Mapping range facet .......................................................................................101
6.6 Similarity structure analysis (SSA) ........................................................ 130

6.6.1 SSA of the full item set ....................................................... 131
6.6.2 Selecting coefficient of alienation ........................................... 131

6.7 Results .......................................................................... 132

6.7.1: Facet A: Marketing knowledge approach ...................................................... 133
6.7.2: Alternative partitioning of Facet A Elements .................................................. 137
6.7.3: Facet B: Marketing knowledge infrastructure ............................................. 140
6.7.4: Facet C: Marketing knowledge processes ...................................................... 145
6.7.5: Alternative partitioning of Facet C Elements .................................................. 150
6.7.6 The radex structure for developing and disseminating marketing knowledge .. 153
6.7.7 The cylindrex structure for processes for developing and disseminating marketing knowledge ................................................................. 156
6.7.8 Justification of the cylindrex model ........................................... 156
6.7.9 Improving marketing knowledge processes in Ghanaian companies: the outcome from the cylindrex model .................................................. 160

6.8 Hypothesis testing ........................................................................................................ 163

6.9 Summary ..................................................................... 164

Chapter 7: Discussion ........................................................................................................ 167

7.0 Introduction ..................................................................... 167

7.1 The discussion .............................................................................................................. 167

7.1.1 Facet A: Marketing knowledge approach ...................................................... 167
7.1.2 Facet B: Marketing Knowledge Infrastructure ............................................. 171
7.1.3 Facet C: Marketing knowledge processes ...................................................... 172

7.2 Implications of this study ............................................................................................ 177

7.2.1 Theoretical: the cylindrical structure ...................................................... 178
7.2.2 Managerial implications ................................................................................. 181
7.3 Limitations ....................................................................................................................183
7.4 Contributions...............................................................................................................185
7.5 Recommendations .....................................................................................................188
7.6 Summary .......................................................................................................................188

Chapter 8 Conclusions .....................................................................................................189
8.0 Introduction ..................................................................................................................189
8.1 Contributions ...............................................................................................................189
8.2 FT and cumulative research development in the current study...........................192
8.3 Summary .......................................................................................................................193

References.......................................................................................................................194

List of Tables

Table 5.1: Marketing Knowledge Infrastructure Elements ........................................103
Table 5.2 The advantages of using questionnaire .....................................................110
Table 6.1: Distribution of respondents ........................................................................119
Table 6.2: Size of company (in staff numbers) .................................................................120
Table 6.3: Company types ...............................................................................................121
Table 6.4: Evaluations of marketing knowledge infrastructure elements inter­relationships ...........................................................................................................121
Table 6.5: Mean scores for marketing knowledge infrastructure elements inter­relationships ...........................................................................................................122
Table 6.6: Evaluations of Ghanaian business organizations approach to marketing knowledge development .................................................................123
Table 6.7: Evaluations of Ghanaian organizations approach to marketing knowledge dissemination .................................................................124
Table 6.8: Evaluations of the relationship between marketing knowledge development and dissemination constructs .................................................................125
Table 6.9 (a) and (b): Market-driven items ........................................................................127
Table 6.9 (c) and (d): Management items ........................................................................128
Table 6.10: Marketing knowledge development and dissemination inter-item correlation matrix (Pearson coefficients) ................................................................. 129
Table 6.11: Overall coefficient of alienation for questionnaire items ............... 132
Table 6.12: Key to symbols used in figure 6.1(a) and (b) .................................. 137
Table 6.13: Key to symbols used in figure 6.2(a) and (b) .................................. 140
Table 6.14: Key to symbols used in figure 6.3(a) and (b) .................................. 141
Table 6.15: Key to symbols used figure 6.4 (a), (b) and (b) .............................. 145
Table 6.16: Mean scores for marketing knowledge and dissemination items .... 151
Table 6.17: Key to symbols used Figure 6.7 .............................................................. 160

List of Figures

Figure 1.1: The first mapping sentence ................................................................. 10

Figure 1.2: A conceptual framework of the processes for developing and disseminating marketing knowledge in organizations ........................................... 11

Figure 2.1: The process of organizational learning .............................................. 48

Figure 5.1 Continuum of core ontological assumptions .................................... 81

Figure 5.2: Mapping sentence derived from the literature and pilot study ......... 100

Figure 6.1(a): Partitioning of Facet A elements (marketing knowledge approach facet) space diagram for dimensionality 3. axis 1 versus axis 2 .......... 135

Figure 6.1(b): Partitioning of Facet A elements by structs (space diagram for dimensionality 3. axis 1 versus axis 2) ............................................................. 130

Figure 6.2(a): Facet A elements— other partitioning (space diagram for dimensionality 3. axis 2 versus axis 3) ................................................................. 138

Figure 6.2(b): Facet A Elements— other partitioning (space diagram for dimensionality 3. axis 2 versus axis 3) ................................................................. 139

Figure 6.3(a): Partitioning of Facet B elements (marketing knowledge infrastructure facet) –space diagram for dimensionality 3. axis 2 versus axis 3 ... 142

Figure 6.3(b): Partitioning of Facet B elements by structs (space diagram for dimensionality 3. axis 2 versus axis 3) ............................................................. 143

Figure 6.4 (a): Modular partitioning of marketing knowledge processes (Facet C) elements (space diagram for dimensionality 3, axis 1 versus axis 3) ........... 146
Figure 6.4 (b): Modular partitioning of marketing knowledge processes (Facet C) elements (space diagram for dimensionality 3, axis 1 versus axis 3) ............... 147

Figure 6.4 (c): Modular partitioning of marketing knowledge processes (Facet C) elements (space diagram for dimensionality 3, axis 1 versus axis 3) .................. 148

Figure 6.4 (d): Partitioning of Facet C elements (marketing knowledge processes facet) space diagram for dimensionality 3, axis 2 versus axis 3 .................. 152

Figure 6.5 (a): Axial partitioning of marketing knowledge processes (Facet C) elements (space diagram for dimensionality 3, axis 2 versus axis 3) .............. 154

Figure 6.5 (b): Axial partitioning of marketing knowledge processes (Facet C) elements space diagram for dimensionality 3, axis 1 versus axis 3 .................. 155

Figure 6.6 (a): Radex partitioning of Facet B and C elements (knowledge infrastructure/ marketing knowledge processes facets) space diagram for dimensionality 3, axis 2 versus axis 3 ........................................ 157

Figure 6.6 (b): Radex partitioning of Facet B and C elements (knowledge infrastructure/ marketing knowledge processes facets) (space diagram for dimensionality 3, axis 2 versus axis 3) ........................................ 158

Figure 6.7: Cylindrex Structure of the processes for Developing and Disseminating marketing knowledge in organizations ........................................ 159

Appendices

Appendix A: Facet theory ................................................................. 211

A1: The facet theory approach to research ................................................................. 211
A2: Advantages of a mapping sentence ........................................................................ 211
A5: Facet theory hypotheses formulation ................................................................. 212
A6: Monotonicity (sign) hypotheses ......................................................................... 212
A7: Regional hypotheses ......................................................................................... 214
A8: Facet design and analysis .................................................................................. 218

Appendix B: Developing a model of the processes for developing and disseminating marketing knowledge in organizations ................................................. 219

B1: Introduction ................................................................................................. 219
B2: Defining facets of the processes for developing and disseminating marketing knowledge in organizations ................................................................. 219
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2.1: Mapping range facet</td>
<td>220</td>
</tr>
<tr>
<td>B2.2: Background facet</td>
<td>220</td>
</tr>
<tr>
<td>B2.3: Domain (content) facets</td>
<td>221</td>
</tr>
<tr>
<td>B2.4: Facet A: Marketing knowledge infrastructure</td>
<td>221</td>
</tr>
<tr>
<td>B2.5: Facet B: Marketing knowledge infrastructure goals</td>
<td>224</td>
</tr>
<tr>
<td>B2.6: Facet C: Marketing knowledge processes</td>
<td>226</td>
</tr>
<tr>
<td>B3: The first mapping sentence for marketing knowledge development and</td>
<td>227</td>
</tr>
<tr>
<td>dissemination constructs</td>
<td></td>
</tr>
<tr>
<td>B4.0: Facet theory questionnaire design</td>
<td>228</td>
</tr>
<tr>
<td>B4.1: Facet theory questionnaire development procedure</td>
<td>229</td>
</tr>
<tr>
<td>B4.2: Responses to the questionnaire</td>
<td>229</td>
</tr>
<tr>
<td>B4.3: Recording of responses</td>
<td>229</td>
</tr>
<tr>
<td>Appendix C: The first pilot study</td>
<td>231</td>
</tr>
<tr>
<td>C1: Developing the questionnaire for the first pilot study</td>
<td>231</td>
</tr>
<tr>
<td>C2: Stage 1</td>
<td>231</td>
</tr>
<tr>
<td>C3: Stage 2</td>
<td>234</td>
</tr>
<tr>
<td>C4: Stage 3: Sample of questionnaire layout for pilot study</td>
<td>236</td>
</tr>
<tr>
<td>Appendix D: Report of the first pilot study</td>
<td>242</td>
</tr>
<tr>
<td>D1: Introduction</td>
<td>242</td>
</tr>
<tr>
<td>D2: Objectives</td>
<td>242</td>
</tr>
<tr>
<td>D3: Background information</td>
<td>242</td>
</tr>
<tr>
<td>D4: Respondents' assessment of questionnaire items</td>
<td>244</td>
</tr>
<tr>
<td>D4.1: Time to complete questionnaire</td>
<td>244</td>
</tr>
<tr>
<td>D4.2: Clarity of instructions</td>
<td>245</td>
</tr>
<tr>
<td>D4.3: Clarity of questionnaire items</td>
<td>246</td>
</tr>
<tr>
<td>D4.4: Objection to answering questions</td>
<td>246</td>
</tr>
</tbody>
</table>
D4.5: Omission of major topic ................................................................................ 247
D4.6: Layout of questionnaire ................................................................................ 247
D4.7: Respondents' comments............................................................................... 248
D5.0: Analysing and interpreting the Alscal solution of the first pilot study data. 248
D5.1: Facet A: Marketing knowledge infrastructure ..............................................249
D5.2: Facet B: Marketing knowledge infrastructure goals ....................................251
D5.3: Facet C: Marketing knowledge processes .....................................................253
D6: Conclusion ........................................................................................................255

Appendix E: Second pilot study ............................................................................ 256
E1: The second mapping sentence for the second pilot study............................... 256
E2: Questionnaire design........................................................................................256
E3: Operationalization of elements of marketing knowledge infrastructure
(Facet A)................................................................................................................... 258
E4: Operationalization of elements of marketing knowledge processes
(Facet C)....................................................................................................................259
E5: Questionnaire Layout........................................................................................258
E6: Second pilot study report .................................................................................263

Appendix F: Third pilot study .................................................................................264
F1: The third mapping sentence for the 3rd pilot study ........................................ 264
F2: Questionnaire design........................................................................................264
F3: Questionnaire layout....................................................................................... 266

Appendix G: Report of the third pilot study ........................................................... 271
G1: Background information...................................................................................271
G2: Respondents' assessment of questionnaire items............................................272
G3: Method...............................................................................................................277
G3.1: Data collection................................................................................................ 277
Chapter 1

Introduction

1.0 Outline

This thesis aims to develop, test and validate a model, in the form of Guttman's measurement scale, that defines the inter-relationships between facets of the processes for developing and disseminating marketing knowledge in organizations from the perspective of businesses in Ghana. The purpose of this introduction is to establish the need for such a measure from a Ghanaian perspective.

It is worth noting that the relevant literature on marketing knowledge development and dissemination in organizations is extremely broad, and drawn from organizational behaviour and management disciplines. While information from these disciplines will be used, they will not be the specific focus for data gathering and analysis. This is because this study is primarily focused on issues of relevance to researchers in marketing, and restricts its investigation to these areas.

The value of this study is that by extracting the debate of marketing knowledge out of the literature, the author has been able to provide information for Ghanaian managers and managers elsewhere so that they can improve their marketing.

1.1 Background of the Ghanaian study

At a fundamental level firms act on the basis of their market knowledge — their knowledge of customers and competitors (Marinova, 2004). As a result the concepts of knowledge development (Slater and Narver, 1999) and dissemination (Rogers, 2003; Nonaka and Takeuchi, 1995) have gained substantial attention from scholars and practitioners (Marinova, 2004; AMA Task Force, 1988). In general an organization's ability to recognize the value of information (Marinova, 2004), develop it into knowledge (Slater and Narver, 1999), disseminate this knowledge throughout the organization, and embody it in products, services, and systems (Nonaka and Takeuchi, 1995), is regarded as crucial for its ability to innovate and gain performance advantages (Marinova, 2004; Day, 1999b). Understanding the development and dissemination of marketing knowledge is therefore essential to every business organization.

The particular, strategic importance of this study in Ghana, however, is underscored by the political, economic and social changes that have taken place since the country returned to
constitutional democratic rule in January 1992. The implementation of the Structural Adjustment Programme (Appiah-Adu, 1998) transformed the Ghanaian business environment from a planned to a market economy. These changes meant that Ghanaian businesses would therefore operate within a much more competitive, global context than hitherto. As a result, organizations in Ghana needed to learn, like their international competitors, to monitor and respond to customers' changing needs and preferences to ensure that customers select their offerings over competing alternatives. They therefore need to learn about their markets in order to continuously acquire, process, and disseminate knowledge about markets, products, technologies, and business processes (Slater and Narver, 1999; Day, 1994a).

Ghanaian businesses, therefore, need to develop marketing capabilities based on continuous learning about their markets (Day, 1999b). This in turn means they need to understand the processes for continuously developing and disseminating marketing knowledge in order to build these capabilities. Yet in Ghana, with the exception of a limited number of empirical studies on market orientation, studies on marketing thought development are virtually non-existent (Kuada and Buatsi, 2005; Appiah-Adu, 1998).

The issue of this lack of studies on marketing thought development is compounded by the orientation of the Ghanaian marketing system, which was originally geared to the requirements of the export-import trade with countries in Europe and North America (Livingstone et al. 1987). There is much to be learnt from this system, especially, in terms of how Ghanaian managers apply marketing knowledge they have acquired through experience, during their education and the processes for transferring and managing this knowledge. There may be many dimensions of this system that need to be understood if research on the processes for developing and disseminating marketing knowledge in Ghanaian organizations is to be carried out. However, it is also true that much of the accumulated marketing experience based on the former system may not help Ghanaian companies in current domestic competition.

In view of Ghana’s competitive market environment and the marketing system, the question arises as to whether Ghanaian firms have the capabilities needed to develop and disseminate marketing knowledge in this era of a global knowledge society. To answer this question a tool is required to define and understand Ghanaian businesses’ evaluation of marketing knowledge development and dissemination processes in organizations when building marketing capabilities. That is the purpose of this current study. Acquiring this tool and understanding these processes will enable further expansion of investigation into the constructs under study.
The findings from such an investigation, it is hoped, may provide insights that will help Ghanaian businesses to build their capabilities to learn about markets and remain competitive. Moreover, the findings may further stimulate examination of the dynamic processes underlying these constructs and the nature of their consequences for academic research over time.

Since there seems to be a paucity of studies on how to investigate the processes for developing and disseminating marketing knowledge in Ghana, the next step is to turn to global marketing literature for guidance. In this respect, the global marketing literature, and market orientation literature in particular, does not offer much insight with regard to the studies related to these constructs' processes in organizations. The literature acknowledges that there is inadequate place given in marketing theory to how marketing knowledge is currently developed and disseminated from managers’ perspectives (Andreasen et al., 2005; AMA Task Force, 1988; Garda, 1988; Webster, 1988). Most research in the area is concerned with individual aspects of marketing thought development such as market orientation in developed economies (Qu and Ennew, 2005; Deshpandé, 1999). In practice this research has tended simply to look at a greater number of variables independently, rather than attempting to develop holistic models. The result is that each relevant issue and feature tends to be addressed in isolation from others, in relation to a relatively limited and circumscribed thematic and analytic context, and with little attention paid to interactions with other topics and issues (Dellapergola and Levy, 2009; Hornick et al., 2007).

It is in the light of the shortcomings of the market orientation literature that Slater and Narver (1999) argued that the marketing discipline faces two research challenges: firstly, ‘to develop knowledge about specific management practices and how they should be configured to provide solid guidance to managers in their efforts to build market-oriented learning organizations’ (p. 261); and secondly, to develop “a valid measure” or “development of scales” to capture the dimensions of organizational learning — “the development of new knowledge or insights that have the potential to influence behaviour” (Slater and Narver, 1999, p. 260; Slater and Narver, 1995, p. 64). In this connection it can be argued that there is still a need for an adequate model or framework for structuring the research into and understanding of the “knowledge aspect … to market orientation” and management practitioners’ evaluations of these variables as an interrelated whole (Deshpandé, 1999; p. 3; Donald, 1994).
Despite the shortcomings of the marketing literature, it nevertheless indirectly offered leads to the processes for developing and disseminating marketing knowledge in organizations. It is instructive that integrating theoretical perspectives in the market orientation literature (Deshpandé, 1999), and looking at their inter-relationships, insight is provided into these processes in organizations. While this attempt will limit the model to broad concepts, it should be recognized that this is, essentially, an exploratory study attempting to clarify aspects of the processes for developing and disseminating marketing knowledge in organizations not previously investigated (Shye et al., 1994).

To conclude, Slater and Narver's (1999) observations underscore the issues and needs concerning Ghana's competitive market environment. The business environment within which Ghanaian businesses operate is challenging, and set to become more so. Businesses in Ghana require management tools, techniques, and business models that will allow them to respond successfully to these challenges (Achrol and Kotler, 1999). This study aims to address these issues.

1.2 Statement of the problem

In studying the processes for developing and disseminating marketing knowledge in organizations, this study asks in particular: firstly, what are the inter-relationships between facets of these processes from the perspective of the Ghanaian business community? And secondly, will FT methodology enhance delineation of the boundaries of this study, and increase the reliability and validity of its results?

In undertaking this study, I believe that evaluation of certain elements of the processes for developing and disseminating marketing knowledge in Ghanaian organizations explains facets underlying these processes and helps us to uncover their structure. Uncovering the structure, in turn, helps us to organize the facets into a coherent meaningful model, according to a set of common elements, which could stimulate further studies in Ghana. These studies, which will refine and illustrate the structure of facets underlying these processes, will also help Ghanaian businesses in their endeavour to continuously develop and disseminate marketing knowledge to remain competitive in their markets.

From an academic perspective the FT approach would aid in discovering whether inconsistencies between studies which involve elements of these constructs, among other variables, can be ascribed to an incomplete, unbalanced or inaccurate representation of the
domain, or to methodological deficiencies. Furthermore, comparisons of results stemming from these investigations might also be greatly improved.

1.3 Aims of the study

1. The principal aim of this study then is to develop, test and validate a model in the form of Guttman's measurement scale that defines the inter-relationships between facets of the processes for developing and disseminating marketing knowledge in organizations from a Ghanaian business perspective.

2. To consider outcomes of the principal aim and assess their implications for business organizations in Ghana and other contexts.

1.4 Objectives

1. To outline a conceptual framework for a multifaceted definition of the processes for developing and disseminating marketing knowledge in organizations.

2. To identify and determine elements of the facets underlying these processes.

3. To infer the characteristics of a measurement scale that is necessary to fulfil the role identified in the principal aim of the study.

4. To identify the implications of the results of objectives 1-3.

1.5 Significance

The significance of this work resides in both the specific and general. Specifically, this study proposes and tests a model in the form of a multifaceted framework that defines the processes for developing and disseminating marketing knowledge in organizations from a Ghanaian business perspective. Put differently, the study proposes and empirically validates a model in the form of a Guttman's measurement scale that defines the inter-relationships between facets of marketing knowledge development and dissemination processes in organizations from a Ghanaian perspective. An assessment is also made of how this model may be transferred into other contexts.

More generally this study makes a significant contribution to the debate on marketing knowledge development and dissemination in organizations by:

1. Re-organizing and rendering coherent the otherwise fragmented marketing literature on the processes for developing and disseminating marketing knowledge in
organizations, by organizing this literature around an integrative conceptual framework.

2. Developing a measure in the form of Guttman's scale to capture the dimensions of the processes for developing and disseminating marketing knowledge in organizations (Slater and Narver, 1999; 1995; Kohli et al, 1993; Shye et al., 1994).

3. Adding to the marketing literature a multifaceted definitional framework for investigating marketing knowledge development and dissemination constructs (Hornick et al., 2007; Shye et al., 1994).

4. Adopting, the Facet Theory methodology approach to research (Shye et al., 1994; Canter, 1985), to delineate the boundaries of the area of this study.

1.6 Research methodology

This study is both exploratory and descriptive with the main variables being facets of the processes for developing and disseminating marketing knowledge in organizations. Structural relationships within elements of a facet and between facets of these processes were investigated with a population drawn from business organizations in Ghana. The instrument used to collect data was a Guttman's scale (1968). “Guttman’s scale” is defined as a “highly specific pattern of observations that may be hypothesised and tested. If confirmed, a scale in this sense becomes a theory on which measurements can be based. If not confirmed, the concept is too complex for a single scale, and one should turn to multiple scaling by partial-order scalogram analysis” (Shye et al., 1994; pp. 1–2). Guttman’s scale was developed within Facet Theory (Shye et al., 1994). Facet theory (FT) is a metatheoretical approach to scientific research that was initially proposed and developed by the late Louis Guttman (1916 - 1987), (Levy, 2005; Cohen, 2000). FT coordinates between structured conceptualization of the phenomena under investigation and the data analysis process, in order to identify lawfulness (Cohen, 2000).

The basic concepts that underlie Guttman’s facet theory can be traced to his scale theory (Levy, 2005). According to Levy (2005) it was the conviction of Guttman that “perfect scales are not to be expected in practice” (p. 178). This is because “scalability and ‘perfect scales’ are only rarely observed empirically” (Guttman and Greenbaum, 1998; p. 14), and that, the problem that pertains to scale analysis (as well as to any structural analysis) is that of “defining the universe of content”, (Levy, 2005; p. 178). “Concern with these problems led Guttman to make theoretical contributions to (...) the need for precise definitions of
behavioural constructs” which in turn “led to the development of Facet Theory”, (Guttman and Greenbaum, 1998; p. 14). Thus scale theory and its insights constitute the basis of FT (Levy, 2005).

As a methodology FT integrates three components of research, namely, formal definition of the area being studied, and integration of hypothesis and data analysis (Cohen, 2005). These can all be found in Guttman’s definition of theory as “an hypothesis of a correspondence between a definitional system for a universe of observations and an aspect of the empirical structure of those observations, together with rationale for such an hypothesis” (Brown, 2010a; p. 58). In FT terms it is required “that when one engages in behavioural research—which generally deals with complex issues—one must first conceptualize and define in substantive terms what in fact is being studied, and only then proceed to design tests or questionnaires, gather data, and finally go through elaborate statistical analyses” (Guttman and Greenbaum, 1998; p. 14). To design observations FT relies on classifying items according to an aspect of their content; a classification of item content is termed a facet (Greenbaum, 2009). Technically, a facet is defined as a set of objects — concepts, people, etc. — that plays the role of a component set of a Cartesian set (Shye et al., 1994).

The goal of FT is to utilize a conceptual-definitional framework of research in order discover lawfulness, and to contribute to theory construction in the domains of research (Greenbaum, 2009). FT design, therefore, provides the basis for conducting research through a detailed specification of the variables of interest and the establishing of hypotheses which test the correspondence between the conceptual definitions and empirical observation (Brown, 2010a). According to Cohen (2005) FT’s main tools are mapping sentences on the conceptual side, and Smallest Space Analysis (SSA) and Partial Order Scalogram Analysis by Coordinates (POSAC) on the data analysis side.

The FT approach to research centres on the development and operationalization of a “mapping sentence” (model), to present a semantic structure within which the variables can be viewed (Davies and Ward, 2005). The mapping sentence in essence depicts a systematic set of relationships providing a consistent explanation of the phenomenon under study (Shye et al. 1994). It also provides a direction for the research on the concept as well as a background for hypotheses and their testing. The testing of hypotheses and data analysis are performed by the scaling techniques devised by Guttman and his colleagues SSA, a nonmetric multidimensional scaling – MDS (Greenbaum, 2009).
Cohen (2004) noted that Guttman’s interest in intercorrelations matrices led him to see the great potential of MDS and adopted it in his unique, original way. He argued that in this approach, when ranking of the proximities is employed, a more parsimonious solution is obtained, which represents a ‘soft’ and more basic characteristic of the data (Cohen, 2004). Cohen (2009) pointed out that it was the parsimonious nature of Guttman’s version of MDS that led him to label it as *Smallest Space Analysis* (SSA) in reference to the lower dimensionality of the SSA solutions in contrast to those of Factor Analysis.

In sum the following broad pattern of activity from a FT perspective was implemented (Davies and Ward, 2005), when developing, testing and validating a model that defines the structure of facets underlying the processes for developing and disseminating marketing knowledge.

1. Definition of the domain (a statement of the area to be considered); in this context, aspects of the processes for developing and dissemination marketing knowledge in organizations.

2. A search of the appropriate literature to find the main components (facets) associated with marketing knowledge development and dissemination processes.

3. From this basis, the identification of particular “types” of facet, background facets: describe the context of the study and/or its population; domain facets: describe what is being evaluated; and range facets: describe the possible responses to the stimuli provided by the domain facets.

4. Within each facet, define the elements it contains. This is done to determine the different values or the points that logically and completely describe all the variation of the [facet]. This “listing” once complete constitutes a Cartesian set, and it is the logic of Cartesian space that provides the underpinning of facet theory.

5. Once the elements of the facets are defined, the “mapping sentence” can be articulated.

6. The sentence enables every possible combination of elements to be expressed and these combinations (subsets of the Cartesian set, termed structuples) present the different subjects requiring investigation. This representation can then be used to create questions that form the basis of a research instrument.

7. Data collection.

8. Analysis of the relationships between structuples is then undertaken – this is most commonly done through the application of smallest space analysis (SSA).
(For further discussion on the FT approach to research see Sections 5.3, 5.4 and Appendix A of this study). The section below presents the research approach for investigating the area under

1.6.1 Research approach

The marketing and organizational behaviour literature was searched for the concepts, which were relevant to the topical development and dissemination of marketing knowledge in Ghana. Some of the literature sources are: works on market orientation (e.g. Day, 1999 a, b; Slater and Narver, 1999; Kohli and Jaworski, 1999; Jaworski and Kohli, 1999; Moorman, 1995; Sinkula, 1994), organizational capabilities and knowledge integration processes (e.g. Patnayakuni et al, 2007; Carlile, 2004; Okhuysen and Eisenhardt, 2002; Grant, 1996 a, b; 2002), and organizational learning and knowledge creation processes (e.g. Nonaka, 2002; Nahapiet and Ghoshal, 2002; Wenger et al. 2002; Krog et al. 2000; Nonaka and Takeuchi, 1995).

Most research in the area is concerned with individual aspects of marketing thought development such as market orientation in developed economies (Qu and Ennew, 2005; Deshpandé, 1999). In practice this research tends simply to look at a greater number of variables independently, rather than attempting to develop holistic models. This became a complex, diverse and fragmented body of literature, and thus offered limited guidance for systematic investigation into the topic under study. The author, therefore, created a multifaceted understanding of the topic and wants this research to continue to have this multifaceted rich, complex focus on the whole of the processes for developing and disseminating marketing knowledge. After considering theoretical perspectives (Section 5.2.1) and methodological (Section 5.2.2) issues involved in this area under study, the author turned to a Facet Theory (FT) approach to research.

FT accommodates both bottom-up or top-down approaches to research (Brown and Barnett, 2002). The bottom-up approach deals with a situation where the researcher is exploring a relatively new field or novel topic, and there may not be an obvious formulation or set of explanatory concepts from which to draw. Top-down approaches on the other hand can be applied by the researcher in an area of study where conceptualizations are defined and verification is sought from empirical observation (Brown and Barnett, 2000). In this respect Easton et al. (2010) pointed out that surveys “might be used as the first stage of research to
provide a broad overview of the research domain and to guide more in-depth explanatory studies: in a word to provide something to explain” (p.215).

Recognizing that market orientation research literature is full of explanatory concepts from which this study could draw (Deshpandé, 1999), but that the problem with this literature is that theoretical perspectives offer fragmented insights into the processes for developing and disseminating marketing knowledge in organizations, the author decided to adopt the top-down approach. Building a model from a FT perspective requires a two-stage process: (1) the design of the observations and (2) the empirical structure of those observations (Levy, 2005).

1.6.2 The model development process

First, drawing on FT, the author discerned three facets from the literature: namely, organizational knowledge infrastructure (Facet A), knowledge infrastructure goals (Facet B), and marketing knowledge processes (Facet C). The three facets and their elements were used to develop the First Mapping Sentence (Figure 1.1 below), a working definitional framework of the processes under study.

An item belongs to the universe of the items of marketing knowledge development and dissemination constructs if and only if, its domain asks organization (x) to evaluate the effectiveness of ...

{FOCUS FACET = A: MARKETING KNOWLEDGE INFRASTRUCTURE

{a1. market-driven culture

{a2. market-driven organizational structure

{a3. market-driven strategy

{a4. top-management commitment

{a5. managing organizational systems

{a6. management interventions

{a7. managing interdepartmental dynamics

[KNOWLEDGE INFRASTRUCTURE GOAL FACET = B]

as a component of marketing

knowledge infrastructure in

{b1. enabling

{b2. fostering

marking knowledge

[MARKETING KNOWLEDGE PROCESSES FACET = C]

{c1. development

{c2. dissemination

in organizations with the objective of building marketing capabilities

by stating whether the infrastructure is

{very effective

{effective

{neither effective nor ineffective

{ineffective

{very ineffective

according to an objective rule.

Figure 1.1:

The first mapping sentence
The definitional framework served as the basis for the development of a Guttman measurement scale (questionnaire items - see Appendix C4, p. 236) for the first survey pilot study conducted with business organizations in Ghana in May 2008. (For detail discussion of the first pilot study and its report see Appendices B, C and D. See also section 1.6.2 for definition of facets in the mapping sentence above).

![Figure 1.2: A conceptual framework of the processes for developing and disseminating marketing knowledge in organizations](image)

Source: The Author Based on Multiple Sources, May 2009

The questionnaire items were pretested during the pilot study stage to establish the reliability and validity of the facets’ multivariate structure. The quantitative data collected from Ghanaian businesses were analysed with the help of a nonmetric multidimensional (MDS) computer program, ALSCAL (Takane, Young, and Leeuw, 1977). After the first pilot study the observations of business organizations in Ghana (see Appendix D, p.242) combined with the literature and expert advice served as a basis for developing the second and third mapping
sentences (see Appendices E1, p.256, and F1, p. 264, respectively). The second and third mapping sentences served as a basis for conducting the second and third pilot studies respectively.

For detail discussions of the second pilot study see Appendix E, while the third pilot study is found in Appendices F and G. The second pilot study “mapping sentence” was not empirically recovered, and was, therefore, abandoned. The third pilot study “mapping sentence” was empirically recovered when data collected from Ghanaian businesses in a survey were analysed with the help of ALSCAL program. Thus, the reliability and validity of the third mapping sentence (see Figure 5.2, p.100) as well as the questionnaire items (see Appendix F3, p.266) developed based on it were established and therefore were retained for the current study. The ALSCAL program was not used to analyse the data from the main study because interpreting the third dimension plots were difficult due to too much “noise” in the plots. For further discussion on the choice of computer program for analysing data from the main study refer to Section 5.10, p.116. It is worth noting that it takes a minimum of two years to develop the initial mapping sentence for an area of a study (Donald, 1995), which was the case with the current study.

The outcome of the third pilot study also served as a basis for developing the conceptual model (Figure 1.2 above), which underpins the literature reviewed in chapters two and three of this study. The conceptual model illustrates the interrelationships between the facets of marketing knowledge development and disseminations processes, which comprised five sets: (1) a marketing knowledge approach with its related elements that impact on marketing knowledge infrastructure, (2) marketing knowledge infrastructure with its elements that facilitate marketing knowledge processes, (3) marketing knowledge infrastructure goal(s), i.e. the sense in which marketing knowledge infrastructure elements interrelate with elements of marketing knowledge processes, (4) marketing knowledge processes with marketing knowledge development and dissemination, as its elements, (5) marketing capabilities, the object for marketing knowledge development, and dissemination activities in organizations.

The second stage of the study involves collecting, editing, and analysing data in order to empirically reconstruct and validate the conceptual model (Brown and Barnett, 2002). The research makes use of survey methodology for data collection. The questionnaire, in the form of Guttman scale, was given personally to marketing and general managers in Ghanaian business organizations, who completed them on their own. The data was analysed using
frequencies and cross-tabulations to describe the characteristics of the respondents. Smallest Space Analysis (SSA), a nonmetric MDS was used to establish the multivariate structure (inter-relationships) of facets underlying the constructs under study. SSA is an intrinsic data analysis technique “for viewing a similarity (correlation) coefficient matrix ... with an emphasis on looking at regions in the space of variables rather than on coordinate system” (Levy, 2005; p.182). The Hebrew University Data Analysis Program (HUDAP) statistical package was used for the SSA analysis.

1.6.3 Definition of terms

Organizational knowledge infrastructure(s) is(are) defined as management practices, initiatives, and interventions that facilitate marketing knowledge development and dissemination in organizations (Slater and Narver, 1999; Zack, 2002).

Marketing knowledge infrastructure goal(s) refers to the sense in which elements of the infrastructure interrelate with elements of marketing knowledge processes (marketing knowledge development and dissemination) in organizations (Shye et al. 1994).

Marketing knowledge process(es) is(are) defined in terms of marketing knowledge development and dissemination processes in organizations (Moorman, 1995; Sinkula, 1994).

Marketing knowledge development construct(s) is(are) defined as organizational processes for acquiring, generating, disseminating market information, and processing this information into marketing knowledge (Slater and Narver, 1999; Day, 1999b).

Marketing knowledge dissemination construct(s) is(are) defined as organizational processes for transferring, sharing and diffusing marketing knowledge (Chaston, 2004; Roger, 2003; Nonaka and Takeuchi, 1995).

Marketing (or organizational knowledge) approach facet(s) is(are) defined as strategies in organizations for developing and disseminating marketing knowledge (Un and Cuervo-Cazurra, 2004; Zack, 2002).

Facet Theory (FT) Terms

Facet theory is defined as an approach to research that offers a set of principles for facilitating theory construction, research design, and data analysis for complex studies, that is particularly appropriate for the behavioural and social sciences (Brown, 2010a; Guttman and Greenbaum, 1998; Canter, 1985).
A facet is defined as a set of objects — concepts, people, etc. — that play(s) the role of a component set of a Cartesian set (Shye et al., 1994).

Mapping sentence (model) is a semantic structure within which the variables which can be viewed (Davies and Ward, 2005).

Structuple is the combination of facets' elements taken from each facet in an area of research (Borg and Shye, 1995).

Smaller Space Analysis or similarity structure analysis (SSA) is a nonmetric MDS which was used to establish the multivariate structure (inter-relationships) of facets underlying an understudy.

1.7 Study structure

The study is structured in eight chapters. Chapter One is the introduction to this study.

The second chapter defines marketing knowledge development and dissemination constructs in terms of knowledge processes in organizations. The chapter further identifies and defines marketing knowledge processes, with marketing knowledge development and dissemination constructs as elements of these processes. These elements of the marketing knowledge processes are defined and discussed. There is also brief discussion of the object of developing and disseminating marketing knowledge in organizations, namely building marketing capabilities. The chapter concludes with brief discussion on the relationship between marketing knowledge development and dissemination constructs.

Chapter 3 defines and discusses marketing knowledge infrastructure as another aspect of marketing knowledge development and dissemination processes in organizations. Elements of marketing knowledge infrastructure(s) are identified, defined and discussed in terms of their role in facilitating marketing knowledge processes in organizations. Another aspect of the processes, marketing knowledge approach, is introduced and defined in terms of its impact on the marketing knowledge infrastructure elements. Marketing knowledge infrastructure goals are defined. Finally, the concept of effectiveness is defined and discussed as it confers general meaning to facets of the processes for developing and disseminating marketing knowledge.

Chapter 4 discusses marketing knowledge development and dissemination issues in Ghana as a context for the study.

Chapter 5 deals with methodological issues of this study. The objectives of the study are restated followed by discussion of the research design to achieve the stated objectives. The
types of data collected, how it was collected, and operationalization of marketing knowledge development and dissemination constructs and the limitations of the study make up this chapter.

In Chapter 6 the analysis of the data collected and the results are presented. It was organized into three sections. The first section presented background information of the sample. Analysis in Section B was directed towards the estimation of inter-relationships between elements of facets of the processes for developing and disseminating marketing knowledge in organizations. Descriptive statistics were used to highlight the research findings in Sections A and B. Section C covers Smallest Space Analysis (SSA), better termed Similarity Structure Analysis. In this section SSA technique was employed to test the conceptual model (the mapping sentence) and the series of hypotheses stated in Chapter 5. The Hebrew University Data Analysis Package (HUDAP) software was used for data analysis (Amar and Toledano, 2005). The results of the analysis were also presented in this section.

Chapter 7 concentrates on interpretation and discussion of the results of the analysis. It highlights the major findings and their implications, explains the limitations, and suggests contributions and recommendations for research. The chapter ends with a summary and introduces the next chapter.

Chapter 8 makes a case for the sufficiency of this research as a contribution to marketing knowledge in four specific ways. The potential of Facet Theory methodology to lead a cumulative research development in this area of marketing is also discussed.

1.8 Summary

This chapter serves as an overview for the study. It introduces the research problem, aims, and objectives of the study. Significance and methodology of the study are also discussed. This is followed by the research approach, the model building process and context within which the study is undertaken. Specific terms used in this study are defined in this chapter. The structure of the study is also outlined, which provides a summary for the thesis in subsequent chapters. The next chapter discusses marketing knowledge development and dissemination constructs as elements of marketing knowledge processes in organizations.
Chapter 2

The processes for developing and disseminating marketing knowledge

2.0 Introduction

This chapter looks at the processes for developing and disseminating marketing knowledge in the context of knowledge management processes in organizations. It begins by defining the marketing knowledge management processes and identifying the concepts of marketing knowledge development and dissemination as elements of the processes. The nature and types of knowledge in general are defined as a prelude to discussing specifically marketing knowledge and its types. This is followed by a definition of the marketing knowledge processes in the context of knowledge processes in organizations. Marketing knowledge development and dissemination processes in organizations are explored. The conclusion looks at the relationship between marketing knowledge development and dissemination constructs. The chapter ends with a summary.

2.1 The context of the processes

Managers of enterprises (practitioners, executives, and marketers) have the responsibility “to bring goods and services to the market in such a way that customers are satisfied and organizations achieve their objectives” (AMA Task Force, 1988; p. 3). They therefore at a fundamental level act on the basis of their market knowledge (Marinova, 2004). In this respect the development of a clear understanding of organizational processes and “the management practices that facilitate or hinder” marketing knowledge development or dissemination “should be a high priority” (Slater and Narver, 1999; p. 260). This underscores the argument that the ability of an organization to recognize the value of new information, process this information into knowledge, share and use this knowledge strategically is crucial for its ability to innovate and to gain performance advantages (Marinova, 2004; Choo and Bontis, 2002; Day, 1999b; Jaworski and Kohli, 1999). Managers therefore need to develop a body of marketing knowledge, share the knowledge with their colleagues through intra-organizational communication channels, and apply it strategically (AMA Task Force, 1988).

Despite the recognition of the value of marketing knowledge, the marketing literature does not offer any systematic way for investigating and understanding the processes for developing and disseminating such knowledge in organizations. The market orientation (MO) research literature does deals with these processes, but indirectly and in a fragmented way. For example, Deshpandé (1999), after examining a number of market-oriented studies, argued that
definitions of the MO construct suggest a strong knowledge aspect to the construct. He observed, first, that the knowledge aspect of MO is related to the ability of a firm to effectively manage its market research and intelligence system; secondly, that market orientation relates to the translation of market knowledge into strategic capabilities (competence) that become disseminated across an organization; and thirdly, that market orientation is related to the notion of a learning organization in the sense that it is part of knowledge management system within a firm.

Such theoretical perspectives in MO studies provide only fragmented insights into the processes for developing and disseminating marketing knowledge and thus offer limited guidance for systematic investigation into the process (Berends et al., 2006). However, by integrating these theoretical perspectives and looking at their inter-relationships, we may gain insight into the processes for developing and disseminating marketing knowledge in organizations. This is what this study intends to do.

2.2 What is knowledge and its types?

The knowledge management aspect of the MO construct – referring generally to all efforts to enhance and increase the value of generating, sharing and applying knowledge – is an integral part of marketing tasks (Jashapara, 2004; Schlegelmilch and Penz, 2002; Dawson, 2000); and the development and dissemination of knowledge, which is the subject of this study, are two of the five phases of knowledge processes that characterize knowledge management systems in organizations (Zolingen et al. 2001), the other three being the acquiring, establishing and applying of knowledge. However, the efficiency and effectiveness of organizations in developing and disseminating marketing knowledge depends in turn on their understanding and recognition of what knowledge is, and what types of knowledge exist (Davenport and Prusak, 2000; Wenger et al., 2002).

Attempting to define knowledge raises issues about data and information. In practice, the terms data, information, and knowledge are often used interchangeably (Schlegelmilch and Penz, 2002). For example, Grover and Davenport (2001), from a pragmatic perspective, defined knowledge as “the most valuable form of content in a continuum starting at data, encompassing information, and ending at knowledge” (p. 6). However, if one is to understand the place of these terms in the processes for developing and disseminating marketing knowledge in organizations, there is the need for the three terms to be differentiated clearly (Schlegelmilch and Penz, 2002). According to Schlegelmilch and Penz, (2002) data consist of
signs and are the raw material to be processed. This is because data do not provide any indication of how they should be processed, and therefore they are of limited use (Schlegelmilch and Penz, 2002). For data to be of use Schlegelmilch and Penz, (2002) argue that they need to be codified using numbers, language, or pictures. When this is done, data can be termed as a set of discrete objective facts about events, which in an organizational context could mean structured records of transactions (Davenport and Prusak, 2000).

Davenport and Prusak (1998) argue that data becomes information when its creator adds meaning. From the perspective of systems theory, when data are embedded in a context of relevance for a certain system, they result in information (Schlegelmilch and Penz, 2002). Thus, to be converted into information, data have to be provided with meaning which is specific for, and dependent on, a particular system. Information is also defined in terms of a message: this can be in a form of a document or an audible or visible communication, with a sender and a receiver (Davenport and Prusak, 2000; Baumard, 1999). As a message, information provides a new point of view for the receiver to interpret events or objects, and makes visible previously invisible meanings or sheds light on unexpected connections (Nonaka and Takeuchi, 1995). In this sense information serves as a necessary medium or material for eliciting and constructing knowledge and it affects knowledge by adding something to it or restructuring it (Baumard, 1999; Nonaka and Takeuchi, 1995). By looking at the relationships among data, information and knowledge in this way it can be argued that data and information are components and contributors to knowledge (Chaston, 2004; Jashapara, 2004).

According to Davenport and Prusak (1998) one begins to talk about knowledge when information has acquired a place in the reference framework of the user and the user connects this with his or her own actions. Looking at knowledge from this perspective Jashapara (2004) argues that in a practical sense, knowledge could be considered as ‘actionable information’ as it allows us to make decisions and provide an effective input to dialogue and creativity in organizations. Nonaka and Takeuchi (1995) also define knowledge as justified true belief. Despite these attempts to define knowledge it is worth noting that knowledge is much more complex to define and that philosophers have grappled with the question of what knowledge is over the past two millennia (Jashapara, 2004). For example, from a “rationalism” philosophical point view, knowledge is essentially obtained deductively by
reasoning; while “empiricism” essentially says that knowledge can be attained inductively from sensory experiences (Nonaka and Takeuchi, 1995).

These opposing views on what constitute knowledge make it difficult to define it. To this end Jashapara (2004) argues that there is still no consensus on the nature of knowledge except that it is based on perception that can provide a rational justification for it. It is not the purpose of this study to engage in the centuries-old debates about how to define knowledge and its forms (Vera and Crossan, 2005). The focus here is on marketing knowledge that accounts for the organization’s ability to perform and extend its characteristic output actions, particularly, the creation of a tangible product or the provision of a service. In this respect this thesis recognizes that there are many types of knowledge relevant to a firm when serving its markets (Grant, 1996b). The next section takes a look at these types of knowledge, before discussing the nature and types of marketing knowledge, an aspect of the topic under study.

2.2.1 Types of knowledge

In the management literature the most persistent theme about the nature of knowledge centres on the proposition that there are different types of knowledge (Nahapiet and Ghoshal, 2002). This in turn most frequently stems from the work of Michael Polanyi on tacit and explicit dimensions of knowledge. Polanyi (1966) posits that as human beings “we can know more than we can tell”, in that most of our knowledge cannot be put into words (p. 4). There is an explicit dimension of knowledge, which is what we know and can express in spoken or written words; and there is a tacit dimension of knowledge in what we know and cannot put into words. Polanyi (1966) points out that what distinguishes tacit knowledge from explicit knowledge is its incommunicability.

The management literature abounds with this epistemological distinction between tacit (“implicit”) and explicit knowledge. This is captured by distinctions between knowing how versus knowing about, subjective versus objective knowledge, personal versus propositional knowledge, and procedural versus declarative knowledge (Grant, 1996b). Like Polanyi, Grant (1996b) argued that the critical distinction between tacit and explicit knowledge lies in transferability and mechanisms for transfer across individuals, space and time. Tacit knowledge, which is uniquely embodied in practice and cannot be easily codified or imitated, is generally perceived as a vital source of sustainable advantage (Choo and Bontis, 2002). However, Choo and Bontis (2002) argued that since explicit knowledge is transferable, its diffusibility can yet be another source of strategic advantage when organizations are seeking
to standardize platforms, accelerate development of complementary products, or collaborate with other knowledge-rich organizations (Choo and Bontis, 2002). Both tacit knowledge and explicit knowledge are therefore seen to confer competitive advantage on a firm. The competitive advantage depend on how the firm deploys these different kinds of knowledge, leverages them in operations, and spreads them across the organization for important performance decisions (Wenger et al., 2002).

As a result of the distinction made between tacit and explicit dimensions of knowledge, types of knowledge have been conceptualized as existing along a continuum between tacit knowledge [know how] and explicit knowledge [know what]. “At one extreme it is almost completely tacit, that is, semiconscious and unconscious knowledge held in peoples' heads and bodies. At the other end of the spectrum, knowledge is almost completely explicit, or codified, structured, and accessible to people other than the individuals originating it” (Jashapara, 2004). According to Jashapara (2004) most knowledge exists in between the extremes.

Organizational knowledge has also been classified into various types. These typologies include images of knowledge, strategic knowledge, market-based organizational knowledge, marketing knowledge, and market knowledge, to mention but a few (Andreasen et al., 2005; Tsai and Shih, 2004; Hanvanich et al., 2003; Blackler, 2002; Zack 2002; Sinkula, 1994; Huber, 1991). Since the focus of this study is on marketing knowledge, the discussion below will be limited to the nature and classification of types of marketing knowledge.

### 2.3 Marketing knowledge: nature and types

In the marketing literature there is no consensus on how marketing knowledge should be defined and measured (Hanvanich et al., 2003). As a consequence there has been a variety of attempts to define and classify marketing knowledge by marketing researchers and writers (Andreasen et al., 2005; Tsai and Shih, 2004; Hanvanich et al., 2003; Sinkula, 1994; Day, 1999b; Huber, 1991; Garda, 1988).

For example, Hanvanich et al. (2003) conceived marketing knowledge as residing and embedded in product development management (PDM), supply chain management (SCM) and customer relationship management (CRM). Tsai and Shih (2004) broadly defined marketing knowledge as organized and structured information regarding markets, customers, competitors, and trends, while market knowledge refers to an organizational core competence.
Andreasen et al. (2005) referred to marketing knowledge as a set of concepts and tools that allow marketing managers to influence target audiences to achieve organizational objectives; while market knowledge focuses on customers and their interactions with the firm, competitors and their shared environment. Marketing knowledge has also been classified as market-based assets with two related types, namely, relational and intellectual (Srivastava et al., 2001).

The next two sections discuss market-based organizational knowledge and levels of marketing knowledge required in organizations (Sinkula, 1994; Garda, 1988). These two classifications of the nature and types of marketing knowledge are relevant to this study as they capture the essence of definitions of marketing knowledge. They also give idea of the types of 'marketing knowledge' needed in organizations if they are to stay market focused (Cader, 2007).

2.3.1 Market-based organizational knowledge

By borrowing from organizational learning literature Sinkula (1994) proposed a hierarchy of market-based organizational knowledge, which defines the types of marketing knowledge developed and disseminated in organizations. This hierarchy of market-based knowledge is a function of the age and experience in the organization concerned (Sinkula, 1994). The hierarchy of market-based knowledge include: congenital, dictionary, episodic, endorsed, procedural, axiomatic, augmented, and deutero knowledge.

First, congenital knowledge refers to a combination of the knowledge inherited at its conception and the additional knowledge acquired prior to its birth (Sinkula, 1994; Huber, 1991). An example of congenital knowledge is rationalized concepts of how markets work with less situation-specific knowledge. Sinkula (1994) argued that the breadth of congenital knowledge would have a profound effect on the degree and level at which market information processing would occur. This is because what an organization knows at its birth would determine what it searches for, what it experiences, and how it interprets what it encounters (Sinkula, 1994; Huber, 1991). Secondly, dictionary knowledge, understanding "what is", in terms of definitions of things, labels, and events refers to description of market segments, product movement, and market semantics (Sinkula, 1994; p. 38).

Third in the hierarchy is episodic knowledge, "what has been", which is defined in terms of value placed on the development of historical databases from the organization’s perspective
Market-based descriptions of past sales, past causal relationships, and phenomena are examples of episodic knowledge. The fourth is endorsed knowledge, which is usually referred to as the organization's "theory-in-use", and is defined as essentially an understanding of "how things are done" (Sinkula, 1994; p. 38). This knowledge develops when, over time, an organization learns to make sense of its markets by developing rules for the acquisition, distribution, and interpretation of information about markets (Sinkula, 1994). The organization’s endorsed way of doing things manifests itself in the form of organizational norms, training programmes, policies, and strategies.

The fifth stage, procedural knowledge, “how things are actually done” in organizations, is defined in terms of how a task system governed by tacit rules develops among members, which may vary from the espoused system (Sinkula, 1994; p. 38). According to Sinkula (1994), “procedural knowledge, is quite different from endorsed knowledge. For example, a market research unit’s endorsed policy could be reviewing systematically at least three proposals prior to awarding a contract to an external research vendor. But the procedural knowledge could be that such contracts are awarded only to vendors with whom company managers have had considerable experience.” At endorsed and procedural levels of learning, organizational norms, rules, policies, and procedures are codified (Sinkula, 1994; p. 38).

The sixth stage, axiomatic knowledge, “why things are done the way they are”, manifests itself in the form of fundamental beliefs appearing as organizational values which are set a priori and cannot be further reduced (Sinkula, 1994; p. 38). Sinkula (1994) explained that axiomatic knowledge develops as differences widen between the endorsed and procedural knowledge. The seventh stage, augmented knowledge, “how things should be done” in the organization, represents a response to detecting differences between the espoused versus the actual way of doing things, taking the form of joint inquiry into organizational norms themselves so as to resolve inconsistency and create new norms. For example, the market research unit of an organization would join with brand managers to conduct analyses which would result in decentralization of the market research function.

The last stage in the hierarchy, deutero knowledge or learning, which refers to “how the organization creates knowledge and learns”, indicates how an organization’s members learn about organizational learning (Sinkula, 1994; p. 39). An example of deutero learning or knowledge acquisition in an organization is where market a research unit, brand managers,
and others together examine the impact of organizational structure changes on knowledge creation processes in the firm.

Sinkula (1994) explained that congenital, dictionary, episodic, endorsed, and procedural knowledge are early stages of market-based knowledge development; while axiomatic, augmented, and deutero knowledge, are later stages of knowledge development. He also observed that, in its purest form, the relationship between the later knowledge stages means that learning about markets and learning how to process market information involves: (1) endorsed knowledge (this is what the organization says); (2) procedural knowledge (here's what really happens); (3) axiomatic knowledge (this is why it happens); and (4) augmented knowledge (here's what we should do to change it) (Sinkula, 1994; p. 39). To conclude, Sinkula (1994) argued that the market-based learning approach to knowledge development provides a theoretical insight into how organizations evolve and develop higher-order knowledge in order to maintain bases of competitive advantage.

2.3.2 Levels of marketing knowledge

Garda (1988) proposed some levels of marketing knowledge that would be required if organizations are to achieve their objectives of remaining market focused, shaping their market offerings and responding to observable needs and opportunities in the marketplace. These include: concepts and theories, frameworks, analytical techniques and tools, and market and competitive data. According to Garda (1988) concepts and theories refer to the fundamental principles or ideas, verifiable by experiment or observations, which underlie the science of marketing. Some examples of marketing concepts and theories are: power of market share knowledge; market segmentation knowledge for developing successful niche strategies; the price band knowledge which is the basis for effective yield management or tactical pricing; and value delivery system knowledge whereby the entire business is viewed from the customer’s perspective rather than as a series of internally oriented functions (Garda, 1988).

The second level of knowledge, frameworks, helps the marketer to think about concepts. Garda (1988) argued that practitioners find these frameworks more valuable than concepts or theories because they are practical knowledge. They enable practitioners to tie together various pieces of market, customer, competitive, and channel information or knowledge to develop specific products, market pricing, channel, service and other strategies. The third level, analytical techniques and tools, is often described as the most useful marketing
knowledge to practitioners, offering “discrete building blocks that fit into a framework for practical use” (Garda, 1988; p. 35). Examples include time utilization knowledge for sales people to determine how a salesperson can increase their time in front of the customer; the correlation of sales territory potential with territory market share, which forms the basis for determining the number of salespeople needed and sales deployment; conjoint measurement, which is a sophisticated market research tool for determining the trade-off between product attributes and price; and the correlation of service satisfaction with repurchase (Garda, 1988).

The final level, knowledge about market and competitive data, serves as the foundation for all marketing knowledge in that it is the basis for the creative development of segmentation analyses, competitive structure, customer understanding, market channel shifts, etc., which are crucial to practitioners. Garda (1988) argued that while original research is needed in each of these knowledge levels, there is also the need for “re-synthesis, repackaging, and repetition of ‘old’ knowledge for new generation managers” (p. 35).

To conclude, the essence of the nature and types of knowledge as reviewed above is that each component of knowledge allows the firm to act in ways that increase its chances for effectiveness and subsequent success (Andreasen et al., 2005). In addition, the types of knowledge identified here are an indication of the complexity of issues that any discussion of marketing knowledge within organizations must address. Moreover, they provide an overview of types of knowledge available to organizations when developing and disseminating marketing knowledge to build marketing capabilities. As previously noted, marketing knowledge development and dissemination concepts are elements of the knowledge processes and what follows looks at these processes.

2.4 Marketing knowledge processes

Cavaleri (2004) defined knowledge processes in an organization as operations required in any human social system to discover, create, refine, share, and evaluate knowledge for action. Dawson (2000) defines knowledge processes in terms of an organization’s efforts to generate, capture, and share knowledge to develop capabilities. Knowledge processes are also defined in terms of a firm’s shared knowledge base where information gathered by market sensing processes can be processed into knowledge and accessed when needed (Bierly et al., 2002; Choo and Bontis, 2002; Day, 1999b).
The firm's knowledge base or processes as defined above are a combination of various factors, including the expertise, experience and skills of individuals in the organization; the routines and processes that define a distinctive way of doing things inside the organization; and the knowledge of customer needs and supplier strengths (Bierly et al. 2002; Choo and Bontis, 2002). Knowledge process(es) activities in an organization seem "to follow the same sequence of activities individuals use to acquire, communicate, interpret, and remember knowledge" (Day, 1999b; p. 10). In business organizations, however, it is more a matter of collective, or organizational, learning rather than the cumulative results of what individuals have learned (Day, 1994b).

In general "organizational learning is often viewed as a social process of inquiry that is largely focused on improving interpretations of past experiences, but assumes that knowledge is an inevitable product of learning activities" (Cavaleri, 2004; pp. 161–162). Organizational learning is defined as the processes by which organizations as collectives learn through interaction with their environments to develop new knowledge or insights that have the potential to influence behaviour (Örtenblad, 2002; Slater and Narver, 1995). According to Sinkula (1994) organizational learning that is directed toward markets is different from other types of organizational learning in at least five ways.

First, organizational learning that is directed toward markets is a core competency pertaining to external foci. Second, market-directed organizational learning results in fundamental bases of competitive advantage by developing "higher-order learning". Third, it is distinct from other types of organizational learning in that the observation of others is essential. Fourth, market-based information that resides in organizational memory is typically more difficult to access. Finally, market-based organizational learning is unique in that market-based information is more equivocal (Sinkula, 1994; pp. 37, 38). Sinkula (1994) contended that understanding organizational learning based on these market principles would enhance marketers' understanding of information processing and knowledge creation in organizations.

In sum, knowledge processes as briefly discussed above provide the context for marketing knowledge development and dissemination activities in organizations.

It is worth noting that there are few works in the marketing literature that have touched on the issues dealing with marketing knowledge development and dissemination in organizations. The limited research primarily includes (1) definitions of marketing knowledge (Andreasen et al., 2005; Tsai and Shih, 2004; Hanvanich et al., 2003), (2) descriptions of types of marketing
knowledge (Sinkula, 1994; Day, 1999b; Huber, 1991; Garda, 1988), and (3) definition of knowledge development (Slater and Narver, 1999). Most of these works have a normative perspective, relying heavily on case studies and anecdotes, or conceptual frameworks (Song et al., 2006; Day, 1994a, b; 1999a, b; Slater and Narver, 1995; 1999). There is no attempt in the marketing literature to discuss issues related to marketing knowledge dissemination in organizations.

The author draws on these limited texts and the market orientation literature, which deal indirectly with the elements of the topic under study in a fragmented way. The author also draws on related literature in the management and organizational behavior disciplines. It is instructive to note that the literature reviewed below is intended to identify the key elements of marketing knowledge development and dissemination constructs. The elements will be used as a basis for operationalizing the constructs and developing the questionnaire for this research. It should be noted that in this study 'knowledge processes' and 'marketing knowledge processes' will be used interchangeably.

2.5 Marketing knowledge development processes

Slater and Narver (1999) defined marketing knowledge development as “a three stage process that includes information acquisition, information dissemination, and shared interpretation” (p. 242). Marketing knowledge development has also been referred to as market “information that is gathered by a sensing process”, and “processed into knowledge that can be accessed when needed” (Day, 1999b; p. 100). Market orientation as a mode of marketing knowledge development consists of three elements, namely, intelligence generation, dissemination, and responsiveness to market intelligence (Kohli and Jaworski, 1999). For the purpose of this study marketing knowledge development is defined as organizational processes for acquiring, generating, disseminating market information, and processing the information into marketing knowledge (Slater and Narver, 1999; Day, 1999b; Kohli and Jaworski, 1999; Sinkula, 1994).

The focus of the review below is on identifying the elements of the processes for developing marketing knowledge in organizations and to illustrate the interrelationships among these elements. The interrelationships between the elements manifest in the way concepts describing the processes are defined in terms of one another. It is worth noting that the terms market (marketing) information and knowledge on the one hand, and information and knowledge on the other, are used interchangeably.
2.5.1 Information acquisition

Information acquisition processes in organizations refer to the collection of primary or secondary information from organizational stakeholders, with the aim of obtaining knowledge (Gold et al., 2001; Moorman, 1995). In organizational behaviour literature, information acquisition has also been defined in terms of intelligence generation, information search, and initiation (Moorman, 1995). According to Moorman (1995) organizational information acquisition processes involve bringing information about the external environment into the boundary of the organization (Moorman, 1995). By taking these definitions into consideration this study defines marketing information acquisition as organizational initiatives for searching for, generating, and collecting primary or secondary market information with the aim of developing marketing knowledge (Gold et al., 2001; Moorman, 1995). The process of marketing information acquisition begins with members of organization acquiring information from direct experience, experience of others and from organizational memory (Slater and Narver, 1999).

In organizations, acquiring information from direct experience can be classified in two types. The first is acquiring information from internally focused experience (usually termed exploitation). The clearest illustration of this type of information acquisition is the learning or experience curve, which shows the effect of cumulative production and user experience on productivity in manufacturing. The second type of acquiring information is from externally focused experience (usually termed exploration) (Slater and Narver, 1999). An example of this type of information acquisition is large-scale demonstration projects and small-scale market experiments for acquiring information externally. Exploration refers to organizations efforts to experiment and innovate, while exploitation includes refinement, selection, and implementation (Liao et al., 2003).

Working with lead customers is one of the practices used in organizations to learn from others. Slater and Narver (1999) referred to lead customers as those customers who recognize strong needs before the rest of the market, and are motivated to find solutions to those needs. In a case study with electronics industries Slater and Narver (1999) found out that customers were used as a means to learn much information about markets, products, and technologies. Another case in point was Hewlett-Packard engineers who worked closely with lead customers to acquire information to help the organization to frequently introduce radically new products through small teams, (Slater and Narver, 1999).
Learning from others also includes providing continuing education or training. For example, in a case study Slater and Narver (1999) reported that computer industries learn from microprocessor suppliers and software developers as these industries supply many creative insights. They also noted that in other industries, such as biotechnology, universities strongly support the development of new knowledge (Slater and Narver, 1999). Other means by which organizations learn from others as the case study findings indicated include: benchmarking, forming joint ventures, networking, and making strategic alliances. Information may also be acquired by employees from organizational memory, where important knowledge is codified or recorded in information systems, operating procedures, white papers, mission statements, organizational stories, or routines (Slater and Narver, 1999).

Another means by which organizations may learn to acquire information about their markets is what Day (1994b) termed as market sensing processes. According to Day (1994b), the market sensing processes can be initiated by a forthcoming decision or an emerging problem, such as explaining why performance is declining. Market sensing as a means for firms to acquire information about their markets finds support in a study conducted by Gebhardt et al. (2006) who investigated how firms create a greater market orientation. The results of the study indicated that “market orientation change efforts” of “participating firms were precipitated by powerful stakeholders recognizing a threat, who then created coalitions to plan and implement change efforts”. They observed that “one dimension of such a threat was financial”, which manifested in firms’ failure “to meet financial performance targets”, (Gebhardt et al., 2006; p. 41)

In addition, some participating firms reported that “competitors or changing technology threatened their business models, their industry leadership position, or their organizations’ legacies. For example, having created the cellular phone industry, Motorola saw its leadership eclipsed by Nokia in 1988” (Gebhardt et al., 2006; p. 41). In this respect initiative(s) such as creating coalitions to plan and implement change efforts, were put in place by firms to solve these problem. This in turn led to active acquisition and distribution of information about the needs and responses of the market (Gebhardt et al., 2006; Day, 1994b). Examples of this information include: the intentions and capabilities of competitors, the evolving role of channel partners, how a market is segmented, and how relationships are sustained (Day, 1994b).

Market-driven organizations also motivate frontline contacts, who hear complaints or requests for new services and see the consequences of competitive activity, to inform management
systematically (Day, 1994b). This information acquisition approach is supported by the results of quasi experimental study conducted by Wirtz et al. (2010). They showed that high levels of incentives and adequate channels of communication motivate employees to report negative customer feedback even when such information is used for employee evaluation purposes. In addition the study revealed that a high interpersonal relationship among company employees boosts employees’ reporting behaviours of positive feedback when such information is used for service improvements (Wirtz et al., 2010).

A market-driven organization can also acquire market information by activating its sensors at the point of customer contact (Day, 1994a). To achieve this objective market-driven firms establish channels for the upward flow of information, with information technology playing a strong supporting role (Day, 1999b). A case in point was where the Ford Company electronically forwarded complaints that have come to the customer service representatives directly to the dealers who are supposed to settle the problem (Day, 1999b).

Service people who are motivated to listen carefully are also an especially valuable resource for marketing information acquisition in market-driven organizations. In a case study Day, (1994a) reported that Hewlett-Packard intercepted an emerging problem when several technicians heard unanticipated negative comments about an innovative service programme. This offered an opportunity for Hewlett-Packard to learn how to manage customers’ expectations much better by aligning their service promises and service delivery.

Finally, continuous experimentation and improvement are other processes for market information acquisition in organizations. These information acquisition processes refer to organizations tinkering with their procedures and practices and taking actions aimed at improving productivity and customer satisfaction (Day, 1994b). A case in point is American Airlines where continuous experimentation led to the finding that customer perceptions of online arrival performance improved markedly if the plane doors were opened less than 25 seconds after gate arrival. The case study revealed that American Airlines took advantage of a series of natural experiments as part of information acquisition activities of the company (Day, 1994a).

2.5.2 Information generation

In this study market information generation is defined as organizational processes by which information is collected (Sinkula et al., 1997). Market information generation processes consist of anticipating, monitoring, gathering and analysing exogenous factors such as
government regulations, competition, technology, other environmental forces, etc., that influence markets’ current and future needs and preferences (Day, 1999b; Kohli and Jaworski, 1999).

In a field research in-depth interviews conducted with 62 managers in four U.S. cities Kohli and Jaworski (1990) provided evidence to support market information generation as an element and the starting point of market orientated activities in organizations (Kohli and Jaworski, 1990). Intelligence is generated when data are collected and given meaning with respect to changing the potential range of organizational behavior (Slater and Narver, 2000). Intelligence as used in this context is therefore defined as meaningful information that allows an executive to be aware of and respond to changes in his or her competitive environment (Tarraf and Molz, 2006).

Kohli and Jaworski (1990) also showed in their study that market-oriented organizations generate market intelligence by anticipating both current and future needs of customers or markets and initiated steps to meet them. Market needs, in this context, refers to consumers (i.e. end users of products and services) as well as clients (i.e. organizations that may dictate or influence the choices or end users). The field research revealed that clients, such as retailers through whom companies’ products and services are sold, assist firms to generate market information by giving them access to scanner data to help them anticipate the market (Kohli and Jaworski, 1990). Furthermore, the findings indicated that companies assigned individuals exclusively to the task of studying trends and forces in the industries to which major customer groups belong to help them anticipate customer needs accurately (Kohli and Jaworski, 1999).

Kohli and Jaworski’s (1999) findings also revealed that the generation of market intelligence in an organization is not the exclusive responsibility of the marketing department. Rather, market intelligence is generated collectively by individuals and departments throughout an organization (Kohli and Jaworski, 1999; Webster, 1988). For example, the findings indicated that it is routine for research and development personnel to obtain information at scientific conferences. These personnel may also find time to interact directly with customers to assess their needs and problems and develop new business targeted at satisfying those needs.

The study also revealed that senior executives may generate information by uncovering trends reported in trade journals; while non-marketing employees may be encouraged to exchange information with customers. For example one company Kohli and Jaworski (1999) interviewed encouraged exchange of information between non-marketing employees and
customers by sending the non-marketing personnel (e.g. manufacturing personnel) to hand deliver invitations to customers for its annual "open house" gatherings. The findings also suggested that information may be generated by allowing customers to visit companies’ plants to interact with shop-floor personnel as well as white-collar employees (Kohli and Jaworski, 1999).

There is evidence in the market orientation literature that supports these observations made by Kohli and Jaworski (1999). In a study conducted by Gebhardt et al. (2005), participating firms indicated that they create greater market orientation by sending out cross-functional teams to visit their customers and clients (e.g. architects, contractors, distributors, etc.). Personal stories received from these visits provided the context and understanding for the value proposition of the firms concerned (Gebhardt et al. 2005). In addition, these visits provided opportunity for the employees to work in the field to understand customers and their needs, which in turn creates market insights and shared understandings in cross-functional team members to uncover consumer needs and trends (Gebhardt et al. 2005).

The findings of Kohli and Jaworski (1990) field research also revealed that generation of market intelligence relies on a host of complementary mechanisms both formal as well as informal as a means for collecting primary data or consulting secondary sources. These include customer surveys, meetings, discussions with customers and trade partners (e.g. distributors), analysis of sales reports, analysis of worldwide customer databases, and formal market research such as customer attitude surveys, and sales response in test markets (Kohli and Jaworski, 1990).

Finally, Informed imitation is another means by which firms may use to generate market information (Harris, 2002; Day 1994b). According to Day (1994b) the emphasis of ‘informed imitation’ is more on information on what the competitor was able to achieve in terms of superior performance, features, and so forth. This approach of generating information is supported by a case study conducted by Harris (2002). The study revealed that market oriented change efforts of some participating firms were focused on imitation (Harris, 2002). The emphasis of the imitation in the case study centres on the identification of the key success factors of competitors perceived to be highly market oriented and the mimicking of such characteristics; and also the effective establishment and maintenance of sophisticated scanning systems and mechanisms that generate timely and incisive information regarding current, future and potential competitor strategies and tactics (Harris, 2002).
2.5.3 Information dissemination

Sinkula et al. (1997) defined information dissemination as the process by which information is shared and diffused horizontally and vertically throughout the organization. In this sense market information is shared in such a way that all organizational players who might be affected by it can see each piece of the information in its broader context and can feed back questions, amplifications, or modifications, which provide new insights to the sender (Slater and Narver, 1999; Kohli and Jaworski, 1990).

Market information dissemination has also been defined in terms of information transmission processes in organizations (Moorman, 1995). According to Moorman (1995) information transmission processes concern how information is diffused among relevant users within an organization, which may occur formally or informally. Formal transmission is any type of organized or structured dissemination, including policies, training sessions, research presentations, company memoranda, meetings, and cross-functional teams. Informal transmission occurs during interpersonal interactions, such as casual conversations involving market information, or when an organization’s members educate one another on market issues. Transmission may also be top-down, down-up, or horizontal (Moorman, 1995).

Kohli and Jaworski’s (1999) field study revealed the importance of informal market intelligence dissemination as a means of sharing information in organizations. The field interviews indicated that informal information dissemination is well recognized by managers and it is tapped extensively in organizations (Kohli and Jaworski, 1999). This is because managers perceive informal conversations as an extremely powerful tool for keeping employees tuned to customers and their needs (Kohli and Jaworski, 1999). As an example, the study revealed that telling stories about customers, their needs, personality characteristics, and even their families is an effective informal communication mechanism for disseminating market intelligence. The goal of the storytelling idea is to know as much as possible about customers. To achieve this goal, managers interviewed by Kohli and Jaworski indicated that members of organizations should have ease of access to their database systems (Kohli and Jaworski, 1999).

Horizontal communication, which refers to the lateral flow information that occurs both within and between departments, is another means for disseminating market intelligence in organizations. Kohli and Jaworski (1999) argued that horizontal communication of market intelligence procedure has an important role in service organizations in that it serves as a
means to coordinate people and departments to facilitate the attainment of overall organizational goals. Thus, horizontal communication of market intelligence is seen as helping relevant departments and individuals in an organization to adapt and respond to market needs (Kohli and Jaworski, 1999).

Developing marketing knowledge requires collaboration, the sharing and dissemination of personal experiences (Gold et al., 2001). Collaboration takes place at two levels within the organization: between individuals and between the organization and its network of business partners. Collaboration between individuals is the basis for socialization that leads to information sharing, and is also a potential source of knowledge development (Inkpen, 1996; Nonaka and Takeuchi, 1995). Collaboration between the organization and its network of business partners include, technology sharing, personnel movement, and linkages between the organization and alliance partners or joint venture partners have all been shown in various studies to assist with the dissemination and accumulation of knowledge (Gold et al., 2001; Inkpen, 1996; Nonaka and Takeuchi, 1995).

Widespread information distribution is another means that organizations use to achieve marketing knowledge development, and this requires good systems for storing and locating hard routine accounting and sales data (Day, 1994a). In this connection Jayachandran et al. (2005) argued that “creating a database that is guided by market intelligence is a critical component of a firm’s attempts to create customer assets through long-term relationships. The database should be accessible to relevant functions, such as sales, customer service and marketing,” (p. 81).

For example, respondents of an empirical study conducted by Jayachandran et al. (2005) reported “that implementing CRM technology enabled them to communicate much better with their customers and to help customers manage their own needs (information reciprocity), helped capture data more effectively when there were large numbers of customers (information capture), enabled customer service employees to access consolidated customer information (information integration and access), and enhanced senior management’s decision-making ability by providing a “dashboard” of customer information and by identifying critical problem areas (information integration, access, and use)” (p. 189).

To conclude market intelligence need not always be disseminated by the marketing department to other departments. Intelligence may flow in the opposite direction, depending on where it is generated. Companies, therefore, put mechanisms in place for intelligence
generated at one location to be disseminated effectively to other parts of the organization (Kohli and Jaworski, 1999). Examples of these mechanisms as found in Kohli and Jaworski’s (1990) field study were management lunches, informal forums, circulating periodic newsletters and call reports to facilitate market intelligence dissemination. Kohli and Jaworski (1999) argued that effective dissemination of market intelligence is important because it provides a shared basis for concerted actions by different departments.

2.5.4 Information processing

Information processing is defined as processes in organizations through which information is given meaning (Moorman, 1995). Meaning as used in this context is defined in terms of sense making, comprehending, interpreting, categorizing or elaborating on evoked information using an organization’s memory, collective schema, or shared mental models. The outcome of these information processing activities is “the conversion of market intelligence ‘into knowledge and understanding, when it is interpreted by, stored in, and changes the decision makers’ mental models of the marketing environment’” (Moorman, 1995; p. 320).

From another perspective Slater and Narver (1999) referred to information processing as shared interpretation of information. Information processing defined in this sense involves formal procedures for organizing and processing information, such as analytical models or playing devil’s advocate, or more informal processes, such as team meetings in which interpretations of market information are offered (Moorman, 1995). These points of view and the elements as presented by Moorman (1995) and Slater and Narver (1999) on what information processing entails are the factors required in organizations for processing information into knowledge. There are additional organizational requirements that have to be in organizations in order for these factors to be effective as a means for developing marketing knowledge and what follows looks at some of these requirements.

To begin with, before organizations can use the information they have collected they must classify, sort, and simplify it into coherent patterns (Day, 1994b). These activities depend on the development of mutually informed mental models throughout the organization (Day, 1999b; Sinkula et al., 1997). The mental models are frameworks used to simplify the information received in order to make sense of the world and keep the organization moving in a common direction. Mental models, thus, facilitate the interpretation not only of market information but also of the information an organization seeks and selects during the inquiry stage, and the lessons they extract about appropriate actions. Mental models also contain
decision rules for filtering information and useful heuristics for deciding on how to act on the information in the light of anticipated outcomes (Sinkula et al., 1997).

Organizational memory plays several roles in this process: it serves as a repository for collective insights contained within policies, procedures, routines, and rules that can be retrieved when needed; a source of answers to ongoing inquiries; and a major determinant of the ability to ask appropriate questions (Sinkula et al., 1997). Day (1999b), however, pointed out that there is a danger, however, when mental models are not fully understood as means of interpreting and converting information into knowledge in organizations. He argued that “[although] our mental models help us to process information and make decisions quickly... rigid and constraining mental models can hinder strategic thinking because we pay attention to what supports our existing beliefs and ways of operating” (p. 54).

From another perspective Slater and Narver (1999) argued that, for the interpretation of market information to be a successful means to develop knowledge in a business, there must be a consensus on the meaning of the information and its implications for that business. This assertion is supported by a case study finding in which Slater and Narver (1999) noted that high-performing firms in dynamic and complex markets are clear examples of where consensus on the meaning of the information is needed. They observed that these firms strive for consensus to ensure effective strategy implementation. However, on their way to achieving consensus, these organizations benefit from a relatively high level of disagreement in assessing the relative importance of company objectives and competitive methods (Slater and Narver, 1995). The result of this disagreement is a closer inspection of the validity of different assumptions and alternatives, which requires balancing the need for rapid decision making with the need to consider carefully the ramifications of alternative action plans through effective conflict resolution processes (Slater and Narver, 1995). Thus, conflict resolution becomes a key factor when building consensus in an effort to give meaning to information in organizations.

In order to build consensus Slater and Narver (1995) argued that firms may need structured processes for handling conflict resolution. They argued that allowing disagreement to surface informally may cause it to become emotional and adversarial, and create long-term rifts among key members of a management team (Slater and Narver, 1995). For example, by exposing new information to multiple interpretations using programmed techniques such as dialectical inquiry and devil's advocacy, and developing alternative action plans for
constructive discussion, new insights may be developed in a positive atmosphere (Slater and Narver, 1995).

Finally, conflict resolution may further be enhanced by the development of group norms that encourage open sharing of information and removing constraints on information and communication flows (Slater and Narver, 1999). A case study finding cited by Slater and Narver (1999) revealed that organizations provide forums for information exchange and discussion to enhance communication flows. Other avenues that enhance communication flows include liaison positions, integrator roles, matrix organizations, face-to-face contact in meetings and on task forces, or utilization of information technology to create organizational bulletin boards on topics such as competitive activity or technology development.

Finally, there is the need for firms to have a framework to convert market information to marketing knowledge (Gold et al., 2001). Information conversion processes are those oriented toward making existing knowledge useful (Gold et al., 2001). According to a study conducted by Gold et al. (2001) some of the processes require firms to be able to organize, integrate, combine, structure, coordinate and distribute knowledge. Gold et al. (2001) argued that developing a framework for the conversion of information to knowledge is important because, without common representation standards, no consistency of knowledge or common dialogue would exist. This in turn would make information difficult to manage effectively (Gold et al., 2001). Knowledge about a particular subject may reside in different parts of the organization or in different systems within the organization. Combining or integrating this knowledge with a particular framework reduces redundancy, enhances consistent representation, and improves efficiency by eliminating excess volume (Gold et al., 2001).

2.6 Marketing capabilities

The main objective for developing and disseminating marketing knowledge in organizations is to build marketing capabilities to learn about markets in order to gain performance advantage (Marinova, 2004; Day, 1999b; Iansiti and Clark, 1994). “Capabilities” have been defined as “complex bundles of skills and accumulated knowledge exercised through organizational processes that enable firms to coordinate activities and make use of their assets” (Day, 1994b; p. 38). Capabilities are therefore integrative processes designed to apply the collective knowledge, skills, and resources developed by the firm to the market-related needs of the business, enabling the business to add value to its goods and services and meet competitive demands (Vorhies et al. 1999). Some examples of market capabilities include
“market sensing, customer linking, and channel bonding”, which support the market position of a business (Day, 1994b; p. 41).

Marketing capabilities are not the focus for investigations in this study. However, this section draws attention to the fact that marketing capabilities are a potential facet of the processes for developing and disseminating marketing knowledge in organizations.

2.7 Conclusion

Day (1994b) pointed out that, “market knowledge is not fully captured in a usable form until the lessons and insights are transferred beyond those who gained the experience” (p. 23). But before this market knowledge can be disseminated, Day (1999b) suggested, organizations should have memory mechanisms (“collective memory – a shared knowledge base”) in place to ensure that useful lessons are captured, conserved, and be readily retrieved when needed (Day, 1999b).

The most familiar memory repositories are institutional policies, procedures, and rules. Firms also use information technology to create integrated databases with expert systems and decision calculus models embedded in them to enrich and maintain the collective memory (Day, 1999b). Out of the shared knowledge-base, marketing knowledge is disseminated throughout the organization. In the next section we discuss marketing knowledge dissemination as another element of marketing knowledge processes in organizations.

2.8 Marketing knowledge dissemination processes

In the marketing literature knowledge, “dissemination” is defined as the processes by which marketing knowledge from different sources is shared, and thus stimulates new knowledge or understanding (Shih and Tsai, 2004). In the diffusion of innovations literature Rogers (2003) noted that “some authors restrict the term “diffusion” to the spontaneous, unplanned spread of new ideas and use the concept “dissemination” for diffusion that is directed and managed”. He, however, argued that “the word “diffusion” ... include both the planned and spontaneous spread of new ideas” (Rogers, 2003; p.6). From a knowledge management perspective Chaston (2004) broadly defined knowledge dissemination as how organizations manage the transfer of knowledge between employees.

These definitions of dissemination reflect differing assumptions and beliefs about the ways in which knowledge is used, and about the very nature of knowledge itself (NCDDR, 1996). According to NCDDR (1996) “the focus varies from perceiving dissemination ... as mechanical processes of transfer, in which knowledge is packaged and moved from one place
to another, to characterizing the process as highly complex, nonlinear, interactive, and critically dependent on the beliefs, values, circumstances, and needs of intended users” (NCDDR, 1996; p. 6).

In the context of this study marketing knowledge dissemination is defined in terms of organizational processes for transferring, sharing and diffusing marketing knowledge (Chaston, 2004; Shih and Tsai, 2004; Roger, 2003). It is instructive to note that, in the management and organizational behaviour literature, knowledge dissemination, transfer, sharing and diffusion have been defined in terms of each other to illustrate their interrelationships. These interrelationships are reflected in the discussion below. Once again the focus here is on identifying the elements of the marketing knowledge dissemination construct for the constructs’ operationalization.

2.9 Marketing knowledge transfer process

Argote et al. (2000) defined knowledge transfer in organizations as the process through which one unit (e.g. individual, group, department, division) is affected by the experience of another. Szulanski (1996) also defined intra-firm transfer of knowledge as a “firm’s replication of an internal practice that is performed in a superior way in some part of the organization and is deemed superior to alternative internal practices and known alternatives outside the company” (p. 28). Practice as used in this context refers to the organization’s routine use of knowledge, which “often has a tacit component, embedded partly in individual skills and partly in collaborative social arrangements” (Szulanski, 1996; p. 28).

According to Szulanski (1996) “the word ‘transfer’ is used rather than ‘diffusion’ to emphasize that the movement of knowledge within the organization is a distinct experience, not a gradual process of dissemination, and depends on the characteristics of everyone involved” (p. 28). In this sense transfers of best practice are seen as dyadic exchanges of knowledge between a source and a recipient unit in which the identity of the recipient matters. The transfer of knowledge consists of an exact or partial replication of a web of coordinating relationships connecting specific resources so that a different but similar set of resources is coordinated by a very similar web of relationships. “In this sense, transfers of best practices could be conceived as replications of organizational routines”, (Szulanski, 1996; p.28).

Knowledge transfers have also been referred to as part of organizational life and are viewed as local and fragmentary, as they occur whether or not we manage the process (Davenport and Prusak, 2000). For example, in an organization an employee may ask a colleague to explain
how to put together a budget request. In this respect the employee is requesting a transfer of knowledge (Davenport and Prusak, 2000).

The task of knowledge transfer begins with looking for and identifying useful knowledge developed and dispersed among subunits in an organization (Hansen, 1999). Once some useful knowledge is identified in another subunit, the knowledge must be moved to the focal subunit and incorporated into the intended focal project of the organization. Current understanding of transfer processes suggests that there are four distinct stages in a transfer — initiation, implementation, ramp-up, and integration (Szulanski, 2000). The section below looks at these stages as well as their requirements.

2.9.1 Marketing knowledge transfer stages and requirements

To begin with “a distinction is usually made between the initiation and the implementation of a transfer. Within the implementation phase, further distinctions are often made among (a) the initial implementation effort, (b) the ramp-up to satisfactory performance, and (c) subsequent follow-through and evaluation efforts to integrate the practice with other practices of the recipient” (Szulanski 2000; p. 12). The initiation stage comprises all events that lead to the decision to transfer (Szulanski, 1996; 2000). A transfer begins when both a need and the knowledge to meet that need coexist within the organization, possibly undiscovered (Szulanski, 1996). The discovery of the need may trigger a search for potential solutions, a search that leads to the discovery of best practices, thus revealing a previously unsuspected gap or creating a new one. Once the need and a potential solution to that need are identified, their fit — that is, the feasibility of the transfer — is explored (Szulanski, 1996).

The implementation stage begins with the decision to proceed (Szulanski, 2000). During this stage, resources flow between the recipient and the source (and maybe a third party). Transfer-specific social ties between the source and the recipient are established and the transferred knowledge is often adapted to suit the anticipated needs of the recipient, to pre-empt problems experienced in a previous transfer of the same practice, or to help make the introduction of new knowledge less threatening to the recipient (Szulanski, 1996). Implementation-related activities cease, or at least diminish, after the recipient begins using the transferred knowledge. The transfer-specific ties could be strong or weak. For instance, a study by Hansen (1999) revealed that weak inter-unit ties to help project teams search for useful knowledge in other subunits but impede the transfer of complex knowledge, which tends to require a strong tie between the two parties to a transfer (Hansen, 1999).
The ramp-up stage begins when the recipient starts using the transferred knowledge, that is, after the first day of use (Szulanski, 1996). During this stage, the recipient will be predominantly concerned with identifying and resolving unexpected problems that hamper its ability to match or exceed post-transfer performance expectations. Szulanski (1996) noted that the recipient is likely to use the new knowledge ineffectively at first, but gradually improves performance, ramping up toward a satisfactory level. The ramp-up stage provides a relatively brief window of opportunity to rectify unexpected problems (Szulanski, 1996).

The integration stage begins after the recipient achieves satisfactory results with the transferred knowledge (Szulanski, 1996). Use of the transferred knowledge gradually becomes routinized. This gradual routinization is incipient in recurring social pattern. As time passes, a shared history of jointly utilizing the transferred knowledge is built up in the recipient, actions and actors become typified, and types of actions associated with types of actors. These shared meanings and behaviours facilitate coordination of the activities, making behaviours understandable, predictable and stable. In this way, new practices become institutionalized (Szulanski, 1996).

**Requirements:** For knowledge to be transferred to where it is needed in the organization, there are two preconditions to be satisfied: willingness and ability (Hansen, 1999). Both parties to the transfer must, first of all, be willing to make the effort, provided there is no intra-organizational atmosphere of secrecy and competition. Then, secondly, both must have the ability to transfer knowledge smoothly, provided there is no inherent difficulty in the task or complexity of knowledge involved in the transfer (Hansen, 1999).

A second and major factor in the success of any knowledge transfer project is the common language of the participants (Szulanski, 1996; Grant, 1996a). Sharing almost identical training and experience, working in precisely the same specialised area, the organizational members could readily understand one another’s words and actions. Research shows that shared language (culture) is essential to productive knowledge transfer (Davenport and Prusak, 2000). Without it individuals will neither understand nor trust one another. People who share the same work culture can communicate better and transfer knowledge more effectively than people who do not (Davenport and Prusak, 2000). As Kelemen and Bansal (2002) found out in a study, identifying others who speak the same language and persuading them is the key to disseminating knowledge successfully, whether to academics or practitioners.
Lastly, the relative difficulty of capturing and transferring knowledge depends on the kind or complexity of knowledge involved (Rogers, 2003; Davenport and Prusak, 2000; Hansen, 1999). Knowledge that is more explicit can be embedded in procedures or represented in documents and databases and transferred with reasonable accuracy. On the other hand, tacit or ambiguous knowledge is especially hard to transfer from the resource that creates it to other parts of the organization, and generally requires extensive personal contact. The most reliable way to put this knowledge into circulation is to transfer people in and out of the relevant business units, and have them spend a year or two absorbing and helping to generate new knowledge, which they can carry to new assignments (Davenport and Prusak, 2000). In a case study Davenport and Prusak (2000) found out that some companies, committed to transferring tacit knowledge, often set up formal mentoring programmes and make passing on knowledge to young employees an explicit part of the job descriptions of skilled senior staff. This finding is an aspect of mechanisms organizations put in place to transfer knowledge in their organizations. The next section looks at some of these mechanisms.

2.9.2 Marketing knowledge transfer mechanisms

To stimulate knowledge flows in organizations, various knowledge transfer mechanisms or strategies have been researched and discussed in the management literature (Davenport and Prusak, 2000). These may be roughly categorised as either formal and informal strategies.

Formal: Some of the known formal strategies for knowledge transfer include: liaisons, assignees, workshops, training, technical reports, third-party licences, production and support of products (Davenport and Prusak, 2000). Other mechanisms through which knowledge transfer occurs in organizations include: personnel movement; formal communication; observation; technology transfer; “reverse engineering” products; replicating routines; patents, scientific publications and presentations; interactions with suppliers and customers; and alliances and other forms of inter-organizational relationships (Argote et al., 2000).

Informal: The informal strategies for transferring knowledge have the goal of “finding effective ways to let people talk and listen to one another” (Davenport and Prusak, 2000; p. 88). First, we have conversation knowledge transfer strategies referred to in the literature as “water-cooler” or “company cafeteria conversations” strategies (Davenport and Prusak, 2000). Davenport and Prusak (2000) argued that, although some of the talk at the water-cooler will be about sports and the weather, most of it focuses on work. For example, in a case study Davenport and Prusak (2000) noted that when businesses are struggling, people gather to talk
through problems, share ideas about how to solve them, and generate creative solutions. Businesses in the study exploit the informal conversation by setting up ‘talk rooms’ to encourage this unpredictable creative blending and exchange of ideas (Davenport and Prusak, 2000). The assumption is that researchers or employees will chat about their current work with whoever they find, and that these more or less random conversations will create value for the firm.

Knowledge fairs and open forums are other mechanisms for encouraging knowledge transfers in organizations (Davenport and Prusak, 2000). According to Davenport and Prusak (2000) knowledge fairs and open forums mechanisms encourage serendipitous knowledge sharing across the lines of departments or business units by basically creating locations and occasions for workers to interact formally. They argued that, although a knowledge fair is a more orchestrated forum for encouraging the exchange of knowledge, it still allows for spontaneity (Davenport and Prusak, 2000).

2.10 Marketing knowledge sharing process

Like knowledge transfer, knowledge sharing is defined as “the process through which one unit is affected by the experience of another” (Willem and Buelens, 2009; p.151). Berends et al. (2006) “refer to knowledge sharing as the deployment of knowledge in communication with others” (p. 86). In the management literature, knowledge sharing is known to improve employees’ ability to access knowledge located within an unformed social network and makes them aware of new options that encourage the dissemination of successful approaches to better satisfy customers (Jeppesen and Laursen, 2009). As a result organizations are entreated to nurture knowledge sharing among co-workers in order to enhance an understanding of customer needs (Reychav and Weisberg, 2009).

In a study Gold et al. (2001) found out that businesses facilitate the sharing of knowledge by encouraging employee interaction both formally and informally, so that relationships, contacts, and perspectives are shared by those not working side by side. They noted that this interaction between individuals is essential in an innovation process as it enables dialogue, and leads to the creation of new ideas having the potential for creating knowledge (Gold et al., 2001). These interactions can be planned or informal (Reychav and Weisberg, 2009). Examples of planned interactions include cross-functional team meetings and the notion of communities of practice, deliberate mechanisms to stimulate sharing and exploitation of knowledge (Wenger et al., 2002; Brown, and Duguid, 1998). Informal, or “emergent”,
mechanisms occur in unplanned settings where different sources of knowledge stemming from knowledge conversion processes are integrated (Reychav and Weisberg, 2009).

In exploratory in-depth interviews grounded in a case study Berends et al. (2006) identified a number of mechanisms that enable knowledge sharing in organizations. The first of these was a form of knowledge sharing where members of an organization select and communicate existing information without being oriented towards a particular problem. This knowledge sharing includes researchers’ reports and publications, holding of seminars on completed research, storing information on an intranet or in a library and recounting success stories or telling about failures during lunch or other social occasions (Berends et al., 2006).

A second mechanism identified in the study is knowledge retrieval — knowledge sharing that is initiated by someone searching for a specific piece of knowledge and retrieving it from someone else who has it (Berends et al., 2006). A third mechanism, information pooling, involves sharing information on one’s own initiative, that is, where the person sharing information chooses to do so because of a problem shared with others (Berends et al., 2006).

In the case study Berends et al. (2006) also identified another origination mechanism for sharing knowledge called “pushing”. The pushing mechanism refers to information sharing where the sharing person chooses to provide someone else with existing information. In this sense pushing involves thinking that the other person needs to know something, or that certain information might be useful for his research activities (Berends et al., 2006).

Another identified mechanism for sharing knowledge is labelled the “thinking along” mechanism (Berends et al., 2006). Thinking along as a mechanism for sharing knowledge is where someone develops new ideas with regard to someone else’s problem. According to Berends et al. (2006) thinking along is not confined to informal meetings between two employees. Presentations at group meetings and reviews of manuscripts also pose thinking-along opportunities.

In another study Henson (1999) found out that the existence of direct relationships and extensive communication between people from different subunits is a necessary condition to enable knowledge sharing among subunits in an organization to occur. Inter-unit relations in this sense refer to regular occurring informal contacts between groups of people from different operating units in an organization (Hansen, 1999).

Socialization, another mechanism for sharing knowledge in organizations, has been defined as the level of interaction between, and communication of, various actors within firms, which
leads to the building of personal familiarity, improved communication, and problem solving (Lawson et al., 2009). According to Lawson et al. (2009) socialization knowledge sharing can be the outcome of formal and informal social mechanisms. The former may be through structured technology fairs, scheduled meetings, or requests for information, whereas informal mechanisms may revolve around joint benchmarking research, supplier and engineering visits to facilities, and product demonstrations (Lawson et al. 2009). In this sense socialization mechanisms can play an important role in facilitating the sharing of knowledge across organizational boundaries. By providing a “common language” and creating shared understanding, socialization mechanisms facilitate the transfer of both codified and tacit knowledge between team partners.

Lawson et al. (2009) refers to informal socialization-based relationships for knowledge sharing and exchange established through informal mechanisms as socialization tactics. In a study of socialization tactics Lawson et al. (2009) found out that the tactics have a positive effect on relationship interactions, particularly in transmitting cultural norms, improving communication and building trust. To Lawson et al. (2009) these informal socialization mechanisms facilitate the transmission of information and knowledge, and therefore play a critical role in enhancing the level of knowledge sharing within intra-organizational projects.

**Requirements for knowledge sharing:** In a study Willem and Buelens (2009) observed that one of the requirements for sharing knowledge in organizations is the presence of effective formalized inter-unit knowledge coordination mechanisms. In this respect coordination choices, which are central to organizational structure, serve as tools for information sharing between units in an organization (Willem and Buelens, 2009; Willem et al., 2006). Willem and Buelens (2009) defined coordination as the process of informing each as to the planned behaviours of the others. They found out that the impact of coordination on knowledge sharing depends on the kind of coordination mechanisms used, and this is closely related to the other structural dimensions — centralization, formalization and specialization — within the organization concerned (Willem and Buelens, 2009).

Willem and Buelens (2009) study revealed that both “centralization” and “formalization” are considered to be negatively related to knowledge sharing. Centralized and formal coordination can take the form of formal hierarchy, plans, procedures, standards and goals. These kinds of coordination formally determine which and how much information and knowledge should be exchanged (Willem and Buelens, 2009). The study also reveals that decentralized (horizontal) coordination consisting of teams, mutual adjustment, networking,
and integration roles (less formal and decentralized) allows flexible coordination during task execution and can deal with ad hoc communication and information needs (Willem and Buelens, 2009).

Finally, Willem and Buelens (2009) observed that informal coordination – that is, any form of personal contact between people and units in the organization that is not intended or imposed by management – can have a major impact on knowledge sharing, and can even have knowledge sharing as its raison d’être. For example they found out that informal interactions between units constitute an important means for integrating diffused expert knowledge in organizations and crossing internal and external organizational boundaries (Willem and Buelens, 2009).

2.11 Marketing knowledge diffusion process

“Diffusion” is defined as the process in which innovation is communicated through certain channels over time among the members of a social system (Mahajan et al. 1995; 1990). Diffusion as used in this context is a special type of communication, in which the messages are concerned with new ideas (Rogers, 2003). As a type of communication, diffusion includes both planned and spontaneous spread of new ideas. The planned dimension of diffusion is defined as dissemination that is directed and managed. Communication, in this respect, is the process in which participants create and share information with one another in order to reach a mutual understanding. In this sense, communication is viewed as a two-way process of convergence, a linear act in which one individual seeks to transfer a message to another in order to achieve certain effects (Rogers, 2003).

Innovation as an element of diffusion is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. Newness of an innovation may be expressed in terms of knowledge (marketing knowledge), persuasion, or a decision to adopt (Rogers, 2003). According to Rogers (2003), the characteristics of innovations, as perceived by individuals, help to explain their different rates of diffusion (adoption). For instance, innovations that are perceived by individuals as having greater relative advantage, compatibility, trial-ability, and observability and less complexity are adopted more rapidly than other innovations.

Given that an innovation exists, communication must take place if innovation is to spread. The nature of an information exchange relationship between a pair of individuals determines the conditions under which a source will or will not transmit the innovation to the receiver and the effect of such transfer (Rogers, 2003). In the organization interpersonal channels are
more effective in persuading an individual to accept a new idea, especially if the interpersonal channel links two or more individuals who are similar in socioeconomic status, education, or other important ways. Interpersonal channels involve a face-to-face exchange between two or more individuals (Rogers, 2003). Diffusion research literature asserts that interpersonal communications, including nonverbal observations, determine the speed and shape of the diffusion process in a social system (Mahajan et al., 1990). Besides mass media and interpersonal communication channels, the diffusion research indicates that interactive communication via the internet is also important for the diffusion of certain innovations in recent decades (Rogers, 2003).

One of the most distinctive problems in the diffusion of innovation is that the participants are usually quite heterophilous. Heterophily, which is the opposite of homophily, "is defined as the degree to which two or more individuals who interact are different in certain attributes", (Rogers, 2003; p. 19). A change agent, for instance, is more technically competent than his or her clients. This difference frequently leads to ineffective communication as the two individuals do not speak the same language. However, when two individuals are identical regarding their grasp of innovation, diffusion cannot occur as there is no new information to exchange. The nature of diffusion demands that at least some degree of heterophily be present between the two participants in the communication process (Rogers, 2003). "Homophily is the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, socioeconomic status, and the like" (Rogers, 2003; p. 19).

The structure of a social system is another factor that can facilitate or impede the diffusion of innovation within organizations. This is because the structure constitutes a boundary within which an innovation diffuses (Rogers, 2003). A social system is a set of interrelated units that are engaged in a joint problem-solving to accomplish a common goal. The members or units of a social system may be individuals, informal groups, organizations, and/or subsystems. To the extent that units in a social system are not all identical in their behaviour, structure exists in a system (Rogers, 2003). Structure is the patterned arrangements of the units in a system. Such patterned social relationships among the members of a system constitute one type of a social structure (Rogers, 2003).

In addition to this formal structure among the units in a social system, an informal structure also exists in the interpersonal networks linking a system's members, tracing who interacts with whom and under what circumstances (Rogers, 2003). Rogers (2003) observed that "compared to other aspects of diffusion research, however, there have been relatively few
studies of how the social or communication structure effects the diffusion and adoption of innovations in a system. It is a rather complicated matter to untangle the effects of a system's structure on diffusion, independent from the effects of the characteristics of the individuals that make up the system" (p. 330).

Diffusion as a social process that involves interpersonal communications is based on the principle of human communication which states that the diffusion of ideas occurs most frequently between two individuals who are similar, or homophilous (Rogers, 2003). As a result, diffusion investigations show that most individuals depend mainly upon a subjective evaluation of an innovation that is conveyed to them from other individuals like themselves who have already adopted the innovation. This dependence on the experience of near peers suggests that the heart of the diffusion process consists of the modelling and imitation by potential adopters of their network partners who have previously adopted (Rogers, 2003).

2.12 Conclusion

The literature reviewed illustrates the complementary nature of marketing knowledge development and marketing knowledge dissemination in organizations. The relationship between the two constructs is evident in the marketing knowledge development phase and the marketing knowledge dissemination phase. For example, in the case of marketing knowledge development, the acquisition up to the processing stage involves sharing, transferring, and diffusion of information or knowledge in order for knowledge development to take place (Deshpandé, 1999; Day, 1999b). Likewise before marketing knowledge dissemination can occur in organizations, there is the need to develop the necessary knowledge about the process for sharing, transferring, diffusion, etc. throughout the dissemination process (Roger, 2003; Szulanski, 1996; Hansen, 1999). This relationship between the two constructs is empirically supported by Jaworski and Kohli (1999) findings in a study on market orientation. They found that there was very positive correlation (0.62) between the intelligence generation and dissemination components of the market orientation construct.

The relationship between marketing knowledge development and dissemination is indirectly captured in Slater and Narver's (1999) framework for “the Process of Organizational Learning” (p. 246). In the framework, marketing knowledge development as organization-wide activity is found in the inner circle. The outer circles are occupied by adaptive and generative knowledge development variables respectively (see the framework in Figure 2.1 below). The arrows indicate that generative learning requires knowledge development to

47
reach beyond the learning boundary for information or new ways of interpreting information (Slater and Narver, 1995).

Figure 2.1: The process of organizational learning
Source: Slater and Narver (1999; p. 246)

Put differently knowledge developed in an organization has to be disseminated and interpreted in the light of information received beyond the learning boundary, where learning occurs. This interpretation may lead to further insights and further knowledge development (new knowledge) during the knowledge dissemination phase, as the organization strives to reach beyond the learning boundary.

The complementarity between marketing knowledge development and marketing knowledge dissemination constructs is further supported in the management literature. For example, Leiponen (2006) summarized the relationship between knowledge development and knowledge dissemination by arguing that knowledge creation (development) is insufficient by itself within organizations unless it is also characterized by extensive knowledge sharing and integration. Similarly, Takeuchi and Nonaka (2004) asserted that the sharing of tacit knowledge among multiple individuals with different backgrounds, perspectives, and motivations becomes the critical step for organizational knowledge creation to take place.

2.13 Summary

In this chapter an attempt was made to synthesize theoretical perspectives on organizational knowledge processes, and in particular marketing knowledge processes in marketing and organizational behaviour literature to define the marketing knowledge processes in organizations and their elements. The marketing knowledge development processes and their components were identified, defined and discussed. The marketing knowledge dissemination processes and their components were also identified, defined and discussed. The building of
marketing capabilities in organizations to continuously learn about markets was discussed as the main objective for developing and disseminating marketing knowledge in organizations. The chapter concluded with a brief discussion on the relationship between marketing knowledge development and dissemination constructs. The next chapter discusses elements of marketing knowledge infrastructure as organizational processes that facilitate marketing knowledge processes in organizations.
Chapter 3
Marketing knowledge infrastructure

3.0 Introduction

This chapter defines and discusses marketing knowledge infrastructure as another facet of marketing knowledge development and dissemination processes in organizations. Elements of marketing knowledge infrastructure are identified, defined and discussed in terms of their role in facilitating marketing knowledge processes in organizations. Another facet, marketing knowledge approach, is introduced and defined in terms of its impact on the marketing knowledge infrastructure. The concept of marketing knowledge infrastructure goals is introduced and defined. The concept of effectiveness is defined and discussed as it confers general meaning on the components of the processes for developing and disseminating marketing knowledge in organizations. The chapter ends with a summary and introduces the next chapter, Ghana as the context for this study.

3.1 Defining marketing knowledge infrastructure

The effectiveness of marketing knowledge processes in organizations depends on the "organisational context that provides them with an infrastructure ... that enables ... the flow of information and knowledge" (Dawson, 2000; pp. 324–325). Infrastructure in this context is defined as organizational knowledge initiatives, which cover all domains of knowledge processes "in order to develop effective organisation-wide knowledge capabilities" (Dawson, 2000; p. 326). In the management literature marketing knowledge infrastructure is defined in terms of technology, strategy, structure, culture, and human resource policies that enable the creation of new knowledge (Easterby-Smith and Prieto, 2008; Lin, 2007; Gold et al., 2001; Zack, 1999).

The objective of marketing knowledge infrastructure is to enhance social relationships in order to create and exploit marketing knowledge that supports the range of marketing knowledge management projects and programmes within the business (Zack, 1999). As a result marketing knowledge infrastructure is designed to fit around the internal social context of the firm (Easterby-Smith and Prieto, 2008). In this way the infrastructure facilitate the generation, acquisition, retention, transfer and utilization of knowledge by increasing the efficiency and effectiveness of marketing knowledge processes in organizations (Easterby-Smith and Prieto, 2008; Zack, 1999; Davenport et al., 1998). Together, the elements of
marketing knowledge infrastructure and processes provide a foundation for defining important aspects of marketing knowledge capability (Gold et al., 2001).

In the market orientation literature, elements of the marketing knowledge infrastructure referred to above are conceptualized as management practices that facilitate organizational learning — the development of new knowledge (Slater and Narver, 1999). These management practices include: market-oriented culture, entrepreneurial culture, facilitative leadership style, organic structure, learning-based strategic planning and supporting change programmes (Day, 1999b; Slater and Narver, 1999). The supporting change programmes in essence embody antecedents of market orientation (Day, 1994b; Kohli and Jaworski, 1990; Jaworski and Kohli, 1993).

In the management and organizational behaviour literature marketing knowledge infrastructure has been researched under various headings. These include management practices (Bierly and Daly, 2002); infrastructure (Zack, 1999; Davenport et al., 1998; Wenger and Snyder, 2000); knowledge enabling conditions (Krogh, Ichijo and Nonaka, 2000; Krogh 1998; Nonaka and Takeuchi, 1995); knowledge integration efficiency factors (Grant 1996a; 1996b), and knowledge enablers (Ichijo, 2004). In the marketing literature we have antecedents to market orientation (Deshpandé, 1999; Kohli and Jaworski, 1990; Jaworski and Kohli, 1993); management practices of learning organizations (Slater and Narver1995; 1999); and the four key, or interlocking, dimensions of market-driven organizations (Day, 1999a; 1999b).

Marketing knowledge infrastructure and its components identified in the literature and briefly discussed above constitute another facet of the processes for developing and disseminating marketing knowledge in organizations. In this study I define marketing knowledge infrastructure as organizational practices and initiatives that facilitate the processes for marketing knowledge development and dissemination in organizations (Lee and Choi, 2003; Zack, 2002; Gold et al., 2001; Slater and Narver, 1999; Day, 1999a). In the sections that follow I discuss elements of the marketing knowledge infrastructure and this discussion is limited to the marketing literature.

3.2 Elements of the marketing knowledge infrastructure

The view taken in this study is that marketing knowledge infrastructure (i.e. market-driven culture, structure, strategy, systems, inter-departmental relationships) facilitates an
organization's marketing knowledge development and dissemination processes when building marketing capabilities.

3.2.1 Market-driven culture

Organizational culture is the pattern of shared values and beliefs that help individuals to understand organizational functioning and provide norms for behaviour in the organization (Moorman, 1995). In the marketing literature culture is represented as an organization's shared beliefs, mindsets and understanding, which define appropriate and inappropriate behaviour (Day, 1999b).

According to Day (1999b) a culture has many levels and facets. At the deepest levels are values that express enduring preferences or aspirations for specific outcomes or modes of conduct. In organizations these values may be so deeply embedded that they exist only as tacit assumptions that are difficult to talk about and even harder to change. The more accessible aspects of culture are norms, which are shared beliefs about appropriate or expected behaviour, and the mental models people use to simplify and make sense out of a confusing, fluctuating reality (Day, 1999b). In this sense a culture plays a big role in how information is sought and turned into usable knowledge. For example, the ability of firms to leverage their knowledge by creating, sharing, and using knowledge about present and prospective markets is strongly influenced by the mind-set of their culture. The mind-set of the culture in turn shapes assumptions about what knowledge is important and useful and how it is interpreted (Day, 1999b).

To understand the impact of culture on organizational information processes Moorman (1995) proposed a two-dimensional model by which cultural values may vary as they affect these processes. First, is the externally focused cultures, which have better developed processes for acquiring and using information, and involve interaction with the external environment. Internally focused cultures, on the other hand, have better developed processes for the transmission and conceptual utilization of information, which function entirely within the organization (Moorman, 1995). Besides the external-versus-internal dimension of culture, Moorman (1995) also proposed what she termed formal and informal cultures. She argued that formalized cultures reduce information acquisition, and information transmission processes, while informal cultures foster information acquisition, and information transmission processes (Moorman, 1995). This view is supported by Nonaka and Takeuchi
(1995) who, through case studies, found that informal cultures facilitate information acquisition and information transmission, and vice versa.

The views of Day (1999b) on market-driven culture also support Moorman’s (1995) proposition on externally focused culture. According to Day (1999b), building market capabilities requires the creation of a distinctive and pervasive “externally oriented culture designed to provide superior quality and value on the customers’ own terms and create advantage over rivals” (Day, 1999b; p. 43). The market-driven culture “has beliefs, values and norms that are quite different from its more self-centred peers” (Day, 1999b; p. 45), and this culture is crucial to how an organization focuses on collecting information about target-customers' needs and competitors' capabilities (Slater and Narver, 1999). The collection of such information, as we previously noted, is also important for developing and disseminating marketing knowledge when building market capabilities (Day, 1999b; Iansiti and Clark 1994).

One characteristic of a market-driven culture is that it actively supports the behaviour associated with market orientation, “the organization-wide generation of market intelligence, dissemination of its intelligence across departments, and organization-wide responsiveness to it” (Day, 1994b; p. 43). In this respect a market-driven culture gives members of an organization a meaning, and provides the rules for behaviour (Day 1994b). The importance of a market-oriented culture in providing meaning and, thus, facilitating market oriented behaviour is supported by the findings of Gebhardt et al. (2006) in a case study. In the case study they found that market orientation rests fundamentally on cultural values.

One of the cultural values identified by Gerbhardt et al. (2006) that guides organizations in creating a more market oriented culture was what they termed as “market as raison d’être” culture. This culture value assumes that people “come together as an organization to serve the market and make a living”, and the behavioural norm emanating from this cultural value is that “every decision and action must consider how it affects the market” (Gerbhardt et al. 2006; p. 43). Gerbhardt et al. (2006) observed that “market as raison d’être” as cultural value provides common meaning for all organization members and is broadly inclusive, creating one socially constructed in-group that encompasses all organization members. They argued that such an inclusive in-group definition fosters positive attributes and behaviours among organization members and creates a cultural foundation for firms that allows for the ongoing adaptation of missions and visions in response to changing market conditions (Gerbhardt et al. 2006).
Moreover, Gerbhardt et al. (2006) “found the market as the raison d'être to be the central cultural value providing a rationale for ... other five values of trust, openness, promise keeping, respect, and collaboration, all of which are required for an effective market orientation” (p. 43). According to Gebhardt et al. (2006) the combination of these six cultural values creates an organizational environment that is supportive of organizationwide collaboration. The creation of such an environment leverages the experiences and capabilities of all members, creates a shared understanding of problems, allows for the creation of more effective solutions to problems, and assists in effective implementation of solutions through tighter collaboration (Gebhardt et al., 2006).

From another perspective Slater and Narver (1995; 1999) defined market-oriented culture “as the culture that (1) places the highest priority on the profitable creation and maintenance of superior customer value while considering the interests of other key stakeholders; and (2) provides norms for behaviour regarding the organizational development of and responsiveness to market information,” (Slater and Narver 1995; p. 67). The market-oriented culture as they defined it has two externally oriented objectives: first, the development of information about customers and competitors; and second, the development of strong inter-functional teams, with the aim of sharing information and building consensus on the meaning of the information (Slater and Narver, 1999; 1995).

To achieve these objectives, Slater and Narver (1999) observed, market-driven firms develop relationships with potential learning partners, namely, suppliers, businesses in entirely different industries, consultants, universities, government agencies, and others possessing knowledge. The development of these relationships enables a market-oriented culture to serve as a strong foundation for learning about markets. This in turn provides the opportunity for generative learning as the scope of market orientation includes all stakeholders and constituencies that possess, or are developing, knowledge that has the potential to contribute to the creation of superior customer value (Slater and Narver, 1995).

Slater and Narver (1999), however, pointed out that market-oriented culture as it stands may not encourage a sufficient willingness to take risks (Slater and Narver, 1999). To encourage sufficient willingness to take risks they suggested that the focus of a market-oriented culture should include the pursuit of innovations. This is because the focus of a market-oriented firm is on understanding latent needs, and this is inherently an entrepreneurial culture. They argued that firms with a history of successful innovation are known to have effective systems for
collecting and evaluating information (Slater and Narver, 1999). In addition, the values of these firms have entrepreneurial traits, such as high tolerance for risk, pro-activeness, and receptivity to innovation, and active resistance to bureaucracy. Slater and Narver (1999) argued that these traits of entrepreneurial culture foster the environment in which continuous learning takes place. This environment in turn is strongly associated with acquiring knowledge through experience, challenging assumptions in order to create generative learning, and rapidly developing new behaviours to leverage learning (Slater and Narver, 1999).

Despite the importance of the role of culture in marketing knowledge processes, Day (1999b) pointed out that “a market-focused culture would only create tension and frustration if it were grafted onto an internally focused structure” (p. 61). In this connection he suggested that “companies that want to increase their market orientation often have to change their organizational structures”, in order to develop a structure that would continually anticipate and adapt to changing customer requirements (Day, 1999b; p. 183). The next section, therefore, looks at externally oriented organizational structure that support the market-driven culture discussed above.

3.2.2 Market-driven organizational structure

The development and dissemination of marketing knowledge in organizations requires a structure to facilitate these activities (Day, 1999b). According to Day (1999b) the ideal structure for a market-driven organization is to have all functional activities integrated and aligned in the delivery of superior customer value: “The challenge, therefore, is devising a structure that can combine depth of knowledge found in a vertical hierarchy with the responsiveness of horizontal process” (Day, 1999b; p. 6). Day (1999b) argued that the most appropriate structure for supporting the marketing knowledge processes in a market-driven organization is “adaptive organization design” (p. 7). This means hybrid structures that combine the features of horizontal processes and vertical, functional forms (Day, 1999b).

**Traditional hierarchical organization:** Traditional vertical hierarchy is defined as “a pyramid of individuals (or ‘offices’) arranged in vertical authority-based relationships to one another” (Grant, 2002; p. 142). Vertical hierarchies, usually associated with bureaucratic systems, are vehicles for the exercise of authority, relying heavily upon rules and directives that emanate from the source of authority in the organization and apply top down (Grant, 1996b). According to Grant (1996b) bureaucracy, as a structure, maximizes the efficiency of
knowledge integration, especially, where direction is the predominant integrating mechanism. A case in point is the knowledge-based firm, where rules and directives exist to facilitate knowledge integration and their source is specialist expertise which is distributed throughout the organization (Grant, 1996b).

The traditional vertical hierarchy is a structure based on a belief in unit of command, where there is only one reporting relationship (Day, 1999b). The span of control for any manager should then not be more than five to seven reporting relationships, to avoid going beyond the limit of direct communications. Another deep-seated belief about hierarchies is that authority should be commensurate with responsibility (Day, 1999b). As a result ambiguity about roles and responsibilities is minimized with clear job descriptions. Day (1999b) pointed out that these beliefs are predicated on the assumption that information flows cannot be rich and broad simultaneously. There are trade-offs. Reach is determined by the number of people who share the same amount of information at the same time. Richness embraces the amount of information that can be communicated at one time, plus the extent of tailoring of the information that is sent or received, and the likelihood of dialogue or interaction (Day, 1999b).

Day (1999b), however, observed that the arrival of information technology on the business scene has changed the trade-off between reach and richness. The emergence of the internet, extranets, and intranets provides opportunities for broad and deep information flows in an organization and its external stakeholders. This creates the opportunity to move away from rigid hierarchies to create new organizational forms (Day, 1999b).

In the development and dissemination of marketing knowledge, the traditional vertical hierarchy has at least two strengths (Day, 1999b). First, vertical hierarchy is a good approach for small firms with focused strategies and straightforward value propositions where the customers' needs are well known to all functions. “Line of sight” information sharing and strong leadership are sufficient to ensure alignment of functions with the market. Secondly, because jobs are carefully divided into well-defined, specialist activities, there is deep functional expertise. The merits of traditional organizational hierarchies are supported by empirical evidence provided by Kirca et al. (2005) in their work on multivariate analysis of antecedents of market orientation. They noted that centralized decision-making structure or hierarchies “can prevent that structure from impeding the information flow that is critical for market orientation” (Kirca et al., 2005; p. 37). According to Kirca et al. (2005), the prevention
of impediments to information flow can be accomplished when market orientation efforts are focused within top management.

Despite these strengths, Day (1999b) argues that vertical structure interferes with the flow of information from the market. This is because information moves sluggishly up the hierarchy from the sensors that are in direct contact with the market (Day (1999b), as bureaucratic structure emphasizes control and the predictability of specific functions (Nonaka and Takeuchi, 1995). Bureaucratic structure is therefore highly formalized, specialized, centralized, and largely dependent on the standardization of work processes for organizational coordination. It is suitable for conducting routine work efficiently on a large scale, and is common in stable and mature industries with mostly rationalized, repetitive work (Nonaka and Takeuchi, 1995).

**Horizontal organizations:** The horizontal organization is built around natural work flows and core processes and integration comes through a shared concept of how to meet customer needs better than the competition can (Day, 1999b). In this respect, processes and activities that directly affect products or services are the main candidate for horizontal structures (Hodge, 1999). Hodge (1999) argued that, by identifying these core processes, the focus for the structure becomes the entire processes, not individual jobs. Horizontal structures have the following distinguishing features. First, there are fewer layers with fewer supervisory responsibilities in self-managed teams, and only a lean top management is needed to provide direction. Secondly, there is an emphasis on developing competitively superior capabilities. Finally, the organization is capable of being continually reconfigured as conditions change, rather than remaining static and rigid (Day, 1999b).

It is instructive to note that “horizontal forms that actually work do not exist in pure form” (Day, 1999b; p. 198). Similarly, Spector (1999) argued that “the horizontal organization, for all intents and purposes, does not exist.” He added that “almost every organization experimenting with horizontal structures ... amounts to a hybrid organization in which cross-functional core process teams are overlaid on more traditionally structured, typically functional organization” (Spector 1999; p. 97). Hodge (1999) in his contribution to this debate acknowledged that “there is no one structure for each organization” but “that most organizations will have both horizontal and vertical divisions in their organizational structure” – the hybrid (p. 106).
**Hybrid organizations:** As previously noted hybrid organizations are created by combining the elements of vertical and horizontal structures. Day (1999b) observed that firms creating hybrid structures recognize the need to foster vertical skills and disciplines such as the mastery of information technology that enables the seamless integration of business and its customers. The emergence of information technologies has provided opportunities for broad and deep information flows throughout organizations that in turn have led to organizational innovation and new approaches to the design of hybrid structures (Day, 1999b).

For example, organizations may create hybrid structures by combining horizontal business processes. This is because “specialist functions such as R&D and marketing research are needed to provide technical expertise and replenish the horizontal processes with new ideas — either through new insights from outside the firm or the transfer of learning across teams. As a result, most firms start with ‘centres of excellence’ based on traditional departments and disciplines”, and then modify the vertical function so that “it is more meaningful” (Day, 1999b; p. 199). To Nonaka (2002) hybrid organizational design is moving toward a hypertext form. What follows looks at this hypertext organization design.

**Hypertext organizations:** Hypertext organizational structure, which is the result of information technology that facilitates information sharing, is a new organizational form designed to increase companies’ connection to the market (Day 1999b). Nonaka (1994) defined “hypertext” organization as organizational design that enables “conditions that promote a more favourable climate for effective knowledge creation” organization-wide (p. 32). On top of the hypertext organization is a process or project team layer where multiple teams manage horizontal processes or engage in knowledge-creating activities such as new product development or charting new interactive strategy (Nonaka and Takeuchi, 1995). The team members are assigned from diverse functions or practice areas for the duration of the project, or in the case of core processes they would have a continuing commitment with the option of returning to a functional home (Day, 1999b).

In the middle is the functionally structured business system layer that develops the expertise necessary to support the business strategy and provides a talent pool for functional teams (Day, 1999b). This layer also creates opportunities for networking and sharing functional expertise so that learning is readily available to all teams. The business systems are linked to each other and the business processes by information technology, rather than by a tradition.
At the foundation of the hypertext organization is the “knowledge-base” layer where cumulative organizational knowledge resides (Day 1999b). According to Nonaka (2002) this layer does not exist as a distinct organizational form, for it is composed of both the tacit knowledge contained in the corporate vision and culture, and the explicit knowledge contained within the information systems. Members of the hypertext organization can readily shift from one layer to another layer as circumstances change. However, someone belongs or reports to only one structure at a time (Nonaka, 2002).

A flexible, organic structure: To Slater and Narver (1999) market-oriented organizations competing in complex and dynamic industries develop an "organic form" of organizational structure to learn about markets. Organic organizational structure is defined as “an organizational architecture that is decentralized, with fluid and ambiguous job responsibilities and extensive lateral communication processes” (Slater and Narver, 1999; p. 254). The development of this organic structure is based on the premise that “high environmental uncertainty requires high frequency and informality in communication patterns among organizational units for effective diffusion of knowledge.” As a consequence, members of these organizations, both internal and external, recognize their interdependence and are willing to cooperate and share information to sustain the effectiveness of the organization (Slater and Narver, 1995). The necessity of effective information sharing in the learning organization demands that systematic or structural constraints on information flows be dismantled — and this is the form to which organic organizational structures subscribe (Slater and Narver, 1999; 1995).

Although Slater and Narver (1999) advocated the organic structure for market-oriented organizations, they noted that it has some shortcomings, such as the personal frustration that arises among some employees from the ambiguity and uncertainty of the work environment. Furthermore, the need for frequent and extensive communication demands a high individual involvement, and this creates anxiety, and prolongs the length of time required to reach a decision (Slater and Narver 1999). Considering various forms of organizational structures discussed above with their strengths and weaknesses, it can be argued that “as part of the overall configuration of the firm, structure plays a powerful role in creating a market-driven organization” (Day, 1999b; p. 208).

3.2.3 Market-driven strategy
According to Zack (1999) the most important context for guiding knowledge management processes in an organization is its strategy, as “an organization's strategic context helps to
identify knowledge management initiatives that support its purpose or mission, strengthen its competitive position, and create shareholder value” (pp. 124–125). Strategy for knowledge initiatives, then, can be thought of as balancing knowledge-based resources and capabilities to the knowledge required for providing products or services in ways superior to those of competitors (Zack, 1999).

Gebhardt et al. (2006) referred to market-oriented strategic plan as “transformation plans” or a “collaborative strategy” whose development is “focused on organization culture and process changes rather than on specific end-state goals or objectives, such as market share or return on assets” (p. 41). The development of this plan takes a team approach which engages the entire organization in the change effort (Gebhardt et al., 2006). In this way collaborative development of strategy leverages a firm’s collective knowledge and capabilities, leading to more creative and realistic strategies that can be implemented.

In contrast, traditional planning processes (for example, the budget-cycle-oriented planning procedures) are driven by internal concerns and begin with corporate planning cycles and a reactive stance to the markets (Day 1999b). The traditional planning processes, however, are usually installed by firms when environmental change is expected to be slow or negligible (Day, 1999a). In that circumstance they provide a useful mechanism for reducing uncertainty, coordinating activities and allocating resources. Nevertheless, these planning processes are known to have a fatal flaw in that they tend to be internally focused and lack robust mechanisms for challenging accepted assumptions about the market, or bringing new strategies to light. The traditional planning processes also lay emphasis on maintaining control by the centre (Day, 1999a).

Market-oriented organizations however, have two approaches to guide their strategy development process: an adaptive planning and anticipation of the market processes (Day 1999b). The adaptive strategic-planning process focuses on real-time issues. This tends to keep the organization keyed to the evolving issues in the market and helps prevent it from slipping into short-term, cost-conscious strategic planning. On the other hand, a strategic planning process based on anticipation of the market involves market-driven organizations combining a clear-headed understanding of their capabilities and limitations with a broadly informed point of view about the future of its markets (Day, 1999a).

Market-driven organizations anticipate the market by using two approaches to challenge their market sensing activities (Day, 1999b). First, they broaden the conversation of the strategic
planning process by bringing dissident voices to challenge the insights from their market sensing activities. Secondly, they use scenario thinking to identify key changes, and encourage both reflection and anticipation about the market in the planning process. Each of these approaches requires a sense of urgency and concerted leadership to sustain the challenge to the strategy and search for a new path (Day, 1999b).

By broadening the conversation, firms bring new voices from the periphery of the organization into its planning process. These voices give the market-driven company an opportunity to identify some of the first signs of emerging changes that could move the organization in new directions (Day, 1999b). The planning process seeks out these voices of dissent inside and outside the organization. The divergent voices of outsiders are usually added to the management team to encourage diversity of viewpoints and overcome homogeneity in the strategy dialogue (Day, 1999b).

The aim of scenario thinking is to provide an expansive interpretive framework into which subsequent events can be placed (Day, 1999b). Scenarios combine estimates of what might happen if the driving forces in the market continue, with assumptions about what else could happen. For instance, if managers have already contemplated a range of possible outcomes, scenario thinking provides meaning by enabling the milieu within which managerial speculations, predictions, and unverified data about the future of their market can be interpreted (Day, 1999b). In this respect it could be argued that scenario thinking makes provision for reacting to, and thinking about, actions that increase the likelihood of a preferred outcome.

The advantage of scenario strategic thinking is that it helps firms to avoid the danger of overlooking a potentially significant peripheral event and low-power signal data which may be filtered out through the prevailing mental model in conventional planning approaches (Day, 1999b). Scenario strategic thinking achieves this feat by providing a “flexible process for developing descriptive narratives of plausible alternative projections of the future” (Day, 1999b; p. 218). In contrast, the conventional planning approach has the tendency to squeeze all forecasts of complex indeterminate futures into the possible outcomes of ‘best case’, ‘expected’ or ‘worst case’ — and then only pay attention to the expected outcome (Day, 1999b).

Decentralized strategic-planning: The adaptive strategy development advocated by Day (1999b) finds expression in what Slater and Narver (1995) termed the decentralized strategic-
planning — an iterative, participative approach to strategy-making. According to Slater and Narver (1995), this approach helps organizations to gain adequate knowledge and commitment from key stakeholders. This is because a learning organization’s strategy-making allows strategy to emerge in response to an evolving environment, which is informal and adaptive. Strategy is thus allowed to be developed through a process of bottom-up intrapreneurship, in which the role of top management is to encourage experimentation and nurture the development of the highest potential ideas (Slater and Narver, 1999; 1995).

Learning-based strategy in this sense provides the means for a critical assessment of key assumptions about the business and its environment (Slater and Narver, 1995). These assumptions or mental models have a powerful influence on behaviour because they shape perceptions of information, causing the organization to accept some information and reject other information that does not fit with the dominant model of the environment and the organization's role therein.

**Challenging the Strategy:** Day (1999b) argued that strategy is always the product of a complex and unexpected interplay between ideas, information, personalities and desire. This has major implications for the planning process, in that it is required to challenge and replace cherished assumptions and envision new ways of extending the organization’s capabilities to deliver superior customer value. “Market-driven organizations use a rigorous process of strategy review to challenge their planning assumptions and beliefs about the market. The quality of these reviews of strategy by senior management ranges from a carefully staged exercise that endorses a pre-sold plan to a rigorous challenge to the foundations of the strategy” (Day, 1999b; p. 221). “This emphasis on challenging from the top leads to an organization that reflects and learns from its experience” (Day, 1999b; p. 222). This affirms the contention that “market-driven strategic thinking flourishes in a learning organization” (Day, 1999b; p. 223), reflecting the kind of strategy to guide the process for developing and disseminating marketing knowledge in organizations.

### 3.2.4 Organizational systems

Another set of elements that management might alter to facilitate marketing knowledge development and dissemination pertains to organization-wide systems (Jaworski and Kohli, 1993). According to Olson et al. (2005) organizational systems strategies are rooted in a view of the organization as a social system composed of interdependent subsystems. Coordination within these subsystems is accomplished through management policies and practices, which
in turn interact with the environment to help achieve a set of goals or objectives (Olson et al., 2005).

In the discussion of the development and dissemination of marketing knowledge, “organizational systems” refers to those structural characteristics of an organization that could influence market orientation behaviour (Olson et al., 2005; Day, 2000b; Kohli and Jaworski, 1999). These characteristics include departmentalization, formalization, centralization, and reward/measurement and incentives systems. Market orientation behaviour includes customer-oriented behaviours, competitor-oriented behaviours, innovation-oriented behaviours, and internal/cost-oriented behaviours. It is important to understand that these strategic behaviours are not mutually exclusive and that it is common for firms to engage in multiple sets of behaviours simultaneously (Olson et al., 2005).

Formalization represents the degree to which rules define roles, authority relations, communications, norms and sanctions, and procedures (Jaworski and Kohli, 1993). Centralization refers to the inverse of the amount of delegation of decision-making authority throughout an organization and the extent of participation by organizational members in decision-making. Departmentalization refers to the number of departments into which organizational activities are segregated and compartmentalized (Jaworski and Kohli, 1993). Research to date suggests that both formalization and centralization are inversely related to information utilization (Jaworski and Kohli, 1999). In the marketing literature information utilization corresponds to designing programmes in response to market intelligence (Deshpandé, 1999). In this sense it can be argued that formalization and centralization are also inversely related to an organization’s responsiveness (Jaworski and Kohli, 1999). Similarly, the marketing literature suggests that departmentalization is a barrier to communication and, hence, to market intelligence dissemination (Deshpandé, 1999; Jaworski and Kohli, 1993).

Kohli and Jaworski (1999) argued that structural dimensions of an organization may not affect all three components of a market orientation—intelligence generation, intelligence dissemination, and responsiveness—in the same way. This is because a market orientation essentially involves doing something new or different in response to market conditions. In this sense it can be viewed as consisting of two stages, (1) the initiation stage (i.e. awareness and decision-making stage) and (2) the implementation stage (i.e. carrying out the decision). The initiation stage corresponds to intelligence generation, dissemination, and the design of an organizational response, whereas the implementation stage corresponds to the actual organizational response (Kohli and Jaworski, 1999). According to Kohli and Jaworski (1999)
numerous studies indicate that organizational dimensions such as departmentalization, formalization, and centralization may have opposite effects on the two stages of innovative behaviour. In particular, these studies revealed that, whereas these variables may hinder the initiation stage of innovative behaviour, they may facilitate the implementation stage of innovative behaviour. Hence departmentalization, formalization, and centralization may be related inversely to intelligence generation, dissemination, and response design, but positively to response implementation (Kohli and Jaworski, 1990).

In a study Jaworski and Kohli (1999) suggested that centralization of decision-making serves as a barrier to a market orientation. They, however, observed that the patterns of results for this element across samples are different (Jaworski and Kohli, 1999). In one sample, centralization was inversely related to intelligence dissemination and responsiveness, and in another, centralization was inversely related to intelligence generation (Jaworski and Kohli, 1993). Contrary to prior hypotheses put forward by Jaworski and Kohli (1993) formalization does not appear to be related to a market orientation. This result parallels to some extent the results reported by Narver and Slater (1991), who suggested that programmatic approaches to improving market orientation may not be effective.

Jaworski and Kohli (1993) argued that emphasis on rules typically makes an organization less adaptive to external changes. They, however, noted that the mere emphasis on rules is less relevant than the precise nature of the rules (Jaworski and Kohli, 1993). In other words, it is possible that, if properly designed, rules may facilitate rather than hinder a market orientation. For example, an organization may use rules to mandate that the various departments meet every month for a "market assessment" meeting. Such a rule is likely to enhance intelligence dissemination. Similarly, other rules may mandate fast response to customer complaints or other market developments, thereby improving a market orientation. Similarly, the lack of a relationship between departmentalization and a market orientation suggests that the sheer number of departments is less important than the connectedness and level of conflict among departments (Jaworski and Kohli, 1993).

Research on measurement/reward systems and their effects on market-driven behaviour (and in particular, their effects on attitudes and behaviour of employees) are also found in the market orientation literature (Deshpandé, 1999; Jaworski and Kohli, 1993). Empirical work carried out by Jaworski and Kohli (1993) suggested that the design of reward systems has the strongest impact on market orientation from among the set included in the study. The "right" reward systems appear to facilitate all three components of a market orientation – intelligence
generation, intelligence dissemination, and responsiveness (Jaworski and Kohli, 1993). This result also suggested that measurement/reward systems are instrumental in shaping the behaviours of employees (Jaworski and Kohli, 1993). Jaworski and Kohli (1993), therefore, argued that the key to developing a market-driven and customer-oriented business is the way managers are evaluated and rewarded. For example, if managers are evaluated primarily on the basis of short-term profitability and sales, they are likely to focus on those criteria and neglect market factors, such as customer satisfaction, that ensure the long-term health of an organization (Kohli and Jaworski, 1990).

According to Kohli and Jaworski (1990), their findings were supported by the practices of several organizations included in the study. They noted that “though only one organization sampled appears to tie compensation to market-oriented performance, if rewards are construed more broadly to include appreciation, recognition, and approval, a larger number of organizations in the sample measured and rewarded market-based performance. For example, several organizations make it a point to single out and recognize employees who are identified by customers as being particularly helpful. Other organizations have instituted one or more variations of the ‘employee of the month’ theme” (p. 12). In sum, “there was considerable variance in the extent to which organizations measure and reward market-based performance and their effects on market-oriented behaviour (Kohli and Jaworski, 1999; p29 – 30).

In a Ghanaian study Kuada and Buatsi (2005) found out that a firm’s reward systems affect market orientation behaviour. Specifically their study showed that “the relationship between a reward system and overall market orientation is positive and significant. A reward system also has a positive relationship with each of the three other components of market orientation: intelligence generation, intelligence dissemination, and organizational responsiveness” (p. 81). In discussing the results of their findings Kuada and Buatsi (2005) argued that, for reward systems to be motivating, employees must consider them fair, equitable, and related to performance.

The results of Kuada and Buatsi’s (2005) study also revealed that rewards reflect top management’s perception of a person’s contribution to the attainment of an organization’s goal, as they can condition individual behaviour. They noted, for example, that a competency-based reward system indicates that management is prioritising the acquisition of skills and knowledge rather than task performance, because the firm will be able to satisfy variations and changes in their customers’ needs if the requisite skills and knowledge exist within the company (Kuada and Buatsi, 2005).
The role of reward-and-incentive systems in sustaining market-driven behaviour is also supported by case studies conducted by Gebhardt et al. (2006). For example, the findings of Gebhardt et al. (2006) showed that, to establish market-driven culture in organizations, "cultural values are initially inculcated through management actions that exemplify desired values and through the recognition and rewarding of behaviours that are aligned with desired values" (p. 51). Gebhardt et al. (2006) described "these management actions and rewards" as "culture change levers that focus on intrinsic motivation, group dynamics, and social acceptance" (p. 51).

An organization's system of rewards and incentives could also determine the channels from which knowledge is accessed and how it flows (Gold et al., 2001). For example, in a case study involving an advertising and direct marketing company, Davenport et al. (1998) reported that "incentive and reward systems changes were necessary to get the creative people to share their knowledge with their peers" (p. 52). In this respect reward-and-incentive systems could be structured so that workers are motivated and rewarded for taking the time to generate new knowledge (i.e. learn), share their knowledge, and help others outside their own divisions or functions (Gold et al. 2001). To Gold et al. (2001) it is the combination of these structural dimensions, an organization's formal organizational structure, and incentive systems that make up an organization's overall knowledge management structure.

It is instructive to note that, while all of the preceding organization wide characteristics involve formal systems within organizations (Jaworski and Kohli, 1993), the management literature reflects an increasing recognition of the important role of looser, less formal systems in shaping organizational activities. However, one particular characteristic of an informal organization appears to be particularly relevant as a determinant of marketing knowledge development and dissemination: namely, political norm structure (Kohli and Jaworski, 1999). Political behaviour consists of individuals' attempts to promote their self-interests and threaten the interests of others. Political norm structure is an informal system that reflects the extent to which members of an organization view political behaviour in the organization as being acceptable. A market orientation calls for a concerted response by the various departments of an organization to market intelligence. However, a highly politicized system has the potential for engendering interdepartmental conflict — thereby inhibiting market-oriented behaviour (Kohli and Jaworski, 1999).
3.2.5 Inter-departmental dynamics (relationships)

Another set of factors that has been found to have an effect on market-oriented behaviour pertains to interdepartmental dynamics, the formal and informal interactions and relationships among an organization's departments (Kohli and Jaworski, 1990; 1993). Interdepartmental dynamic factors are classified into two categories: connectedness and conflict. Interdepartmental conflict refers to the tension among departments arising from the incompatibility of actual or desired responses, while interdepartmental connectedness refers to the degree of formal and informal direct contact among employees across departments (Jaworski and Kohli, 1993).

Kohli and Jaworski (1999) argued that interdepartmental conflict inhibits communication across departments, and hence market intelligence dissemination. Interdepartmental conflict may stem from individual departments to be more important or powerful, or may even be inherent in the charters of the various departments (Kohli and Jaworski, 1990). Kohli and Jaworski (1999) pointed out that tension between departments is therefore likely to inhibit a concerted response by the departments to market needs. Market orientation research, however, suggests that interdepartmental conflict has no effects on intelligence generation, because it cannot affect the information acquisition processes in a given department (Jaworski and Kohli, 1999).

Kohli and Jaworski's (1990) field interviews also revealed that, in order to improve market orientation, some organizations deliberately created communication channels between departments in order to make interdepartmental connectedness work effectively. For example, some organizations formally required periodic meetings of employees from different departments to facilitate the sharing of market intelligence. This was in marked contrast to practices of departments operating independently of one another and being coordinated only by top management. The importance of interdepartmental connectedness in facilitating the dissemination of and responsiveness to market intelligence is supported by programme evaluation literature. For example, evidence in the programme evaluation literature indicates that the key predictors of research information utilization in programme evaluation settings are the extent and quality of interaction between the evaluators and the programme personnel (Kohli and Jaworski, 1990).

Kohli and Jaworski (1990) in-depth field interviews identified some of the ways in which organizations managed interdepartmental dynamics through in-house efforts. These included:
(1) interdepartmental lunches, (2) sports leagues that require mixed-department teams, and (3) newsletters that "poke fun" at various interdepartmental relations. More advanced efforts to manage these variables include (1) exchanges of employees across departments, (2) cross-department training programmes, and (3) senior department managers spending a day with executives in other departments. According to Kohli and Jaworski (1990) such efforts appear to foster an understanding of the personalities of managers in other departments, their culture, and their particular perspectives.

Another element of interdepartmental dynamics suggested by the literature on group dynamics is concern for others' ideas, i.e. openness and receptivity to the suggestions and proposals of other individuals or groups (Kohli and Jaworski, 1990). It has been observed in previous studies that a low level of concern for the ideas of others is directly related to restricted information flows, distrust, and antagonism, which results in ineffective group processes (Kohli and Jaworski, 1990). Thus it may be argued that low levels of concern for the ideas of individuals in other departments impede the dissemination of market intelligence across departments and the responsiveness of individuals to intelligence generated in other departments. To sum up, interdepartmental dynamics play a very important role in determining the level of market-oriented behaviour of a business. Interdepartmental conflict reduces market orientation, whereas connectedness plays a facilitative role (Jaworski and Kohli, 1993; Kohli and Jaworski, 1990).

3.3 Marketing knowledge approach: top management factors

Management factors have emerged as one of the most important variables in fostering market-oriented behaviour (Jaworski and Kohli, 1993). In the marketing literature it appears that management factors best suited to developing and disseminating marketing knowledge are substantially different from the traditional managerial models with which most executives are familiar. These management factors have been defined in terms of a market-driven organization’s approach to learning about markets (Day, 1999b).

The traditional managerial model is basically the classic hierarchical model. The “implicit assumption behind this traditional model of organization is that only top managers are able and allowed to create knowledge” (Nonaka and Takeuchi, 1995; p. 125). Management influence organizational behaviour through the use of control systems, trying to direct employee behaviour to enhance the probability of the outcomes that management desires (Olson et al. 2005).
The market-driven organization approach, on the other hand, entails management making an unequivocal commitment to putting customers first (Day, 1999b). According to Day (1999b), this commitment is signalled mainly by deeds and time spent, because, without these, the rest of the organization would soon learn the real priorities and behave accordingly. Jaworski and Kohli (1999) argued that commitment by top management to reinforce the importance of market-oriented behaviour in an organization is likely to encourage individuals to track changing markets, share market intelligence with others in the organization, and be responsive to market needs.

Another management factor that Jaworski and Kohli (1999) identified for fostering market-oriented behaviour relates to top managers' risk posture. The argument is that, if top management demonstrate a willingness to take risks and accept occasional failures as being natural, they are more likely to motivate junior managers to propose and introduce new offerings in response to changes in customer needs. By contrast, if top management is risk averse and intolerant of failures, subordinates are less likely to focus on generating or disseminating market intelligence or responding to changes in customer needs.

The above observations are supported by empirical evidence provided by Jaworski and Kohli (1999). Their findings indicated that market orientation appears to be facilitated by the amount of emphasis top managers place on market orientation through continual reminders to employees that it is critical for them to be sensitive and responsive to market developments. The results also indicated that a market orientation appears to require a certain level of risk-taking on the part of senior managers, and a willingness to accept occasional failures of new products and services as being a normal part of business life (Jaworski and Kohli, 1993). In the absence of such a willingness to take calculated risks, employees in the lower levels of an organizational hierarchy are unlikely to want to respond to market developments with new products, services, or programmes (Jaworski and Kohli, 1999).

The findings of a study conducted by Kuada and Buatsi (2005) into market orientation and management practices in Ghanaian firms suggested that “market orientation is dependent on top management involvement and the willingness to reward employees for being market oriented” (p. 81). The results of the study showed that Ghanaian firms require stronger top management support to implement market-oriented strategies fully and consistently (Kuada and Buatsi, 2005).
Market-driven leadership as espoused by Day (1999b), Kohli and Jaworski (1999), and Jaworski and Kohli (1999) is in essence facilitative leadership. Facilitative leadership involves empowering organizational management and executive staff to manage their own businesses in market-driven organizations (Slater and Narver, 1999). According to Slater and Narver (1999) empowering leadership in learning organizations fosters a climate in which inquiry and commitment to the truth are the norm, encouraging individuals to break through learning boundaries.

3.4 Marketing knowledge infrastructure goals

The goal(s) of marketing knowledge infrastructure refers to the sense in which elements of the infrastructure interrelate with elements of marketing knowledge processes (marketing knowledge development and dissemination) in organizations.

As we previously noted marketing knowledge infrastructure has been defined in terms of the following elements or variables: market-oriented culture, entrepreneurial culture, facilitative leadership style, organic structure, learning-based strategic planning and supporting change programmes (or antecedents of market orientation) (Day, 1999b; Slater and Narver, 1999; Kohli and Jaworski, 1999). The sense in which these variables (or antecedents of market orientation) interrelate with the elements of the market orientation construct is expressed in terms of the following concepts: foster or discourage, enhance or impede (Kohli and Jaworski, 1999), support, facilitate, and enable (Kohli and Jaworski, 1990; Slater and Narver, 1995; Krogh et al. 2000).

For example, in a field study, Kohli and Jaworski, (1990) conceptualized antecedent conditions of market orientation as organizational factors, that “foster or discourage” the market orientation construct, or “enhance or impede” the implementation of the business philosophy represented by the marketing concept (p. 6). In this example Kohli and Jaworski, (1990) used the concepts “foster or discourage”, and “enhance or impede” to express the sense in which these organizational factors interrelate with the elements of the market orientation construct. Similarly, Slater and Narver (1995) expressed the relationship between organizational culture/climate and the market orientation construct with the concept “foster” (p. 66). In a case study Day (1999a) described shared beliefs and values, organization structures and systems, strategy development processes as “supporting” programmes for building a market-driven organization (p. 358).
In the organizational learning and knowledge creation literature, the goals of marketing knowledge infrastructure reflect similar concepts (and their meanings) as giving above. For example, in a case study Nonaka and Takeuchi (1995) described organizational intention, which usually take the form of strategy within business setting as “enabling” condition for organizational knowledge creation. Moreover, the cultivation of communities of practice in organizations as a means to create knowledge requires knowledge infrastructures that ‘support’ or ‘help’ such communities reach their full potential (Wenger et al., 2002; Wenger and Snyder, 2000).

To conclude the ‘sense’ in which elements of marketing knowledge infrastructure interrelates with the marketing knowledge development and dissemination as elements of marketing knowledge processes in organizations has not been a subject for research and as such the concepts representing this ‘sense’ are not well developed. This study intends to look at these concepts, which may have some bearing on our understanding of marketing knowledge development and dissemination in organizations.

3.5 The concept of effectiveness

As we noted earlier, marketing knowledge processes in organizations with its elements, including the concepts of developing and disseminating marketing knowledge, is the foundation upon which marketing capabilities are built (Day, 1999b; Ianstid and Clarke, 1994), and an essential aspect of our assessment of capabilities is their association with aspects of organizational effectiveness (Gold et al., 2001). However, organizational effectiveness is not a well-developed concept and is more complex in terms of description and dimensions (Drucker, 1992; Gold et al., 2001). Nevertheless, the concept of effectiveness seems to permeate almost all the knowledge processes found in management literature and, therefore, must have some bearing on our understanding of these processes (Dawson, 2000; Drucker, 2007). In view of this, the concept of effectiveness represents an opportunity for research, the current study takes a step further to look at this concept.

For example, Slater and Narver (1995) defined ‘effective’ organizations in terms of configurations of management practices that facilitate the development of the knowledge that becomes the basis for competitive advantage. They argued that a market orientation, complemented by an entrepreneurial drive, provides the cultural foundation for organizational learning — the development of new knowledge (Slater and Narver, 1995). However, a market-oriented culture can achieve ‘effectiveness’ only if it is complemented by a spirit of
entrepreneurship and an appropriate organizational climate, namely, structures, processes, and incentives for operationalizing the cultural values (Slater and Narver, 1995). Day (1999a) also described the elements of marketing knowledge infrastructure as "effective interventions and levers" and "effective actions and programmes" to enhance the development of capabilities (pp. 356, 363).

Dawson (2000) argued that the success of knowledge process activities is dependent wholly on an organisation's "ability to perform each of these processes more effectively" (p. 323). Dawson (2000) also observed that today virtually all companies can be considered to be knowledge organizations in that they depend on individual workers, and the organization as whole, to build their capabilities. This observation reflects the assertion of Drucker (2007) that "to be effective is the job of the knowledge worker" and that the knowledge worker "is first of all, expected to get the right things done", which "means simply that knowledge worker is expected to be effective" (p. 145).

Drucker (2007) argued that the individual knowledge worker finds himself within an organization where the people who are most important to his/her effectiveness are not people over whom he/she has direct control. He pointed out that unless the worker can reach those people "he has no effectiveness at all" (Drucker, 2007; p. 150). It is in this respect that Kohli and Jaworski (1999) argued that instilling market orientation in organizations requires "mechanisms" to be in place for intelligence generated at one location to be disseminated effectively to other parts of an organization. The mechanisms in this context are the marketing knowledge infrastructure and processes for developing and disseminating marketing knowledge when building marketing capabilities in organizations. These mechanisms are to ensure organizational effectiveness in the sense that the right job of producing the right knowledge is done in the organization to accomplish performance objectives (Drucker, 1992).

3.6 Summary

This chapter defined and discussed marketing knowledge infrastructure as another component of marketing knowledge development and dissemination processes in organizations. Elements of marketing knowledge infrastructure were identified, defined and discussed in terms of their role in facilitating marketing knowledge processes in organizations. Another component, marketing knowledge approach, was introduced and defined in terms of its impact on the marketing knowledge infrastructure elements, as it facilitates marketing knowledge processes in organizations. The concept of marketing knowledge infrastructure goals was introduced
and defined. The concept of effectiveness was defined and discussed as it confers general meaning on the facets of the processes for developing and disseminating marketing knowledge in organizations. The next chapter discusses Ghana which is the context for investigating the constructs under study.
Chapter 4

Developing and disseminating marketing knowledge: the Ghanaian context

4.0 Introduction

This chapter looks at prospects of marketing knowledge development and dissemination in organizations from Ghana’s perspective, the location for this study.

4.1 Marketing thought development

Ghanaian marketing thought development has its beginnings in a marketing system that was geared particularly to the requirements of the export-import trade to supply the needs of countries in Europe and North America (Livingstone et al., 1987). Little has happened recently to effect the development of marketing thought in Ghana. With the exception of a handful of empirical work on market orientation, very little attention has been given to how the marketing discipline is developed and disseminated within Ghanaian organizations (Kuada and Buatsi, 2005; Appiah-Adu, 1998).

According to Appiah-Adu (1998) the situation has worsened since marketing education receives little attention in academic circles in Ghana. He noted that a focus on the traditional professions and conventional social science courses has produced business managers who have little appreciation of the significance of marketing’s role within the firm. As such, sales activities are regarded as peripheral functions of debatable value, whereas manufacturing and engineering have attracted a higher profile among the public (Appiah-Adu, 1998).

This view on the Ghanaian marketing system finds support in the “Background and Rationale” statement of the first syllabus of the Ghanaian Higher National Diploma (HND) marketing programme (Polytechnics in Ghana, 1993). The statement noted that, until the introduction of the polytechnics in Ghana in 1993, there existed no indigenous education or training places to provide the necessary preparation for personnel to practise marketing in the country. This vacuum was filled by the Chartered Institute of Marketing (UK) evening courses which began to cater for such needs.

Nevertheless, the role of the marketing discipline as a key player in a developing economy is not a recent phenomenon. About five decades ago Peter Drucker (1958) argued that marketing holds a key position in an underdeveloped country’s economic development. He contended that one could not be concerned with the basic institutions of industrial society in general, and
with management of business enterprise in particular, without a deep and direct concern with marketing.

The paucity of studies into marketing thought development in developing economies such as Ghana has been attributed to a number of factors operating in these economies. The first of these factors relates to the level of a country's economy and how that affects marketing operations in that country (Wilmshurst, 1999). This assertion is based on the premise that, as society develops, the satisfaction of human needs also moves upwards, and Wilmshurst (1999) therefore argued that the social climate and level of development of a society affect the needs of customers. Customer needs, as we are aware, is the most basic concept underlying marketing, and the drive to satisfy those needs is what stimulates marketing activities in a country. Thus it can be argued that, as less-developed societies are principally concerned with the satisfaction of basic needs, marketing activities in these countries may be inversely affected. It is not surprising, therefore, that government officials and planners in these countries view “marketing activities and institutions ... with disdain and suspicion ...” (Akaah and Riordan, 1988; p. 41). As a result academic research into marketing activities in the less-developed economies is not given the support it needs (Appiah-Adu, 1998; Drucker, 1958).

A second factor, which has attracted much attention in the marketing literature and will be briefly discussed in the section below, is the question of applicability of marketing management know-how in developing countries (Yamoah, 2005; Appiah-Adu, 1998; Akaah and Riordan, 1988). This question, which has triggered debate in the international marketing circles provides some insight into the lack of research into marketing thought development in the less developed economies.

4.2 Applicability of marketing in developing economies

According to Appiah-Adu (1998), in spite of the continued use and application of marketing in the Third World, there is an ongoing debate concerning the applicability of marketing to developing countries. Associated with this issue are two schools of thought. One perspective is that the marketing concept is not applicable in developing countries because the principles and techniques are based on the tenets of buyers' markets (markets where the supply of goods and services is much greater than demand), whereas the vast majority of developing countries are characterized by sellers' economies (markets where the supply of goods and services is far less than demand). It has been argued that the marketing concept has been essentially a tool of developed countries, a means by which the products of buyers' market economies are
marketed, a discipline of domestic marketing theory that has been extended minimally to foreign situations (Appiah-Adu, 1998).

This view has raised some questions about "whether existing evidence related to the development of a market orientation is relevant to other parts of the world, most notably to countries that are not considered fully market-based economies" (Qu and Ennew, 2005; p. 82). The argument is that marketing is not a discipline of globally accepted principles that may be applied to a subset of national economies. Moreover, while the basic marketing concept is based on the premise that managers have full control over the components of the marketing mix, such a premise does not hold in developing economies (Appiah-Adu, 1998).

The alternative school of thought is that the concepts and techniques of marketing are applicable in developing countries, but lack of adequate marketing knowledge and shortage of marketing expertise are perceived as barriers to the applicability of the discipline. In fact, several academics and practitioners of development have asserted that one main problem in the economic development of Third World countries is that little attention has, so far, been placed on the shortcomings and opportunities of marketing (Appiah-Adu, 1998).

Besides these two alternatives, other variables have been identified as hindering research into marketing thought development in most developing countries. These include problems associated with the socio-cultural, governmental, legal, political and economic environments (Qu and Ennew, 2005; Appiah-Adu, 1998). Generally, factors such as poor growth and high inflation rates, rigid trade barriers, political instability and frequent changes in business laws, inadequate communications, sub-standard infrastructure, and high political risk serve as barriers to development. Furthermore, the market environment reflects sellers' market economies. In government circles, the view held by policy makers and planners is that a shortage of goods and services is the major problem of Third World countries and that the solution lies in increased production. In such an environment the implementation of marketing practices is considerably hindered (Appiah-Adu, 1998).

Clearly, marketing as carried out in developed countries, with an emphasis on inducing new needs and wants, may not be of prime concern in the poorer developing economies. Nevertheless, Appiah-Adu (1998) argued that the marketing concept is more than a quest for new needs and wants. It is basically a framework of analyses, tools and skills which provides executives with the ability to match organizational resources and competences to the needs of society. In this sense the marketing discipline can be effectively employed in an effort to meet
the needs of the Third World. It has, however, been pointed out that the applicability of marketing concepts and techniques might be dependent on country- and corporate-specific factors (Appiah-Adu, 1998; Akaah and Riordan, 1988).

4.3 Prospects of conducting marketing studies in Ghana

The debate as discussed above leaves a question mark over the prospects of conducting the current study in the Ghanaian marketing context. In the case of Ghana, however, it can be argued that the changes that have taken place politically, economically and socially since Ghana returned to constitutional democratic rule in January 1992 demand that we take a critical look at marketing as a business discipline. These changes are the result of the transition from a planned to a market economy fuelled by the government of Ghana’s implementation of the Structural Adjustment Programme (SAP), set up under the auspices of the International Monetary Fund (Appiah-Adu, 1998). The SAP comprises reforms in fiscal, monetary and exchange rate policies, as well as trade liberalisation, privatisation, rationalisation, and restructuring.

According to Appiah-Adu (1998) the “reforms in the marketplace are bound to transform Ghana’s once centralized economy into a free market” as “there is evidence to suggest that the new environment has resulted in increased performance of marketing activities in Ghana” (p. 121). This evidence is the result of the current growth in Ghana’s GNP, together with a continuous shift from a seller’s economy to a buyer’s market and from an economy of central command to a market economy (Appiah-Adu, 1998). Appiah-Adu (1998) pointed out that these events have resulted in an increased focus on market-oriented behaviours.

The position taken in this study, therefore, is that the concepts and techniques of marketing are applicable in developing countries but that lack of adequate marketing knowledge and shortage of marketing expertise are perceived as barriers to the applicability of the discipline. This position is supported by Appiah-Adu (1998) who, after considering the reforms, suggested that extensive research is needed to acquire the information necessary to facilitate strategic marketing decision making in the emerging competitive environment in Ghana. Meanwhile, the problem with the shortage of expertise is, to some extent, being solved with the help of private institutions running Chartered Institute of Marketing (UK) courses for would-be marketing professionals. In addition marketing programmes has been introduced into all the ten polytechnics in Ghana to train marketing personnel for Ghanaian industries (Polytechnics in Ghana, 1993).
4.4 Starting points

For those conducting research into marketing thought development in emerging economies Baker (2005) offered some suggested starting points. First, he observed that “common sense dictates that we should start any problem-solving activity by establishing what we know already ... Unless and until we have confirmed what is already known about a subject, any effort to solve a new problem can only be a hit-or-miss affair — a case of managerial myopia” (p. 1). In this respect a better appreciation of the past in the area under study is what is needed as a “starting point representing what we believe we know so that we may advance from a well-established base to explore what we do not know” (Baker, 2005; p. 2). This in turn would enable us to develop what Baker (2005) called CUGs— currently useful generalizations. Generalization is usually seen as the third step in the creation of knowledge, following observation and classification, and that as a “law or principle, it is usually sufficient to be used as a basis for decision-making and action” (Baker, 2005; p. 3).

Secondly, Baker (2005) suggested that a general theory of marketing could be built through a process of integration of a number of micro or miniature theories which constitute an adequate explanation of some part or parts of an area under consideration. He argued that “marketing is a synthetic discipline like many other subjects that are the basis of a professional practice” (Baker, 2005; p. 2). As a synthetic discipline, marketing integrates findings from other disciplines like economics, psychology, and sociology into a holistic explanation of commercial exchange behaviour. “Further, consideration of the core social sciences on which marketing is based suggests strongly that marketing is universal in nature. If this is so, then the marketing paradigms relevant to emerging economies are already known to us and we would do well not to reinvent them” (Baker, 2005; p. 2). The starting points suggested by Baker (2005) form the basis of this current research and underpin what has been written in the preceding chapters.

4.5 Conclusion

Considering the discussion above it is the contention of this study that it would be expedient for Ghanaian researchers in the field of marketing to seek to accelerate their progress by learning from the experience of our predecessors. This is what the current study has set out to do. The next chapter looks at methodological issues involved in investigating constructs used in this study in the context of Ghanaian businesses.
Chapter 5

Methodology

5.0 Introduction

This chapter deals with methodological and data collection issues needed to capture the constructs discussed in Chapters 2 and 3 and to answer the research problem and questions. These constructs and their components, which were represented in a conceptual framework (see Figure 1.2) guided the development of a multifaceted definition (Figure 5.2) for the area under study. Issues covered include the design of the study, the data collection instrument, and procedures.

5.1 Objectives of study

1. To outline a conceptual framework for a multifaceted definition of the processes for developing and disseminating marketing knowledge in organizations.

2. To identify and determine elements of the facets underlying these processes.

3. To infer the characteristics of a measurement scale that is necessary to fulfil the role identified in the principal aim of the study.

4. To identify the implications of the results of objectives 1–3.

5.2 The research process

Collis and Hussey (2003) referred to methodology as “the overall approach to the research process, from the theoretical underpinning to the collection and analysis of the data,” (p. 55). According to Yin (2003) the research process deals “with at least four problems: what questions to study, what data are relevant, what data to collect, and how to analyze the results” (p. 21). Sarantakos (1998) also suggests the following procedure for selecting a research design, the logical sequence that connects the empirical data to a study’s initial research questions.

1. Select an appropriate paradigm

2. Select a methodology, and

3. Select a set of methods for collecting and analysing the data

The sections that follow discusses the issues involved in the research process as referred to by these writers, beginning with the selection of research paradigm for this study.
5.2.1 Selection of research paradigm

According to Collis and Hussey (2003) “the term paradigm refers to the progress of scientific practice based on people’s philosophies and assumptions about the world and the nature of knowledge; in this context, about how research should be conducted” (p. 17). Paradigm in this sense is a framework comprising an accepted set of theories, methods and ways of defining data (Collis and Hussey, 2003). Bunniss and Kelly (2010) also referred to paradigms as sets of beliefs and practices, shared by communities of researchers, which regulate inquiry within disciplines. Paradigms defined in this sense can be used at three different levels (Collis and Hussey, 2003). First, at the philosophical level it is used to reflect basic beliefs about the world. Next, is the social level, where it is used to provide guidelines about how the researcher should conduct his or her investigations. Third, at the technical level it is used to specify the methods and techniques which ideally should be adopted when conducting research.

Generally, “there are two main research paradigms or philosophies”, namely, positivist and phenomenological paradigms, with different assumptions (Collis and Hussey, 2003; p.47). These assumptions are in the form of ontological, epistemological and methodological differences in conceptualising and conducting research, and contributing to disciplinary knowledge construction (Bunniss and Kelly, 2010; Collis and Hussey, 2003). The positivist paradigm ontological stance is based on the assumption that social reality is an external, concrete structure which affects everyone. Epistemologically, positivists believe that only phenomena which are observable and measurable can be valid and regarded as knowledge, and methodologically positivists ensure that concepts used in research can be operationalized. Thus, positivists try to maintain an independent and objective stance during their investigations (Collis and Hussey, 2003).

The phenomenological paradigm, on the other hand, is concerned with understanding human behaviour from the participants’ frame of reference (Collis and Hussey, 2003). This paradigm is based on the premise that social reality is within us and therefore considerable regard is paid to the subjective state of the individual. Epistemologically, the phenomenologist attempts to minimize the distance between the researcher and that which is being researched. Methodologically, a phenomenologist examines small samples, possibly over a period of time, using a number of different research methods to obtain different perceptions of the phenomena (Collis and Hussey, 2003).
Collis and Hussey (2003) argued that the positivistic and phenomenological paradigms are extremes and very few people would operate within their pure forms. There are a number of alternative classifications of paradigms, most of which underline the fact that there are not just two paradigms but a whole range. A continuum of core ontological assumptions with six identifiable stages as shown in figure 5.1 below underline these alternatives (Collis and Hussey, 2003).

<table>
<thead>
<tr>
<th>Positivist</th>
<th>Approach to social sciences</th>
<th>Phenomenologist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reality as a concrete structure</td>
<td>Reality as a concrete process</td>
<td>Reality as a contextual realm of social projection</td>
</tr>
<tr>
<td>Reality as a field of information</td>
<td>Reality as a realm of symbolic construction</td>
<td>Reality as a human projection of imagination</td>
</tr>
</tbody>
</table>

Figure 5.1 Continuum of core ontological assumptions

Source: Collis and Hussey (2003)

Different authors use other terms to denote a different approach on this continuum (Collis and Hussey, 2003). The most common of these terms found in the marketing and organizational behaviour literature are: constructivism, critical theory, and realism/critical realism (Healy and Perry, 2000). Constructivism requires the researcher to examine the perspectives of individual people and their beliefs and values, because reality consists of multiple, internal, subjectively constructed realities (Thompson and Perry, 2004). It therefore requires the researcher to work from within the research environment, and so clearly contribute to the research outcomes. Constructivism does “not cover an examination of the clearly external realities” involved with, for example, learning about markets when developing marketing capabilities (Thompson and Perry, 2004). These realities are important dimensions of research in marketing and as such constructivism does not seem to be an appropriate paradigm to investigate them.

Critical theory, assumes apprehensible social realities, incorporating historically situated structures (Karataş-Özkan and Murphy, 2010; Perry et al., 1999). At the core of critical theory lies a desire to develop a more rational, enlightened society through a process of critical reflection upon the organization and efficacy of existing institutions and ideologies (Karataş-Özkan and Murphy, 2010). Critical theory researchers therefore aim at critiquing and transforming social, political, cultural, economic, ethnic, and gender values. Thus research enquiries are often long-term ethnographic and historical studies of organizational processes.
and structures (Perry et al., 1999). Critical theory is “not appropriate for much marketing research unless the researcher aims to be a “transformative intellectual” who liberates people from their historical mental, emotional and social structures” (Healy and Perry, 2000; p. 119). Since this is not what this research is aiming to achieve, critical theory would not be appropriate for the present study.

Realism is a bridge between the positivist and the phenomenological/constructionist view of the divide between ideas and reality, and proponents of the approach posit that “there is a real world to discover even though it is only imperfectly apprehensible”, this world “exists independently of the researcher’s mind” (Healy and Perry, 2000; p. 120). As a result perceptions are studied because they provide a window to a reality beyond those perceptions (Healy and Perry, 2000). Sayer (1992) argued that realism is “first of all philosophy” (p. 4). He, however, pointed out that “things get more difficult when we try to define the content of realism” as its “philosophies are not simple and self-contained but exist through their opposition to a range of alternative positions” (Sayer, 1992; p.5). Besides this difficulty, realism also has a problem in terms of how the quality of scientific research carried within it might be judged by its own terms (Walters and Young, 2001; Healy and Perry, 2000).

Healy and Perry (2000) argue that the criteria for how quality should be judged within realism have not yet been developed by its researchers, because they continue to use a mix of the criteria that have been developed for positivism and/or constructivism research. This problem has resulted in a number of differing views and approaches to realism co-existing (Easton, 2010). Easton (2010), however, points out that there is one version of realism, critical realism (CR), which has ontology that is “the most detailed and comprehensive and so makes it easier to demonstrate how it can provide both a philosophical justification for (...) research and a guide to its use in practice” (p.119). Moreover, CR advocates “accept the validity of a wide range of research methods without recognizing the primacy of any” (Mingers, 2006; p. 21), and this approach has become relatively popular in a number of social sciences cognate with marketing, including economics (Easton, 2002). This feature of CR makes it attractive and appropriate for many issues researched in marketing (Easton, 2010), the field within which this study is being undertaken.

**Critical Realism:** Mingers (2006) referred to critical realism as a “sophisticated philosophical position that aims to develop a middle way between empiricism, which defines science very narrowly in terms of empirically observable and measurable events, and the
many forms of conventionalism or interpretivism which highlight the limitations of our knowledge of the world and tend thereby to diminish the reality of the world itself” (p. 203). According to Harrison and Easton (2002) CR has a stratified ontology, which comprises the empirical, actual and real, and these strata have major epistemological implications.

The “real” stratum is based on the existence of a domain of structures and mechanisms, events, and experiences (Mingers, 2006; Syed et al., 2009). The structure(s) have causal powers or tendencies, the interplay of which leads to the occurrence (or absence) of particular events (the actual). Events or outcomes are what critical realists investigate, that is the external and visible behaviours of people, systems and things as they occur, or as they have happened (Easton, 2002). In this respect particular attention is paid to processes in critical realist accounts, especially those that produce and reproduce the ordering of events and social institutions (Harrison and Easton, 2002).

CR epistemology accepts that our knowledge is always socially and historically relative, but maintains a distinction between the transitive, subject-dependent aspects of knowledge, and the intransitive domain of the objects of our knowledge (Syed et al., 2009). Objects, or more generally entities, provide the basic theoretical building blocks for critical realist explanations (Mingers, 2006). Relations among objects are central to critical realist explanations (Easton, 2002). In critical realist terms, explanation comes from empirically establishing what it is about these entities that have causal powers or liabilities that result in the particular empirical outcomes that occurred (Easton, 2002). These entities in organizations may be departments, people, processes, relationships, attitudes, management information systems (MIS) and resources, all of which can affect one another.

Looking at CR from this perspective Heath and Feldwick (2008) argued that, although CR requires a scientific approach, it at the same time frees up thinking and hypothesis generation to include entities which cannot necessarily be observed or verified. In this respect CR could be seen as allowing minimum ‘abstraction’, which is defined as the extent to which research is removed from the reality of real-life experience (Sayer 1992). Heath and Feldwick (2008) argue that since a CR philosophy encompasses the unobservable and causal effects which might not have been experienced then, the extent to which the research context is ‘abstracted’ from reality becomes especially important. In this respect Sayer (1992) argued that in social research so much depends “on the initial definition of our field of study and on how we
conceptualize key objects” (p. 2). This is to enable CR researchers to get accurate findings from their research endeavours (Heath and Feldwick, 2008).

Methodologically, CR argues “that science is not essentially about discovering universal laws, purely predictive ability, or the simple description of meanings and beliefs. Rather, it is centrally concerned with explanation, understanding and interpretation. It moves from some phenomena (or its absence) that have been observed or experienced, to the postulation of some underlying mechanism(s) or structure(s) which, if they existed, would causally generate the phenomena. This approach known as “retroduction, or abduction, describes the process by which the ‘deep’ structure of reality is uncovered by scientific investigation. It is an iterative process in which mechanisms are initially hypothesised that explains the phenomena in question. The origin of the hypothesised mechanisms can often be through borrowing from other areas of study on the basis of analogy or metaphor. The postulated mechanisms must then be ‘empirically ascertained’. The generative mechanisms of the preferred explanation now become the new phenomena to be explained at the next stage. The process is therefore circular and cumulative” (Walters, and Young, 2001; p. 485).

From a CR perspective “the task of the social researcher is not simply to collect observations on the social world, but to explain these within theoretical frameworks which examine the underlying mechanisms, inform people’s actions and prevent their choices from reaching fruition” (May, 2001; p. 12). The discovery of these observable or non-observable structures and mechanisms that underlie events and experiences is the goal of critical realism research (Perry et al., 1999). The CR paradigm therefore appears to be appropriate for researching some marketing phenomena, since it appears to be more appropriate for research about the external reality of a market place than the very subjective constructivism and critical theory paradigms (Sobh and Perry, 2006). Moreover, proponents of the CR paradigm acknowledge that researchers could enter the field to collect data with prior theories from other people’s theories in the literature, which would serve as a conceptual framework about the underlying structures and mechanisms to be investigated, (Sobh and Perry, 2006). Considering the theory building objectives of this study and the properties of the constructs being studied, CR is adopted as research philosophy guiding this research.

5.2.2 Methodologies for providing a model

The discussion of the underlying philosophy for this study also raises the issue of the methodological approach that should govern the data collection (Crotty, 2003). As previously
noted the focus of this study is on the patterns (overall multivariate structure) underlying the conceptualizations of the whole sample rather than on the individual differences (Brown and Barnett, 2002; Hammond, 2002). Some of the methods most commonly used for exploring the structure underlying data are: factor analysis, confirmatory methods, structural equation modelling, cluster analysis, principal component analysis, and multidimensional scaling analysis/ Guttman’s smallest space analysis (Cohen, 2009; Hammond, 2006; Fife-Shaw, 2002; Tizner, 1987).

**Factor analysis, confirmatory factor analysis and structural equation modelling:** “Factor analysis is a global term describing a wide variety of different techniques developed primarily as a means of examining the existence of underlying latent traits (...) As with all methods for examining structure, factor analysis begins with the calculation of the inter-variable correlation matrix” (Hammond, 2006; p. 431). This is followed by the analysis, which proceeds to identify the set of underlying linear traits that are best implied by the inter-variable relationships. There are number of pitfalls in factor analysis (Hammond, 2006). The first is deciding how many factors to extract, because “the technique allows the researcher to extract as many factors as there are variables ...” (Hammond, 2006; p.433). Factor analysis (FA) also requires the researcher to make stringent assumptions about the data that are suitable for it: a metric requirement for the measurement, homoscedascity, multivariate normality of the items, and linear relationship among the variables, between the variables and their factors, and among the factors themselves (Cohen, 2009).

Confirmatory methods, which are variously called linear structural relations analysis or covariance structure analysis, grew out of FA (Hammond, 2006). Essentially, confirmatory methods require the researcher to generate a formal model of the relationships between variables (Hammond, 2002). This model is then tested for fit to the empirical data, resulting in a statistic (usually chi-squared) evaluating the degree of misfit to the model. The most immediate limitation of CA methods is that they are generally built around a linear model (Hammond, 2002). The second limitation is that the statistics which supposedly tells researchers whether the data fit the model, are sample size dependent. For example a large sample size will almost inevitably produce inflated chi-squared statistics which means that the data do not fit the model (Hammond, 2002).

Structural equation modelling (SEM), also known as analysis of covariance structures and covariance structure modelling, shares characteristic and limitations with factor analysis, path analysis and loglinear analysis (Fife-Schaw, 2002). SEM is a set of statistical procedures that
can be applied to quantitative data to allow the researcher to: (1) theoretically test specified 'models' of the relationships between observed variables (e.g. test scores) and unobserved latent variables; and (2) test theoretical models of the relationships between sets of latent variables, which are called structural models.

The most common objection raised by critics against SEM is that SEM analysts often claim to be testing causal models even though the input data are correlations/ covariances represented through an assumed linear relationship (Singh, 2009; Fife-Schaw, 2002), and correlations do not imply causation (Hair et al., 2006). Secondly, regarding SEM there is the problem of whether the model that best represents the data does truly reflect the underlying theory (known as model fit) this is by no means agreed because there is no consensus regarding an acceptable ratio for the statistic (Hooper et al., 2008). The Chi-Square value, which is the traditional measure for evaluating overall model fit, has a number of severe limitations in its use (Hooper et al., 2008). This test assumes multivariate normality of data and severe deviations from normality may result in model rejection. Secondly, the Chi-Square statistic as significance test is sensitive to sample size as noted above (Hammond, 2002).

In the marketing discipline, traditional models, FA and related methods (CFA and SEM), spearhead the research endeavour (Matsuno et al., 2000; Farrell and Oczkowski, 1997; Perreault, Jr. and Young, 1980). In many marketing research situations, however, the data do not "measure up" to the restrictive assumptions of traditional models – assumptions on linearity and normality of data (Cohen, 2009). These demands regarding FA and related methods present some obstacles in the search for structure in complex, far from ideal data that exist in the current area of study. Hence, these are not suitable for the investigation of the constructs being studied in this research.

In the light of these limitations of FA and related methods Kohli et al. (1993) suggested Guttman’s scales as an alternative research approach to examining ordering among the various components of the market orientation construct, which in essence represent marketing knowledge processes in organizations. Since Guttman’s scale is part of a Facet Theory (FT) approach to investigating social science phenomena (Cohen, 2009; Canter, 1985), this critique of FA points towards the appropriateness of FT for this study.

Cluster analysis: An alternative method, however, of exploring underlying structure is termed cluster analysis (Hammond, 2006). The essence of a cluster analysis (CA) is to classify objects into meaningful clusters or groups, where the objects within each cluster are
more homogeneous than are the objects in other clusters, and clusters are assumed to be mutually exclusive to each other (Kim et al. 2007). Cluster analysis shares limitations with FA because it presents the user with the problem of specifying the number of clusters to use in describing the data structure (Hammond, 2002). Cluster analysis’s particular focus, however, is on the interpretation of clusters of people rather than variables. Because the current study’s focus is on continuous variables rather than on people and categorical data, cluster analysis is not appropriate.

**Principal component analysis (PCA):** PCA is popular in marketing for examining the structure of underlying categorical variables. However, once again it is not the most appropriate method for the current study data analysis because the variables being investigated are continuous and PCA is meant to handle categorical data (Linting et al., 2007).

**Multidimensional scaling:** Multidimensional scaling (MDS), especially nonmetric MDS in particular appears to be the most appropriate data analytic technique for this study because of its effectiveness in terms of theory building. The basic idea of MDS is to represent data spatially by plotting variables as points in n-dimensional space. MDS display the structure of distance-like data as a geometrical picture, highlighting the continuous nature of interrelations among variables (Tucker-Drob and Salthouse, 2009). Metric MDS “represent various properties of the data related to algebraic operations (...). In contrast, non metric models represent only the ordinal properties of the data”, (Borg and Groenen, 2005; p. 203).

According to Safizadeh and McKenna (1996) metric MDS techniques have been criticized because they impose unnecessary restrictions, for example linear relationships, on scatter diagrams and are, thus, less suitable for investigating continuous data such as the data collected in this study. It is worth noting, however, that in the MDS literature, it is the nonmetric methods that are commonly referred to when using the term MDS (Hammond, 2002). The advantage of non-metric MDS is that it makes very few assumptions and its solutions may be interpreted very broadly. Secondly, this method is particularly effective for theory building since the method does not tend to impose a model on the data that could influence the interpretation in the way that the linear MDS model does. Non-metric MDS is therefore appropriate for most forms of data and an ideal choice when carrying out exploratory work such as the research set out in this study (Hair et al., 2006; Hammond, 2002).

Despite MDS’s advantages, interpreting its solutions has been criticised as a somewhat arbitrary and subjective affair (Hammond, 2002). “Apart from the necessary subjectivity in
interpretation, MDS has a problem in common with factor analysis and cluster analysis i.e. that of choosing the number of dimensions within which to present the data” (Hammond, 2002; p. 391). To overcome this shortcoming confirmatory MDS (CMDS) has been developed as a way to get direct feedback about the validity of one’s theory about the data (Borg and Groenen, 2005). “The purpose of confirmatory MDS is to enforce certain expected relations on an otherwise optimal data representation in order to see how compatible these relations are with the data”, (Borg and Groenen, 2005; p. 242). However, Borg and Groenen (2005) pointed out that “with the MDS programs available today, it is difficult to enforce a more intricate regional pattern such as radex, for example, onto an MDS solution (...). Apart from problems of enforcing particular types of constraints onto an MDS solution, the general question of how to evaluate such methods and their results within cumulative scientific research remains to be answered” (Borg and Groenen, 2005; p. 243).

To overcome the problem with CMDS it has been suggested that researchers should set some theoretical expectations regarding what they might find when conducting research (Hammond, 2006; Hair et al., 2006; Borg and Groenen, 2005). It is in the light of this that facet theory in partnership with MDS makes one of its most significant and important contributions to theory building. For Hammond (2002) argues that “the combination of facet theory (...) and MDS is a very potent research strategy since it merges the strict conceptualisation of the research topic with a flexible and open-ended data analytic technique” (p. 391). This fact reinforces FT’s relevance for issues raised in this study, and the sections that follow discuss the appropriateness of an FT approach to research for this study.

5.3 The FT methodology

Facet theory suits this study because it addresses continuous variables and gives a context for selecting the dimensions in the MDS concept space, and its interpretation (Hammond, 2006). As the discussions of the preceding section reveals, all the methods used for exploring the structure underlying data have a limitation in common, namely, the number of factors to extract or clusters to use in describing the data structure or dimensions to present the data within (Hammond, 2006). Facet Theory (FT), integration of theory formulation, and data analysis to transform results into a coherent whole, eliminates the separation between the two that characterizes the above methodologies (Greenbaum, 2009; Levy, 2005; Vijver, 1998). The underlying idea of FT is that both the quality of theorizing and measurements would benefit from closely linking theory and measurement (Vijver, 1998).
FT, which derives from the late Louis Guttman’s early research on scale analysis, is based on the premise that behavioural research dealing with complex issues should proceed logically by conceptualising and defining in substantive terms what is being studied before proceeding with data collection (Levy 2005, Guttman and Greenbaum, 1998). This FT research approach is in accord with critical realists’ tenets, which requires “the initial definition of our field of study” and the need to “conceptualize key objects” in order to gain accurate findings from research endeavours (Sayer, 1992; p. 2).

FT’s contribution to the sciences is manifest in providing an alternative approach to the formulation of theory (Greenbaum, 2009). Most theory in the social sciences is formulated in ways that differ from one theory to another or one researcher to another. FT, on the other hand provides a comprehensive approach to theory formulation and definitions of terms, as well as a means of using consistent language for such definitions (Brown, 2010a). The use of mapping sentences provides a consistent framework that can be applied by any researcher, and leads to the possibility of both conceptual and empirical replications of research. Since replications lead to lawfulness if consistent results are found, FT serves what many consider to be the highest goal of the social sciences: the discovery of lawfulness in human behavior (Greenbaum, 2009).

FT has generated valuable research on basic theoretical issues in the social sciences (Greenbaum, 2009). To note a few: Louis Guttman’s conceptualization of intelligence (Guttman 1965); the Schwartz Value Inventory (SVI) (Schwartz 1992; Schwartz and Bilsky 1990); Shirom’s theory of organizational stress and employee burnout (Shirom 1982); and attitudes toward the use of seat belts by French university student drivers (Cohen, Pianelli, & Abric, 2003). Two brief accounts of studies are given below to illustrate the application of FT to research.

An early example of FT’s contribution is its treatment of the concept of intelligence (Greenbaum, 2009). According to Greenbaum (2009) in a series of papers the late Louis Guttman and his colleagues developed a new definition of intelligence as measured by intelligence tests. Louis Guttman and his colleagues observed that the positive correlations among subtests may be a law of intelligence, and promoted the idea that laws may be expressed in statistics such as correlation coefficients. The studies performed by Guttman and his colleagues using analysis by SSA showed a particular structure for the correlations among intelligence tests. This structure is derived from three facets relating to each test item. The
items may be classified by: rule for the task (inference, application or learning); mode of expression (oral, manual manipulation or paper-and-pencil); and format of the item (verbal, numerical and geometrical). When analyzed by SSA, the cylindrical structure of the correlations confirmed the existence of the facets that were derived theoretically from an a priori classification of the items (Greenbaum, 2009).

In another development Cohen et al. (2003) applied facet theory to research on attitudes toward the use of seat belts by French university student drivers. A posteriori mapping sentence was developed to construct a more general theory about attitudes and behavior toward and social representation of the use of seat belts. Data were collected through a questionnaire composed of three parts. The first part relates to the self-declared frequency of various driving behaviours. The second part deals with the contestable or non-contestable nature of certain rules of the highway. The third part addresses the perceived level of danger of these behaviours by the subjects. The researchers used the questionnaire to ask drivers to respond “always,” “often,” “sometimes,” or “never” to various scenarios, which took into account time of day, type of road, driver versus passenger use of seat belts, and place of passenger in the car.

To conduct an SSA, first a correlation matrix of the variables is calculated. Four of the five facets were verified in two-dimensional SSA, giving the result a strong structural explanation. The results allow the exposure of the structure of the data, simultaneously representing the various facets, and most important, providing guidance for future research in the domain of drivers’ attitudes toward and use of seat belts (Cohen et al., 2003).

In another study Cohen (2009) demonstrates the need for judicious selection of items in developing new concepts by reviewing the “cognitive triad” theory, the most influential approach to the psychotherapy of depression. According to the theory depression constitutes a negative view of the depressed person towards the “world,” the “self,” and the “future” (Cohen, 2009). Cohen noted that from factor analytic approach, this theory suggests the construction of three scales for measuring each theoretical component. After analysing this theory from FT perspective Cohen (2009) identified two facets: Facet A – orientation, including the “self” versus the “world,” and Facet B – temporal orientation, including “present” versus “future.” He argued that the Cartesian products of these facets offer four clearly defined sub-scales: (1) negative view of the self in the present (2) negative view of the world in the present (3) negative view of the self in the future (pessimism, expecting failures)
negative view of the world in the future (Cohen, 2009). Furthermore, he pointed out that “present” and the “future” have another element in the tense Facet, i.e. the “past” (Cohen, 2009). This observation led to the inclusion of two more Cartesian products – a negative view of the self in the past (or, in other words, guilt), and negative view of the world in the past.

Using this approach, Cohen (2009) carefully constructed subscales and tested the underlying configurations through SSA, and offered a new theory for depression and names it “cognitive hexad”. He pointed that although a researcher may either, for theoretical or practical reasons, focus only on some specific Cartesian product of the mapping sentence, in that case the researcher would be aware that the resulting inventory would not cover the whole universe of the phenomena under investigation (Cohen, 2009). It is instructive to note that two factor analytic studies of the different versions of the “cognitive triad inventory” could not validate the three-factors’ model (Greening, Stoppelbein, Dhossche, and Martini, 2005; McIntosh and Fischer, 2000).

Given its distinguished accomplishments it is surprising that FT has been used only in a very limited way in consumer behavior publications in the field of marketing, such as: forming a mapping sentence for designing marketing communications models (Hornik, 1974); the construction of a general framework of consumers’ use of time (Feldman & Hornik, 1981); measuring response rates to mail questionnaires (Hornik, 1982); investigating the relationships between values and advertisements (Hetsroni, 2000); the relationship between consumer ethnocentrism and human values (Balabanis et al., 2002); and comparative evaluation of people’s attitudes and behavior toward different forms of internet advertising (Hornik et al., 2007).

Moreover, practitioners and non-practitioners of facet theory have expressed dissatisfaction with a number of issues concerning the relation between the theory and the scientific community and at the same time a number of critiques have been levelled against FT methodology (Greenbaum, 2009; Shye, 1998; Borg and Shye, 1995; Brown, 1985). The next section discusses these critiques.

5.3.1 Critique of FT methodology

There are a number of criticisms that have been levelled at FT. First, FT has been criticized to a substantial degree as a design methodology (Borg and Shye, 1995). Secondly, at the practical level, FT terminology is known to be difficult and access to FT computer programs may be problematic (Brown, 1985). Thirdly, SSA partitioning has been criticized as
unscientific, and it is claimed that regional partitions are confirmed because they have been built into the design (Shye, 1998; Brown, 1985). Fourthly, the use of facet design to generate questionnaire items has been criticised as having a drawback in the large number of questions that may result (Brown, 1985). Questions tend to become repetitious, and may induce response set. It has also been suggested that the investigator may define questionnaire items in terms of the facet specification, and assume these meanings to be common to the respondent population (Shye et al., 1994). Lastly, there is also the argument that the basic activity of FT is common to good research in general (Donald, 1995).

5.3.2 FT adherents’ response

In response to these criticisms Borg and Shye (1995) argued that FT as a design methodology is not controversial, in that FT can complement and integrate many other methodologies. They pointed out that researchers take advantage of anything that seems useful at the moment, be it exploration or top-down model building, and FT is no exception (Borg and Shye, 1995). On the issue of FT terminology being known to be difficult, and lack of access to computer programs, Brown (1985) pointed out that, as to the former difficulty, perseverance and practice would help. As to the latter, Hornik et al. (2007) noted that Facet Theory researchers have developed a number of SSA programs that are presently available as part of well-known computer packages: HUDAP of the Hebrew University of Jerusalem (Amar & Toledano, 2002), LIFA of the University of Liverpool, SYSTAT, SAS and FSSA and FSSAWIN computer programs (Guttman Greenbaum, 1998).

Despite these efforts Greenbaum (2009) pointed out that there is still a lack of widely distributed data analysis package of FT techniques for computer application. He noted that FT approaches have not been included in the widely distributed SPSS, SAS and other statistical packages, used by most social scientists who do empirical research. This, too, limits the application of FT techniques since such applications are more likely to occur when they are easily available. In this respect Greenbaum (2009) argued that the use of other data analysis techniques including for example SPSS, has been greatly enhanced simply by the fact that they are well marketed, are easily available, and have online support systems, but unfortunately, FT enjoys none of these benefits.

On the question of SSA regional partitioning not being scientific, Shye (1998) pointed out that objective and optimal space partitioning by the FSSA and FSSAWIN computer programs have done much to alleviate the first problem, although the algorithm still has to be generalized to partitioning hyper planes in spaces of dimensionalities higher than two. As for
the problem of re-interpretation of deviant variables, he noted that procedures for testing the definitional reliability of items are being developed and need to be perfected (Shye, 1998).

In an earlier development Brown (1985) explained that Guttman’s multidimensional scaling analysis does not specify any a priori shapes for the boundaries of regions. The computer only implies boundaries in a discrete, usually “wiggly”, fashion. As result, Brown (1985) pointed out that results of partitioning are there for everyone to see and alternative structures may be postulated. She further argued that empirically it is possible to find examples where the facet design did not correspond to empirical results, and that systematic design does not guarantee that the data would sustain the hypothesis (Brown, 1985). She noted that this observation is claimed to be a strength rather than a weakness of the FT approach as re-examination and reformulations are made possible by such an occurrence, and that reformulations that result in new designs usually lead to a different hypothesis (Brown, 1985). Moreover, Brown (1985) argued that when there are contradictions between the pattern revealed in the correlation matrix and the spatial analysis, it is recommended that investigators should accept the verdict of the regional partitions, and a prior facet analysis is a compelling reason for doing this.

On the issue of repetitious questions that may induce response sets, Brown (1985) suggested that a card-sorting procedure could be used at the pilot-study stage by the investigator to verify the translation of facet profiles into actual questions in a questionnaire set. For example, the researcher, having devised the facet structure, can ask volunteers from the subject population (who did not take part in the main study) to sort the questionnaire items into their appropriate facets. With this approach one would be able to modify the wording of those questions which were particularly unclear, confusing, or ambiguous (Brown, 1985).

Lastly, there is an argument that the basic activity of FT is common to good research in general (Donald, 1995). Of course, it can be argued that the emphasis placed on development of definitions and hypotheses prior to data collection and analysis is not unique to FT. However, Donald (1995) argued that it still stands to reason that central to scientific activity is the understanding and defining of exactly what it is that is being studied. He observed that despite some major figures in the development of research procedures and analyses pointing to its importance, few attempts have been made to develop a method to guide theory and theory construction (Donald, 1995). For instance, factor analysis, which is also concerned with the content of domains, has little to contribute to what should be included in a domain or how it should be specified and structured (Hammond, 2002).
Increasingly, marketing research investigates phenomena that are multivariate. To help with this, an array of sophisticated statistical procedures has been developed. But, the multivariate problems also require a way of defining them. Unfortunately this has received considerably less attention than statistical methods. Yet, as FT proponents pointed out, ‘grand theories about relationships are rather useless from a scientific point of view if they do not include an a priori definitional system for observations’ (Donald, 1995; pp.117–118). What this involves is defining the boundaries of an area of research, and providing a way of expressing that definition in a precise form. FT is the only approach that has so far attempted to provide a means of doing this (Donald, 1995).

5.3.3 Lack of acceptance of FT by researchers in the social sciences

An issue of concern to users of FT and its attendant data analysis approaches is lack of acceptance of FT by the majority of researchers in the social sciences, even though the theory was developed mainly for the social sciences (Greenbaum, 2009). On the issue of lack of acceptance for FT Greenbaum (2009) argued that one reason could lie in the fundamental theoretical differences between FT and the other approaches to data analysis used by most social scientists.

For example, most statistical analysis of data in the social sciences is still based on statistical inference that is, inferring from the results obtained on a sample to the results for a population of which the sample is a part (Shye, 1998). While accepted as canon for many decades in the social sciences, the use of statistical inference has become controversial, and flaws have been found in the theoretical foundations of the statistical inference approach, and inconsistencies in its association in the social sciences (Greenbaum, 2009; Cohen, 2009; Shye, 1998; Kohli et al., 1993; Guttman, 1975). The criticism has led to the introduction of non-inferential statistics, such as effect sizes, in data reporting. However, the use of inferential statistics still holds sway in most journals and other approaches are considered not “scientific” (Greenbaum, 2009).

Another issue is that FT has been rejected by most important decision-makers in academic publishing (Greenbaum, 2009). The phenomenon leads us to question why this exclusion has taken place. One reason could be lack of knowledge of FT on the part of journal editors as well as by the social science public. For Greebaum (2009) observed that very few researchers know about the existence of FT, let alone know anything specific about it. He therefore suggested that the prevalence of lack of knowledge of FT, rather than theoretical difference
between FT and other data analysis techniques, is a major factor leading to its exclusion from academic publishing.

The difficulty in publishing data using FT approaches to data analysis leads to another factor related to its lack of use, namely, some researchers that have studied FT also do not use it (Greenbaum, 2009). In this respect, the researchers’ considerations leading to its lack of use are often practical: if the chances for publishing by use of FT are low, then the use of a data analysis technique by a researcher who has invested a great deal of effort in his/her work is a very unattractive proposition. Greenbaum (2009) argued that few researchers can afford delay or rejection of a manuscript because the editor does not know about, or does not agree with a particular approach to data analysis. Thus, lack of knowledge by journal editors and heightened risk of rejection of a manuscript are factors that have led to a low use of FT even by researchers who have some knowledge of it (Greenbaum, 2009).

Another factor that have been noted and led to FT’s exclusion from academic publishing is lack of a comprehensive presentation of FT in journal of book form (Greenbaum, 2009). Although, some systematic expositions of FT exist, there is only one textbook of FT (Shye et al., 1994). While this text provides an excellent introduction and summary of the issues involved in FT, it is difficult to learn FT from the volume alone. There is, however, the need for an integrative and teachable summary of the theory, together with worked-out examples and detailed explanations of the application of data analysis techniques. The fact that such an integrative and applied textbook is yet to appear on the market may have hindered FT’s acceptance by the scientific community (Greenbaum, 2009).

To change the situation Greenbaum (2009) suggested that FT needs a clear and comprehensive exposition of its principles, research history as well as “how-to” exercises for the social scientist or graduate student. Workshops held at meetings of statisticians or social scientists, (and not only at meetings of the Facet Theory Association) would also help. He pointed out that these actions would go a long way to gaining acceptance for FT (Greenbaum, 2009).

5.3.4 FT’s SSA, nonmetric MDS technique and the issue of causality

With regard to data analysis in particular, criticism of FT is often voiced by applied scientists who, finding the notion of the SSA concept space too abstract, question the value of studying its structure, and perceive this aspect of FT methodology as soft rather rigorous approach
within Multi-variate analysis (Shye, 1998). There is also the issue of whether SSA, nonmetric MDS data analysis technique, developed by Guttman and colleagues, can offer a causal link or just associations when it is used to analyzing the structure of a correlation matrix based on FT research design (Hair et al. 2006; Borg and Groenen, 2005). To begin with the latter, in empirical research literature “the strongest type of theoretical inference a researcher can draw is a causal inference, which involves proposing that a dependence relationship is actually based on causation. A causal inference, on the other hand, involves a hypothesized cause-and-effect relationship” (Hair et al., 2006; p. 720). Moreover, causal research designs traditionally also involve an experiment with some controlled manipulation, meaning a categorical independent variable (Hair et al., 2006).

On the other hand FT models developed in social sciences are typically used, however, in non-experimental situations in which the constructs are represented by indicator variables, not experimentally controlled variables, which limit the researcher’s ability to draw causal inferences (Hair et al., 2006). Moreover, the SSA, which is a non-metric MDS technique for data analysis, uses correlations among research variables as basis for data analysis and correlations as we are aware do not imply causation (Hair et al., 2006). Causation however does, in essence, result in covariation (Gardiner, 1999). In this sense it can be argued that FT models alone cannot establish causality (Hair et al. 2006), but they can provide some evidence necessary to support a causal inference as co-variation and theoretical support can be drawn upon to establish causality (Hair et al., 2006; Shye, 1998). As previously noted, it is in the area of theoretical support needed to establish the ordering among variables under study that FT makes one of its most significant and important contributions by offering clarity and precision to the process of identifying basic components of a set of variables and relating these components to empirical data (Brown, 2010b). In doing this FT conceives of the empirical concept as semantic space of all the variables that assess it (Shye, 1998).

In this imagery, “SSA enables inferences about the structure of the concept from the sample of observed variables to the “population” of variables that comprise the concept (...). The spatial imagery of concepts implies that spatial orientation between regions – rather than correlations between variables – is the way researchers using Facet Theory assess affinity between conceptual components. Moreover, partitionability of the concept-space may now be regarded as a new kind of statistic, whose “values” are the particular partition patterns. Being
a more general ... aspect of the data than correlations, or even correlation ranking, partitionability leads to more stable lawfulness and better predictions" (Shye, 1998; p. 166).

The stable lawfulness and better predictions exhibited by the SSA concept space in turn affirms the rigorousness or robustness of the FT methodology which works in partnership with non-metric a MDS technique (Borg and Groenen, 2005; Hammond, 2002; Green, 1975). As far back as in the 1970's Green (1975) after reviewing works on the robustness of multidimensional scaling techniques, made the following observations. First, he noted that “from the standpoint of MDS robustness in the face of error, all of the studies dealing with this question indicated that the nonmetric procedures were quite stable over relatively large amounts of error”. Secondly, “in general, nonmetric MDS methods appear to be robust to differences in metric, badness of fit function, and error, i.e., nonmonotonic distortion, so long as one has a large amount of data relative to the number ... of parameters to be fit” (Green, 1975; p. 76). Finally, Guttman and Greenbaum (1998) argued in support of FT claiming that enabling the discovery of a law as shown in the positive inter-correlations among, for example – different subtests of intelligence tests across different types of populations – demonstrates the robustness of the FT methodology.

5.3.5 Summary

In sum Hair et al. (2006) argued that in all multivariate procedures there is the need for a strong theoretical basis for specification of both the measurement and establishing causation, particularly when using cross-sectional data. They also pointed out that theory is important in all multivariate procedures as it is useful for testing and potentially confirming theory. For instance, they noted that in structural modelling investigations “unless theory can be used to establish a causal ordering and rationale for the observed co-variance, the relationships remain simple association and should not be attributed with any further causal power” (Hair et al., 2006; p. 724).

FT provides the theoretical context for this. This is why it is not surprising that Kohli et al. (1993) after raising concern about methodologies used by marketing researchers suggested Guttman’s scales as an alternative research approach to examining ordering among the various components of the market orientation construct, which in essence represent marketing knowledge development and dissemination processes in organizations. This is why FT is the selected methodology for this study. In the sections that follow the concepts and components used in FT to achieve this will be explained.
5.4 Implementation of the FT method

The implementation of the FT method essentially entails providing a definition of a research domain by specifying a set of facets, conceptually distinct and mutually exclusive categories, which describe the area of interest (Cohen, 2005). Facets are the conceptual categories that make up the universe of observations in an empirical investigation (Brown, 2010b). Each facet is made up of elements which describe the variation within the facet. There are three basic types of facets (Donald, 1995): background, which describes the population parameters; domain, which is the conceptual thinking; and range, which describes the possible responses an individual or organization makes in terms of the domain facets. Once the facets have been identified, the elements that each facet comprises are also elucidated in their relationships within a mapping sentence.

The mapping sentence not only provides an exhaustive definition of the universe of observations being considered, but articulates the general hypothesis of facet theory which is the specification of formal roles for facets in a mapping sentence (Cohen, 2009). Facets may play one of three roles: polar, which is an unordered or circular role whereby each element of the facet gravitates out in a different direction emanating from a common point of origin rather like the wedges of a cake; modular or ordered facets in relation to a polar facet; axial, where the order is unrelated to that of other facets (Brown, 2010a). The formal roles for facets in a mapping sentence provide a rationale for structural theories (Cohen, 2009). This then leads to regional hypotheses which predict the manner in which the structures can be retrieved through partitioning of a multi-dimensional space. The combination of roles lead to the generation of geometric shapes describing the relationships each facet plays, thereby setting out the structural model hypothesised to explain subsequent empirical observations.

Brown and Barnett (2002) list the following properties of facets, which have to be observed when constructing mapping sentences:

- Items are classified by reference to all facets in the domain.
- Each facet is divided into an exhaustive set of values or elements.
- Elements are mutually exclusive.
- Logical relationships between the facets are specified.
- Facets should exhaust the domain of concern (area of research).

Brown and Barnett (2002) pointed out that these properties are somewhat ideal, and that “in the real world of research it is unlikely that all possible categories or conceptualizations will
be included and often for pragmatic reasons the researchers will seek to restrict some aspects of the study and thus exclude some of the facets and/or elements" (Brown and Barnett, 2002; pp. 108–109).

The a priori specification of facets has the advantage that items for a questionnaire can be generated directly and explicitly from them in advance, so ensuring that the content of each item is clear and precisely comparable on each and every facet (Hornik et al. 2007). Using the mapping sentence, carefully designed subscales can be constructed, and the mapping sentence’s underlying configurations can then be tested through SSA (Cohen, 2005). These scales, which are in the form of Guttman’s scale, provides a means for assessing whether a finite collection of conceptually related variables (e.g. questionnaire items) represent a unidimensional — and hence scaleable — content (Guttman and Greenbaum, 1998).

The mapping range of the mapping sentence serves as the basis for specifying in advance a range of possible responses for the observational questions of the study. In using mapping range as a response to questionnaire items a researcher has two main types of rating scales to select from, namely, identically phrased ranges, and common meaning range scales (Shye et al., 1994). Identically phrased ranges are a technical feature that may or may not tie in with substantive aspects of the research, but they do explicitly suggest an opportunity to simplify sentence structure and to examine whether or not there is an underlying similarity in content. Common meaning range (CMR) scale, or common range, is where in research design all range facets can be ordered from high to low with respect to a particular sense or content criterion. In this sense, common ranges are a set of variables that share a substantively ordered range, identified with a general concept (e.g. efficacy of the marketing knowledge process in building marketing capabilities) that bestows meaning to the ranges of all the variables (Shye et al., 1994). This study used both approaches to ensure that the content universe is fully represented and at the same time making it easier for respondents in terms of the questionnaire items.

According to Cohen (2009) the ideal application of FT involves a diligently designed mapping sentence (which leads to the construction of the items or an inventory), testing the validity of the mapping sentence through SSA, then either validating the sentence or offering a revision of it. A second category of applications involves the analysis of SSA on existing scales that were not built through FT, after which their structure is examined, and mapping sentences offered which, it is hoped, will lead to the construction of new scales. A third type
of applications involves the usage of SSA, on a new or existing scale, without structuring a mapping sentence (Cohen, 2009). While the usage of SSA in this last category of studies is less than ideal, in many cases these studies demonstrate the unique serendipitous nature of SSA that very often leads to new insights into the issues under investigation (Cohen, 2000). This study adopted the first application FT as advocated by Cohen (2009), in order to develop a scientific base for the topic under study.

5.4.1 Defining the domain of study

This section deals with FT research techniques for defining the domain of the study. First, a set of facets in the form of a mapping sentence (Figure 5.1) defining the processes for developing and disseminating marketing knowledge is specified as represented in the conceptual framework (see Figure 1.2).

The Mapping Sentence: An item belongs to the universe of the processes for developing and disseminating marketing knowledge in organizations if, and only if, its domain asks ...

Organization (x) to evaluate the effectiveness of

Facet A: Marketing knowledge approach
{a1: market-driven } (knowledge approach) impacts on
{a2: management-driven }

Facet B: Marketing knowledge infrastructure
{b1: culture } of a company (in order) to facilitate the
{b2: structure }
{b3: strategy }
{b4: systems }
{b5: interdepartmental dynamics }

Facet C: Marketing knowledge processes
{c1: development } of marketing knowledge, with the objective
{c2: dissemination } of building marketing capabilities,

by stating whether the marketing knowledge approach/ infrastructure/ processes will be

{effective to a great extent }
{effective to a moderate extent }
{neither effective nor ineffective }
{ineffective to a moderate extent }
{ineffective to a great extent }

in accomplishing its goals.

Figure 5.2 Mapping Sentence Derived from the Literature and Pilot Studies

Source: The Author, Based on Multiple Sources, May 2009
It is instructive to note that this study was not meant to build upon previous model. It is an attempt to review the literature and integrate theoretical perspectives to develop, test and validate a model that defines the various aspects of the processes for developing and disseminating marketing knowledge in organizations from a FT point of view. The mapping sentence for this study is stated below.

In specifying the facets and their elements, as the mapping sentence below illustrates, what was being hypothesized were the main components of the domain of this study. The theoretical idea underpinning FT is that the conceptual analysis of the literature, as specified by the mapping sentence and its supportive rationale, creates a model that can be recovered in empirical observations (Brown, 2010b). This correspondence between the conceptual mapping and the empirical mapping provided the basis for explaining and uncovering the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations. The mapping sentence is discussed below in terms of the three types of facets in the sentence.

5.4.2 Mapping range facet

The mapping range facet for this study specified the possible, or acceptable, responses to essential features of the questions posed by the mapping domain (Shye et al. 1994). The mapping range facet with its element, 'effectiveness', gives expression to a common general meaning shared by the mapping domain (content) variables (Drucker, 2007). In this sense 'effectiveness' as an element of the range facet is ordered from high to low in respect to the content criterion of the mapping sentence.

The selection of the concept of effectiveness, as providing common meaning for the mapping domain (content) variables, in essence is described in the management literature as permeating all the facets of the knowledge processes in organizations (Drucker, 2007; Day, 1999a; 1999b; 1999c; Nonaka and Takeuchi, 1995). In this respect 'effectiveness' as an element of the mapping range is defined as follows:

An item belongs to the universe of items of the processes for developing and disseminating marketing knowledge in organizations, if and only if its domain is evaluated to be effective or ineffective in achieving its goal, and its range is ordered

\[
\begin{align*}
\{ \text{effective} \} \\
\{ \text{ineffective} \}
\end{align*}
\]

from \{ \text{to} \} toward this objective rule (Shye et al., 1994; p. 58).
This definition of the mapping range facet served as a criterion for selecting or creating observational items (i.e. specific questions with possible answers). Reasonable responses for effectiveness of the domain items ranged from ‘effective’ to ‘ineffective’. Any item of the domain whose range was interpreted as contrasting ‘effective’ to ‘ineffective’ was eligible for inclusion, whereas those not referring to such a contrast were excluded outright (Shye et al., 1994).

5.4.3 Background facet
The background facet, which described the population parameters of this study, is indicated by (x). In this study the population comprise a sample of business organizations in Ghana. The analysis of the data collected from respondents did not require individual differences in evaluation with respect to questionnaire items representing the marketing knowledge development and dissemination content universe. It was the patterns underlying the conceptualizations of the whole sample (representing the organizations) rather than the individual differences that were the focus of this study (Brown and Barnett, 2002).

5.4.4 Domain (content) facets
The domain facets (A, B, C), as shown in the above mapping sentence, was a set of concepts by which questions for this study were classified. The rationale for selecting the three domain facets, was based on the premise that marketing knowledge development and dissemination constructs are known to be elements of marketing knowledge (management) processes in organizations (Tsai and Shih, 2004; Zolingen et al, 2001). These elements of the marketing knowledge processes are energized by their interaction with organizational conditions or marketing knowledge infrastructures (Lee and Choi, 2003; Zack, 2002; Gold et al., 2001; Krogh et al., 2000; Slater and Narver, 1999; Day, 1999a). The marketing knowledge infrastructure in turn is impacted upon by the marketing knowledge approach in order to facilitate the marketing knowledge processes. In sum these three inter-related facets combine to define the domain of this study (Krogh et al., 2000; Kohli and Jaworski, 1999).

The marketing knowledge approach facet was identified as a result of observations made in three pilot studies (Appendices C to G), which were conducted to establish the validity and reliability of the multivariate structure of the mapping sentence. It is worth noting that this study is investigating the three key facets, namely, marketing knowledge approach, marketing knowledge infrastructure and marketing knowledge processes facets. As Canter (1985)
suggested, it is of value to use two or three key facets in the first instance. The three domain facets are defined in the sections below.

a) Facet A: Marketing knowledge approach

The marketing knowledge approach facet is defined as strategies in organizations for developing and disseminating marketing knowledge (Un and Cuervo-Cazura, 2004; Zack, 2002). In this context market-driven and management-driven approaches are represented as elements of the marketing knowledge approach facet (Jaworski et al., 2001). The market-driven approach is defined as organizational strategies that enable learning, understanding and reaction to the perceptions and behaviours of players (e.g. customers, competitors, and other stakeholders, etc.) within a given market structure. The management-driven approach is defined as efforts by an organization’s management to change or influence the behaviour of players in the market by managing organizational processes required to effect this change or influence (Jaworski et al., 2001). According to Krogh et al. (2000) the term management or managing implies control of processes in the context of creating knowledge in an organization.

b) Facet B: Marketing knowledge infrastructure

Facet B specifies the marketing knowledge infrastructure facet and its elements reviewed from the literature and modified after the pilot studies. The process for identifying elements of Facet B is found in Appendices B2.4 and D5.1. Here, we define the marketing knowledge infrastructure facet as organizational practices and initiatives that effectively facilitate marketing knowledge development and dissemination processes in organizations (Lee and Choi, 2003; Zack, 2002; Gold et al., 2001; Slater and Narver, 1999; Day, 1999a). The table below summarizes the elements of Facet B and their definitions in terms of the elements of facet A, namely, market-driven and management-driven.

a) Facet C: Marketing knowledge processes

The marketing knowledge processes facet is defined in terms of the processes in organizations for developing and disseminating marketing knowledge (Zolingen et al., 2001). Marketing knowledge development is defined as the organizational processes for acquiring, generating and disseminating market information and processing this information into marketing knowledge (Slater and Narver, 1999; Day, 1999b; Kohli and Jaworski, 1999), while marketing knowledge dissemination is defined as the organizational processes for
transferring, sharing, and diffusing marketing knowledge in organizations for action (Chaston, 2004; Roger, 2003; Nonaka and Takeuchi, 1995; Gold et al., 2001).

In sum the above three facets (A, B, and C) combine to define the domain of the processes for developing and disseminating marketing knowledge in organizations.

Table 5.1: Marketing Knowledge Infrastructure Elements

<table>
<thead>
<tr>
<th>FACET B ELEMENTS (VARIABLES)</th>
<th>MARKET-DRIVEN ITEMS</th>
<th>MANAGEMENT-DRIVEN ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>Serving market needs by encouraging informal collaboration among departments to monitor and understand market trends (Gray et al., 1998)</td>
<td>Serving market needs by controlling collaboration among departments to monitor and understand market trends</td>
</tr>
<tr>
<td>Structure</td>
<td>Structuring an organization around market segments to serve well defined market needs (Day, 1999b).</td>
<td>Structuring an organization according to rules and hierarchy of reporting relationships to serve market needs (Gold et al., 2001).</td>
</tr>
<tr>
<td>Strategy</td>
<td>Involving all departments in learning-based strategic planning process guided by shared beliefs about creating value for customers (Hult et al., 2005; Day, 1999b; Slater and Narver, 1995).</td>
<td>Controlling how both individuals and departments could participate in the learning-based strategic planning process to create value for markets.</td>
</tr>
<tr>
<td>Systems</td>
<td>Encouraging both departments and individuals to understand where all activities fit in an organization (Hult et al., 2005)</td>
<td>Controlling how departments and individuals could have access to where activities fit in the organization.</td>
</tr>
<tr>
<td>Interdepartmental dynamics</td>
<td>Encouraging informal interaction among individuals and departments within an organization (Jaworski and Kohli, 1993)</td>
<td>Formalizing how individuals and departments should interact within the organization</td>
</tr>
</tbody>
</table>

Source: The Author Based on Multiple Sources, May 2009

5.5 Hypotheses of the study

FT uses the word hypothesis (see Appendices A5, A6 and A7). However, please note that this is not the same as used in hypothetico-deductive studies, and may be regarded as the more widely understood ‘proposition’ (Donald and Canter, 1990; p. 420). However, all authors discussing FT use the word hypothesis (Hador and Elizur, 2009; Hornik et al., 2005; Borg and Shye, 1995; Shye et al. 1994, Donald and Canter, 1990; Brown, 1985). The author has therefore kept the word hypothesis. Please bear in mind that in many ways the word proposition would be better. The actual problem the author is trying to address is the need to keep hold of all these multiple factors as reviewed in Chapters’ 2 and 3. The author is not
trying to reduce these variables. Therefore, unlike the normal hypothetico-deductive studies, he is deliberately carrying this complexity through. This is to enable us carry out similarity structure analysis (SSA), nonmetric, multidimensional scaling technique.

The complexity issue raised above has led Kohli et al. (1993) to raise concern about methodological issues that warrant consideration when investigating the components of market orientation. Kohli et al. (1993) observed that there is "potential causal orderings among the various components of market orientation" and that "one could argue that there is an ordering among the various types of intelligence, with generation naturally occurring to a greater degree than what is disseminated" (p. 473). As a consequence they argued that "if this conceptualization is accurate, then it may imply that a Guttman scaling procedure would be an appropriate analysis approach" (Kohli et al. 1993; p. 473). Guttman scaling procedure, which is part of FT method, takes these orderings among variables (such as found among market orientation components) into consideration when they are being investigated. As a result this study adopted the Guttman scaling procedure to investigate the complex interrelationships between components of marketing knowledge development and dissemination constructs. Hence, the hypotheses as stated below from FT point of view were based on the mapping sentence (Figure 5.2).

Hypotheses, in FT are concerned with the division of a geometrical SSA space into identifiable areas that correspond to the elements of facets (Borg and Shye, 1995; Brown, 1985). In general, FT hypotheses, which are accompanied by their rationale, predict how the empirical data will appear when portrayed geometrically on paper in order to test and validate the definitional framework, namely, the mapping sentence, of the area of study (Cohen, 2009; Brown and Barnett, 2000; Tziner, 1987). According to Borg and Shye (1995) to predict the geometrical patterns requires that the researcher "first clarify the expected roles of the facets in the definitional framework" (p. 131). As a consequence, the following hypotheses, which were tested to substantiate the definitional framework stated in Figure 5.2, are stated in accordance with the roles expected of the facets.

Considering that the content universe of the processes for developing and disseminating marketing knowledge items is selected in accordance with the above mapping sentence (see Figure 5.2), it is hypothesised:

\textbf{H}_1: That the marketing knowledge approach facet (Facet A) elements would be ordered to play an axial role partitioning the concept-space by straight line into two regions.
$H_2$: That the marketing knowledge infrastructure facet (Facet B) elements would be unordered to play a polar role, partitioning the SSA space into five wedge-like regions emanating from a common origin.

$H_3$: That the marketing knowledge processes facet (Facet C) elements would be ordered to play a modular role partitioning roughly the SSA concept-space into two contiguous, concentric circles.

$H_4$: That the combined structure for facets B and C would be a radex with a radial distribution of the items as points where Facet C corresponds to the modular direction from center to periphery and Facet B relates to the direction angles.

$H_5$: That the resulting structure of the combined roles of the three facets’ (Facets A, B and C) dimensionality of the SSA space would be cylindrex.

Levy (2005) provided the following definitions for the role of facets in a mapping sentence. To begin with a facet playing an axial role is where the notion of order is unrelated to that of other facets. A facet playing a modular role refers to a simply (or partly) ordered facet, with an "absolute" origin, this origin being common to that of a polar facet; while a facet playing a polar role refers to unordered facet (or alternatively, a facet whose elements have a circular order). Each element of the facet corresponds to a different direction in the SSA space, emanating from a common origin.

The rationale for these hypotheses is that the processes for developing and disseminating marketing knowledge in organizations is composed essentially of three key facets, namely, marketing knowledge approach, marketing knowledge infrastructure, and marketing knowledge processes. These facets and their elements, as they relate to the content (domain) universe of marketing knowledge development and dissemination constructs, are exhaustively reviewed from the literature, and they are of sufficient importance to reflect the internal structure of the constructs.

Furthermore, the literature presented in Chapters 2 and 3 provided all the key variables that exhaustively define the domain. They showed that the variables extracted represent aspects of organizations’ processes to develop and disseminate marketing knowledge when building marketing capabilities, which are represented in form of a mapping sentence. The rationale as drawn from the literature justifies the conceptualizations of the content of the mapping sentence, which serves as a theoretical formulation for this study.
5.6 Data collection

Data collection techniques are grouped into two categories, quantitative (collecting data in the form of numbers), and qualitative (collecting data in the form of words or pictures) (Neuman, 2000). A model put forward by Crotty (2003) distinguished between qualitative and quantitative research at the level of methods, rather than from an epistemological or theoretical perspective. Crotty (2003) brings to the qualitative and quantitative research debate the perspective that whatever research one engages in, it is possible for either method or both to be used. The FT research approach, which can be used with structured, semi-structured and unstructured data (Hornik et al., 2007; Brown and Barnett, 2000), takes in this view espoused by Crotty. To this end Brown and Barnett (2000) argued that FT itself does not dictate method, as it accommodates bottom-up or top-down approach to research. As previously noted this study adopted the top-down research approach as a means to build a model of the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations.

The facets’ and their elements, as depicted in the mapping sentence (Figure 5.2) were specified in relatively general, abstract form. Leeflang and Koerts (2007) argued that “representing a model in this manner, one runs the risk of the model not being closed, and moreover the consistency requirement may be violated. It is advisable therefore to represent a model by formulating explicitly the relationships between the different variables in the model”, that is, quantification of these relationships. (p.213). “Quantification is the numerical specification of the relationships” (Leeflang and Koerts, 2007; p. 213). It is instructive to note that “one need not go as far as a quantification of these relationships” in order to explicitly formalize a model under study (Leeflang and Koerts, 2007; p. 213). For Pidd (2009) pointed out, an explicitly formalised model is a type of a logical flow model, which can be represented with the help of a diagram.

To avert this problem of violating the consistency of a model Leeflang and Wittink (2000) argued that the model should be robust, and that the “robustness can be achieved with a structure that constrains answers to a meaningful range of values” (Leeflang and Wittink, 2000, p. 108). These values, according to Leeflang and Koerts (2007), are the numerical specification of relations between variables or processes as they relate to each other. FT as “a structural theory ... provides a means to specify the structure of the relationships among the facets and their elements” quantitatively (Hornik et al., 2007; p. 792). This brings into focus
the need for quantitative modelling as a means to formalize the model under study (Mingers, 2006).

Critical realism as a research paradigm underlying this study also lends itself to a variety of methodological perspectives (Mingers, 2006; Healy and Perry, 2000). One of these methodologies is the survey method coupled with structural modelling (Healy and Perry, 2000). A consideration of the study described thus far is best captured under quantitative methodology. As a consequence, and following the lead by previous researchers applying the FT approach to an area of a study (Cohen, 2009; Canter, 1985), the present work intends to adopt the quantitative method to collect data for the current study. Again taking a cue from previous FT studies survey methodology is appropriate for this study and therefore it is adopted (Cohen, 2009; Canter, 1985). This methodology involves the use of questionnaires as a tool for the collection of data for a study.

5.6.1 Development of measurement scales

The operationalization of the mapping sentence (see Figure 5.2) involved the development of measurement scales in order to specify and formalize the multivariate structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations. This formalization is to provide for the model a structure that constrains answers to a meaningful range of values. It is the specification of the values that scales make explicit in order to improve the validity of the processes involved (Pidd, 2009; Aaker and Weinberg, 1975).

Scaling (scale development) procedures involves using “rules to assign numbers to attributes of things or events observed in circumstances assumed to be qualitative” (Young, 1984; p. 55–56). In the context of this study it is the mapping sentence (Figure 5.2) that provides the rules for assigning numbers to various variables of the processes for developing and disseminating marketing knowledge. The outcome of assigning these numbers is the Guttman scale, “a set of values” (Guttman, 1944; p. 140).

Although scales measuring attributes of variables have been criticised as having a common problem on the grounds that the level of measurement implied is not always unambiguously clear (Diamantopoulos and Schlegelmilch, 2002), scales have the following benefits which makes their use in research appropriate. According to Dunn-Rankin et al. (2004) the set of values, which is the result of scaling, provide a parsimonious representation of the objects under study and a simplified picture of large classes of subjective observations. This compact
representation of large classes of qualitative observations has the advantage of relating the
universe studied to other variables in an easier way than using the large multivariate
distribution of the attributes in the universe (Guttman, 1944).

In addition, acquiring concrete and clear answers provided by measurement scales is
important for analyzing results of a study in a more efficient and reliable way. For example,
umerical responses offered by a numerical scale can be varied to suit appropriate answer
choices (Dunn-Rankin et al., 2004). Lastly, the use of numbers in a scale rather than other
symbols (e.g. letters), “provides a standardized means for communicating measurement
procedures and results from researcher to researcher and user and also facilitates
mathematical and statistical manipulation of the data”, (Diamantopoulos and Schlegelmilch,
2002; p. 23).

Considering the advantages of measurement scales as a means of collecting quantitative data
it is not surprising that scaling techniques have been used extensively in research in the field
of marketing, and market orientation research in particular (Deshpandé, 1999; Kohli et al.,
1993). The most common scales used in the market orientation research literature are Likert
scales (Deshpandé, 1999). Although Likert scales are popular in marketing research, this
study will not adopt it as it could not be treated as if it had ordinal properties (Dunn-Rankin et
al., 2004). The data to be collected and analysed is continuous and therefore the preferred and
appropriate numerical measurement scale for this study is Guttman scale, a non-metric
 technique, which could handle continuous data. Although the FT research approach adopted
for this study does not dictate the methods, it advocates Guttman scale (numerical scale) as a
means of collecting data, with the mapping sentence providing a template for the development
of questionnaire items. The mapping sentence serving as a measurement rule provides the
basis for the construction of a Guttman measurement scale – visualized continuum upon
which the measured items of marketing knowledge development and dissemination constructs
can be located.

It is instructive to note that although questionnaire items based on Guttman scale were used to
collect data from Ghanaian organizations, it should not be inferred, however, that scaling
refers only to that technique. “Scaling analysis is a formal analysis, and hence applies to any
universe of qualitative data of any science, obtained by any manner of observation” (Guttman,
1944; p.140). Quantitative information on the interrelationships between facets of the
processes for developing and disseminating marketing knowledge in organizations may be
obtained by various direct and indirect procedures. For instance, Canter (1985) argued that the
FT approach can successfully be used with data collection techniques such as open-ended interviews, behavioural observation, analyses of object distribution, and records. In this respect, it would have been appropriate to adopt interviews as the data collection method in this study. Also, experience with interviews suggests that they can be advantageous in allowing questions to be tailored to the idiosyncrasies of the business (Day and Nedungadi, 1994). However, as Day and Nedungadi (1994) pointed out, the results of the interview would "no longer be comparable across businesses", in that the process of clarification during interviews would have "a tendency to reveal the purpose [of the] study and potentially bias responses" (p. 34).

Oppenheim (1992) provides a concise overview of the advantages of using questionnaires over interviews as a data collection technique (Table 5.2). The suggested advantages make the questionnaire an attractive option over the interview method, as the FT approach supports the use of questionnaires as the commonest way to illustrate the FT application in a study (Canter, 1985).

**Table 5.2 The Advantages of Using Questionnaire**

<table>
<thead>
<tr>
<th></th>
<th>Questionnaire</th>
<th>Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of data collection</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Cost of data processing</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Interview bias</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Ability to reach widely dispersed respondents</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Response rate/bias</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Suitability for illiterate, old, children, visually, handicapped</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Ability to probe/correct misunderstanding/offer explanations</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Ability to control passing on of questions to others</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Control of order of response to questions/incomplete responses</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Ability to observations</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

Source: (Oppenheim, 1992)
In addition, a review of the marketing literature on developing and disseminating marketing knowledge revealed that the majority of researchers have used quantitative methods and questionnaires in a survey (Deshpandé, 1999). These provide extra evidence to support the decision to use the same methodology for the current research. To this end, this study opted for a self-administered questionnaire, which has the advantage of enabling the collection “of extensive data from a large and diverse sample while ensuring that all respondents used a common frame of reference when answering the questionnaire” (Day and Nedungadi, 1994; p. 34).

5.6.2 The development of Guttman measurement scales

The FT questionnaire development procedure (see Appendix B4, p.228) includes a template (mapping sentence) for observational questions, structuples for questionnaire items, responses to the questionnaire, and recording of responses. Structuple is the combination of facet elements taken from each facet (Borg and Shye, 1995). The questionnaire items for this study were derived from the mapping sentence (Figure 5.2) extracted from the literature reviewed (Chapters 2 and 3) and Ghanaian businesses’ (respondents) observations. The respondents’ observations were the results of three pilot studies conducted in Ghana to establish the multivariate structure of the mapping sentence (multifaceted definition) for the current study.

The result of the pilot studies was the final 20-item questionnaire (see Appendix F3, Section A; p. 266), each item answered on a five-point Guttman scale. Appendix F3, Section B represents questionnaire items on characterization of interrelationships between Facets B elements; Section C on company approach to marketing knowledge development and dissemination; Section D on interrelationship between the constructs under study; and Section E on company background information. The details of the pilot studies are found in Appendices C, D, E, F, and G. It is worth noting that in this study the interrelationships between facets of the processes for developing and disseminating marketing knowledge in organizations were assessed in terms of the facets interrelationships specified in the mapping sentence.

The mapping sentence (Figure 5.1), as a template, was used as a scheme for making specific assignments to form structuples to a specified mapping range. The structuples were created by selecting one element from facet A (e.g. market-driven), an element from facet B (e.g. culture), and an element from facet C (e.g. marketing knowledge development) respectively. The three elements (e.g. market-driven, culture, and marketing knowledge development) are
put in parentheses to indicate that it is a single element of the three-faceted Cartesian set that constitutes the domain of the mapping. A total of 20 \((2 \times 5 \times 2)\) structuples were obtained from the mapping sentence. The structuples were further developed into questionnaire items for the study. It is worth noting that although domain facets and their elements constitute the formal part of the mapping sentence, they were strung together by informal connective words as in ordinary language to make the meanings of the questionnaire clear to respondents.

The mapping range facet of the mapping sentence served as the basis for specifying in advance a range of possible responses for the observational questions of this study. The mapping range facet is example of Guttman’s scale from FT point of view (Levy, 2005; Guttman and Greenbaum, 1998; Shye et al., 1994). Responses to the questionnaire items were given via a five-point Guttman’s scale. Valid responses from the mapping range include “effective to a great extent... ineffective to a great extent.” Questionnaire items were assigned a score from the response range, commonly ordered. The scores ranged from 5 = effective to a great extent, 4 = effective to a moderate extent, 3 = neither effective nor ineffective, 2 = ineffective to a moderate extent, to 1 = ineffective to a great extent. For each of the five effectiveness criteria, the focused subject was assigned a score, and the list of these scores formed the subject’s score profile, following appropriate empirical observations. A higher score represented higher effectiveness uniformly in all items of the study, and vice versa. The response range assumed the above shades of meaning and sensitivity regarding the efficacy of the processes for developing and disseminating marketing knowledge in organizations.

5.7 Sample frame

The explicit aim of the FT approach to research is “theory construction and the discovery of laws in the behavioural sciences” (Donald, 1995; p. 116). For theory construction Kohli and Jaworski (1999) argued that it is important to tap “a wide range of experiences and perspectives in the course of the data collection” (p. 10). To this end, they suggested the use of “a purposive or ... sampling plan” to “ensure that the sample included marketing as well as non-marketing managers in industrial, consumer, and service industries” (Kohli and Jaworski, 1990; p. 2). Kohli and Jaworski (1999) also suggested that care should be taken to sample large as well as small organizations. The sampling framework as suggested by Kohli and Jaworski (1999) were appropriate for Ghanaian business set-ups. This is because available data from the Registrar General in Ghana indicates that 90 per cent of companies registered are micro, small and medium enterprises (Mensah, 2004).
A group of companies were selected from *Surf Yellow Pages Ghana: 2007 edition* (SURF Team, 2007) as the sample population. *Surf Yellow Pages Ghana* is a comprehensive classified directory listing virtually every business in Ghana. The directory has both a hard and an online version, with companies’ email and web addresses (SURF Team, 2007). The decision to use *Surf Yellow Pages Ghana: 2007 edition* is based on the ease of getting access to websites and email addresses to ascertain companies’ profiles before sampling them for the study.

5.7.1 Sample size

One caution that has been issued in the methodology literature when using multivariate techniques to analyse data is to be aware that sample size can affect the statistical test by either making it insensitive (at small sample size) or overly sensitive (at very large sizes) (Hair et al., 2006). From the FT perspective Canter (1985) suggested that a reasonably large sample of respondents should be sought, possibly around 100 or more. He argued that “the reason for the large number is mainly to ensure that the correlation coefficients on which the analysis is based are stable and that small biases in the sampling framework do not have an appropriately high influence on the configuration” (Canter, 1985; p. 270). Considering this precaution this study adopted a minimum sample size of 100 business units.

5.7.2 Sampling unit/procedure

Individuals’ knowledge is the basis of organizational knowledge creation or development (Nonaka and Takeuchi, 1995). However, since the business organization has the responsibility to mobilize knowledge created and accumulated at the individual level, the focus of this study is on the examination of organizations’ evaluation of facets of marketing knowledge development and dissemination constructs. In this sense the business organization in essence is the unit of analysis.

A multiple-informant design was employed for this study (Jaworski and Kohli, 1999). Data was collected from general and marketing managers of a variety of business units in Ghana (Day and Nedungadi, 1994; Kuada and Buatsi, 2005). The rationale for selecting this population as respondents was based on the survey method employed to administer the self-completed questionnaire. First, Fowler (2002) pointed out that “self-administered approaches to data collection place more of a burden on the reading and writing skills of the respondent than interviewer procedures” (p. 61). Secondly, marketing as a practice requires professional expertise in dealing with the factual terms of the practice. These imply that respondents
should have a background which would enable them to understand the marketing concepts used in the questionnaire. In this respect general and marketing managers were selected as respondents for this study.

5.8 Pre-test

The pre-test in the form of pilot studies followed the lead of Jaworski and Kohli (1999) three-stage procedure to develop questionnaire items for a study. To begin with, three pilot studies were conducted to ensure the overall reliability of the multivariate structure of the mapping sentence for this study. Other objectives were to check on the adequacy of questionnaire statements and to determine an appropriate strategy to maximize response rates. The first pilot study was conducted in Ghana in May 2008 (for further details of the first pilot studies see Appendix B, C and D). The study was based on the first mapping sentence (see Figure 1.1) derived from the marketing and organizational behaviour literature.

Twenty-eight questionnaire items were generated out of the first mapping sentence, to measure the interrelationships between facets of the processes for developing and disseminating marketing knowledge in Ghanaian organizations. The questionnaires were personally administered to marketing and general managers in business organizations in Ghana. After data had been collected and analysed an expert in facet theory approach to research was consulted to discuss the results. The discussion considered Ghanaian business organizations observations in the light of the marketing and organizational literature reviewed. Thereafter, with the help of the expert the second and third mapping sentences (Appendices E1 and F1 respectively) were developed. These mapping sentences served as templates for the development of two separate questionnaires for the second and third pilot studies.

The second pilot study (see Appendix E), which was made up of a 48-item questionnaire (Appendix E5), was administered to marketing and general managers in Ghanaian businesses in February 2009. The second pilot study mapping sentence was not empirically recovered, and was, therefore, abandoned. The third pilot study (see Appendix F and G for further details), which was made up of 20-item questionnaire, was also administered to marketing and general managers in Ghanaian businesses in April 2009. The mapping sentence was empirically recovered when data was collected and analysed. Thus, the reliability and validity of the third mapping sentence was established and therefore was adopted for the current study. The 20 questionnaire items (see Appendix F3, Section A) were also retained for the
main study. In Appendix F3 three other sections, B, C, and D, of the questionnaire items were added to understand the relationships among facet elements.

At each stage, participants were asked to identify items that were unclear, ambiguous or difficult to perform, and any other problems they encountered. Items that were identified as being problematic were revised or eliminated, and new items were developed. At the end of the third pilot study participants indicated little difficulty with the scales or questionnaire items. It is worth noting that respondents' observations were considered and incorporated into the questionnaire design for the study.

5.9 Survey
A census type of survey technique was employed in this study to understand the evaluation patterns underlying the conceptualizations of organizations as a whole rather than the individual differences as the focus (Brown and Barnett, 2002). The survey started in May and ended in December 2009. Two hundred and fifty organizations were involved in the survey, and 400 questionnaires were distributed.

The survey began by sending letters to the organizations selected from the *Surf Yellow Pages Ghana: 2007 edition* business directory, soliciting their help and consent in conducting the research on their premises. Following the initial positive response from the organizations, copies of the questionnaire together with a covering letter and an envelope, were personally distributed to informants, i.e. the general and marketing managers in each organization. It is worth noting that 50 businesses accepted only one questionnaire for either their marketing or general manager to complete. Some of the reasons given were either the manager is on annual leave or on official assignment. As result 400 hundred questionnaires were distributed. The cover letter explained the objectives of the study and requested both the chief executive officer, or a senior manager in charge of marketing and related tasks, and the general manager to fill out the questionnaire and put the completed questionnaire in the envelope attached, seal it, and keep it for collection at a later date. Questionnaires were personally distributed as mailing questionnaires is not a reliable source for data collection in Ghana (Kuada and Buatsi, 2005).

With the help of a research assistant, personal follow-ups started a week later. Respondents who had misplaced their questionnaire were given a fresh copy, together with another covering letter. Personal follow-ups were complemented by telephone calls to remind respondents. Some respondents who requested an electronic form of the questionnaire were
served through the email system. The procedure adopted yielded positive responses from informants but at a very slow pace. The first batch of questionnaires made up of 21 respondents was received in July 2009. The last batch of 7 questionnaires was received in December 2009. In all 103 questionnaires were retrieved.

5.10 Data analysis technique

The data was analysed using frequencies and cross-tabulations to describe the characteristics of the respondents. Similarity structure Analysis (SSA), a non-metric MDS technique, HUDAP version (Amar and Toledano, 2005), was used to establish the multivariate structure (inter-relationships) of facets underlying the constructs under study. It is instructive to note that ALSCAL (Alternating Least Squares Analysis) computer program included in the SPSS statistical package was used to analyse the data collected during the pre-test stage. ALSCAL (Takane, Young, and Leeuw, 1977) is one of the MDS algorithms and computer programs for analysing the structure underlying data.

Other MDS algorithms and computer programs include Kruskal’s MDSCAL, Kruskal, Young and Seery’s KYST, Guttman and Lingoes’ smallest space analysis (SSA) program, Guttman, Lingoes and Roskam’s MINISSA, Young and Torgerson’s TORSCA, Young’s POLYCON, Ramsay’s MULTISCALE, Carroll and Chang’s INDSCAL (Pruzan’s SINDSCAL), and Heiser and de Leeuw’s SMACOF (Cox and Cox, 2001). Cox and Cox (2001) noted that in 1981 the MDS(X) series of programs was launched commercially, which included some of the programs mentioned above. They pointed out that with the exception of INDSCAL (Carroll and Chang, 1970) and ALSCAL (Takane, Young, and Leeuw, 1977), which are included in SPSS and SAS statistical packages, the rest are somewhat dated in their presentation (Cox and Cox, 2001).

ALSCAL is a nonmetric (or metric) multidimensional scaling (MDS) program, which incorporates a wide variety of models and options within a single approach (Weinberg and Menil, 1993). According to Cox and Cox (2001) the attraction of ALSCAL as compared to INDSCAL is that it can analyse data that are: (i) nominal, ordinal, interval, or ratio; (ii) complete or have missing observations; (iii) symmetric or asymmetric; (iv) conditional or unconditional; (v) replicated or un-replicated; (vi) continuous or discrete. INDSCAL, on the other hand, is a form of weighted multidimensional scaling (Dunn-Rankin et al., 2004). “An INDSCAL analyses assumes that all individuals share a common or group space (an aggregate solution) but that respondents individually weight the dimensions, including zero
weights when totally ignoring a dimension” (Hair et al. 2006; p. 641). INDSCAL, which also assume dissimilarity data is limited to types (i)-(vi) above (Cox and Cox, 2001).

The INDSCAL program is meant to deal with inferences from a sample of observed individual respondents from the entire population rather patterns underlying a sample of variables from the entire universe of variables (Hair et al. 2006; Shye, 1998). Secondly, the INDSCAL program cannot handle continuous variables data (Cox and Cox, 2001). As the focus of this study is concerned with patterns underlying a sample of variables and the data to be analysed is continuous, the INDSCAL computer program is inappropriate for this study’s data requirements.

“ALSCAL differs from other MDS programs in minimizing S-Stress rather than Stress, thereby fitting squared distances to squared dissimilarities. As a result, in ALSCAL the large dissimilarities are much better represented than small dissimilarities”, (Borg and Groenen, 2005; p. 551). Borg and Groenen (2005), therefore, cautioned that “some care has to be taken when adapting a configuration plot in ALSCAL. If you change the range of the axes or resize the plot differently for the two axes, then the horizontal units can be misleading” (p. 551). This property of ALSCAL therefore makes it more susceptible to random error (Weinberg and Menil, 1993), and therefore is inappropriate for this study data analysis.

Nevertheless, the computer program is very easily available which enhances its application (Greenbaum, 2009). This is also the case with other ALSCAL computer programs. Despite its limitations, ALSCAL was the only available computer program that the author could easily access to analyse the data collected during the pilot studies stage. One problem that was encountered in using ALSCAL was the difficulty of interpreting its solution in the third dimension concept space. The ALSCAL concept space solution was too compact to interpret and trying to resize it distorts the positions of the observed items on the space. From a FT perspective the essential criterion for the acceptability of dimensional concept space is interpretability of its solution (Donald and Canter, 1990). While efforts were being made to have access to the SSA statistical package, which is suitable for this study’s data analysis, the author decided to use the ALSCAL software for the pilot studies’ data analysis. ALSCAL was abandoned when access to the HUDAP statistical package – which included SSA program – was eventually granted.
The data analysis reported in this study are the full 20 items (see Appendix F3, Section A) derived from the marketing knowledge development and dissemination content universe definitional framework, the mapping sentence.

5.11 Limitations

1. This study concentrated on organizations’ evaluations of measure of the interrelationships between facets underlying the processes for marketing developing and disseminating knowledge in organizations as a whole and do not distinguish \textit{a priori} among individual respondents. In other words we are interested in aggregating the data across the sample in an attempt to identify the patterns underlying the conceptualizations of the whole sample rather than the individual differences.

2. The study is limited to business organizations in Ghana. All conclusions drawn from the study therefore fall within this setting, though the implications of the study beyond it are discussed later in this thesis.

5.12 Summary

The chapter restated the objectives of the study and presented the hypotheses to be tested. Key decisions made in the chapter were:

- To use the realist paradigm
- To use Facet Theory techniques to design the research and analyse the data to be collected
- To use a quantitative methodology
- To use a survey technique
- To use a self-completed questionnaire
- To use organizations in Ghana as the sample population.

The next chapter follows, and starts with analysis of the data collected for this study. The chapter focuses on using MDS to answer the research questions proposed in Chapters 1 and 5.
Chapter 6

Data analysis and results

6.0 Introduction

This chapter presents the analysis of the data collected for this study and the results. It is organized into three sections. Section A presents background information of the sample (see Appendix F3, Section E questionnaire items). Analysis in Section B is directed towards the estimation of inter-relationships between elements of facets as assessed by Ghanaian business respondents (see Appendix F3, Section B, C and D questionnaire items). Descriptive statistics are used to highlight the research findings in Sections A and B. In Section C Smallest Space Analysis (SSA), better termed Similarity Structure Analysis, is employed to test the hypotheses (mapping sentence) for this study (see Appendix F3, Section A, 20-questionnaire items). The Hebrew University Data Analysis Package (HUDAP) software is used for the data analysis (Amar and Toledano, 2005). Section C also explores the patterns and inter-relationships between facets and their elements in the mapping sentence. This section also presents the results of the analysis and findings. The chapter ends with a summary of the data analysis and results, and introduces the next chapter.

Section A

6.1 Background information of sample

The data to be analysed were collected from respondents in Ghanaian business organizations, and consists of their evaluations, using Guttman’s scale, of the interrelationships between various facets of the processes for developing and disseminating marketing knowledge in organizations in order to determine the faceted structure underlying these processes. These data were collected by personally administering self-completed questionnaire to marketing and general managers (or senior managers in charge of these positions and related tasks). In all 250 organizations were approached and 400 questionnaires were distributed.

Table 6.1: Distribution of respondents

<table>
<thead>
<tr>
<th>Organizations</th>
<th>Questionnaires distributed</th>
<th>Retrieved</th>
<th>Percentage of respondents</th>
<th>Usable responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>400</td>
<td>103</td>
<td>25.75%</td>
<td>101</td>
<td>25.25</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
Out of the 400 questionnaires, 103 were retrieved, a response rate of 25.75%. Of the 103 questionnaires that were retrieved, 2 were rejected because of too much missing data, which left 25.25% (101) usable responses. Table 6.1 above presents the distribution of the questionnaires sent out to respondents.

Table 6.2 below classifies the size of organizations who responded to the questionnaire in terms of the number of staff employed. In Ghana, available data from the Registrar General indicates that 90 per cent of companies registered are micro, small and medium enterprises. The Registrar General’s information on Ghanaian registered companies is based on the UNIDO classification of enterprises in developing countries: large firms, 100+ workers; medium firms, 20–99 workers; small firms, 5–19 workers; and micro firms, less than 5 workers (Mensah, 2004; Quartey, 2001). Looking at the information presented in Table 6.2 it is clear that the majority of organizations who responded to the questionnaire were large firms, 43. While small and micro firms were 36, and medium firms 22. It is instructive to note that micro and small firms were put together as one category in Table 6.2. The distribution by size of the businesses who responded corresponds broadly to that suggested by Kohli and Jaworski (1999) in the selection of firms when developing marketing theories.

**Table 6.2: Size of company (in staff numbers)**

<table>
<thead>
<tr>
<th>Company size</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 20</td>
<td>36</td>
</tr>
<tr>
<td>20 – 99</td>
<td>22</td>
</tr>
<tr>
<td>Over 100</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

Table 6.3 below represents different types of businesses who responded to the questionnaires. Different types (Table 6.3) and sizes (Table 6.2) of companies illustrate the effort that was made to tap a wide range of experiences and perspectives in the course of the data collection (Kohli and Jaworski, 1999). From Table 6.3 it can be seen that the majority of respondents were in the services industry, 85.15% (86) – non financial services 60.40% (61) plus financial services 24.75% (25). Manufacturing companies who responded were 10.89% (11), while other industries were 3.96% (4).
Table 6.3: Company types

<table>
<thead>
<tr>
<th>Business Type</th>
<th>No. of respondents</th>
<th>Percentage</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>11</td>
<td>10.89</td>
<td>10.89</td>
</tr>
<tr>
<td>Services (non-financial)</td>
<td>61</td>
<td>60.40</td>
<td>71.29</td>
</tr>
<tr>
<td>Services (financial)</td>
<td>25</td>
<td>24.75</td>
<td>96.04</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>3.96</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>101</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

Section B

6.2 Inter-relationships between marketing knowledge infrastructure elements

An attempt was made to assess how respondents would characterize the relationship between elements of marketing knowledge infrastructure facet as they interact with elements of the marketing knowledge processes facet. The variables include: company culture, organizational structure, corporate strategy, organizational systems, and interdepartmental relationships (dynamics).

Table 6.4: Evaluations of marketing knowledge infrastructure elements inter-relationships

<table>
<thead>
<tr>
<th>Marketing knowledge infrastructure elements inter-relationships</th>
<th>N</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company culture and organizational structure</td>
<td>101</td>
<td>76</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Company culture and corporate strategy</td>
<td>101</td>
<td>74</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>Company culture and organizational systems</td>
<td>101</td>
<td>67</td>
<td>29</td>
<td>5</td>
</tr>
<tr>
<td>Company culture and interdepartmental relationships</td>
<td>101</td>
<td>73</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>Organizational structure and corporate strategy</td>
<td>101</td>
<td>78</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Organizational structure and organizational systems</td>
<td>101</td>
<td>67</td>
<td>22</td>
<td>12</td>
</tr>
<tr>
<td>Organizational structure and interdepartmental relationships</td>
<td>101</td>
<td>64</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>Corporate strategy and organizational systems</td>
<td>101</td>
<td>69</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Corporate strategy and interdepartmental relationships</td>
<td>101</td>
<td>63</td>
<td>29</td>
<td>8</td>
</tr>
<tr>
<td>Organizational systems and interdepartmental relationships</td>
<td>101</td>
<td>69</td>
<td>26</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
Table 6.4 represents respondents' evaluations of the extent of inter-relationships between marketing knowledge infrastructure facet elements as they facilitate marketing knowledge processes facet elements in organizations. On the whole the marketing knowledge infrastructure facet elements were evaluated by respondents as having strong positive inter-relationships. The positive evaluations between the elements of marketing knowledge infrastructure (facet B) elements ranged from 63 respondents (in the case of corporate strategy and interdepartmental relationships) to 78 respondents (in the case organizational structure and corporate strategy).

Table 6.5: Mean scores of marketing knowledge infrastructure elements inter-relationships

<table>
<thead>
<tr>
<th>Marketing Knowledge Infrastructure Relationships</th>
<th>N</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company culture and organizational structure</td>
<td>101</td>
<td>4.0198</td>
<td>1.01961</td>
</tr>
<tr>
<td>Company culture and corporate strategy</td>
<td>101</td>
<td>4.0000</td>
<td>0.90554</td>
</tr>
<tr>
<td>Company culture and organizational systems</td>
<td>101</td>
<td>3.8119</td>
<td>0.80886</td>
</tr>
<tr>
<td>Company culture and interdepartmental relationships</td>
<td>101</td>
<td>3.9010</td>
<td>0.86608</td>
</tr>
<tr>
<td>Organizational structure and corporate strategy</td>
<td>101</td>
<td>4.0594</td>
<td>0.86973</td>
</tr>
<tr>
<td>Organizational structure and organizational systems</td>
<td>101</td>
<td>3.7723</td>
<td>0.99881</td>
</tr>
<tr>
<td>Organizational structure and interdepartmental relationships</td>
<td>101</td>
<td>3.7723</td>
<td>0.93682</td>
</tr>
<tr>
<td>Corporate strategy and organizational systems</td>
<td>101</td>
<td>3.8020</td>
<td>0.91673</td>
</tr>
<tr>
<td>Corporate strategy and interdepartmental relations</td>
<td>101</td>
<td>3.7129</td>
<td>0.86414</td>
</tr>
<tr>
<td>Organizational systems and interdepartmental relationships</td>
<td>101</td>
<td>3.7624</td>
<td>0.80185</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

In contrast, respondents who evaluated the elements as having negative inter-relationships range from just 5 in the case of company culture and organizational systems, to 12 in the case of organizational structure and organizational systems. Respondents who evaluated the inter-relationships between marketing knowledge infrastructure elements as indifferent (neutral) in their interaction with marketing knowledge processes elements ranged from only 15 in the case of company culture and organizational structure, to 29, in the case of company culture and organizational systems/corporate strategy and interdepartmental relationships.
Table 6.5 represents mean scores of respondents’ evaluations of the inter-relationships between elements of the marketing knowledge infrastructure facet (Facet B). The mean scores further illustrate the positive inter-relationships between elements of Facet B. As can be seen from Table 6.5 the mean scores ranges from 4.02 (company culture and organizational structure relationship) to 3.71 (corporate strategy and interdepartmental relationships). Likewise, the standard deviation, which reflects the spread and the degree to which values differ from the mean, ranged from 1.02 (company culture and organizational structure relationship) to .80 (organizational systems and interdepartmental relationships). The standard deviations of the inter-relationships between marketing knowledge infrastructure elements clustered just around their means scores.

6.3 Company approach to marketing knowledge development and dissemination

Respondents were asked to indicate whether their companies’ orientation towards the development of marketing knowledge is management- or market-driven when building marketing capabilities. The responses to this question are presented in Table 6.6.

Table 6.6: Evaluations of Ghanaian business organizations’ approach to marketing knowledge development

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Company approach to marketing knowledge development</th>
<th>Market-driven</th>
<th>Neither market-nor management-driven</th>
<th>Management-driven</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td></td>
<td>101</td>
<td>101</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td>61</td>
<td>4</td>
<td>36</td>
<td>101</td>
</tr>
<tr>
<td>Respondents (%)</td>
<td></td>
<td>60.4</td>
<td>3.96</td>
<td>35.64</td>
<td>100</td>
</tr>
<tr>
<td>Cum%</td>
<td></td>
<td>60.4</td>
<td>64.36</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

It is clear from Table 6.6 that out of 101 respondents 61 (60.4%) indicated that their companies’ marketing knowledge development activities are market-driven, whereas 36 (35.64%) respondents indicated that their marketing knowledge development activities are management-driven. Those respondents who evaluated their organizations’ marketing knowledge development activities as neither market- nor management-driven were only 3.96% (4). To conclude, it can be argued that majority of Ghanaian business organizations
(60.4%) assessed their organizations’ approach to marketing knowledge development as more market-driven than management-driven.

Table 6.7: Evaluations of Ghanaian organizations approach to marketing knowledge dissemination

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Company approach to marketing knowledge dissemination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market-driven</td>
</tr>
<tr>
<td>N</td>
<td>101</td>
</tr>
<tr>
<td>n</td>
<td>51</td>
</tr>
<tr>
<td>Respondents (%)</td>
<td>50.5</td>
</tr>
<tr>
<td>Cum %</td>
<td>50.5</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

A question was posed to find out the orientation of respondents’ companies to marketing knowledge dissemination activities when building marketing capabilities. From Table 6.7, just 51 respondents (50.5%) evaluated their marketing knowledge dissemination activities to be market-driven. Forty-four respondents (43.6%) indicated that marketing knowledge dissemination activities are management-driven. Only six respondents (5.9%) evaluated their companies’ marketing knowledge activities as neither market- nor management-driven. It should be noted that, whereas the majority of respondents indicated that their marketing knowledge development activities were market-driven (60.4%), respondents’ evaluation of their companies’ orientation to marketing knowledge dissemination split almost evenly between market- and management-driven, 50.5% and 43.6% respectively.

As we previously noted, the concepts of market-driven and management-driven approaches to marketing knowledge development and dissemination emerged from the pilot studies and were included in the mapping sentence as a separate facet. The observations made by the Ghanaian respondents as shown in Tables 6.6 and 6.7 support these concepts extracted from the pilot study findings.

6.4 Relationship between marketing knowledge development and dissemination constructs

A question was posed to find out how Ghanaian business organizations would, from their own perspective, characterize the relationship between the activities of marketing knowledge
development and marketing knowledge dissemination. The responses are presented in Table 6.8 below.

Table 6.8: Evaluations of the relationship between marketing knowledge development and dissemination constructs

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Relationship between marketing knowledge development and dissemination constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Complementary</td>
</tr>
<tr>
<td>N</td>
<td>101</td>
</tr>
<tr>
<td>n</td>
<td>84</td>
</tr>
<tr>
<td>(%)</td>
<td>83.2</td>
</tr>
<tr>
<td>Cum%</td>
<td>83.2</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

It is clear from Table 6.8 that the majority of the respondents [84 (83.2%)] viewed the relationship between marketing knowledge development and knowledge dissemination activities as complementary.

6.5 Marketing knowledge development and dissemination inter-item correlation matrix

To study the structure of inter-relationships between facets of the processes for developing and disseminating marketing knowledge in organizations, Pearson correlation coefficients (r) were calculated for each pair of the 20 questionnaire items (see Appendix F3, Section, A). The coefficients are displayed in a 20-by-20 matrix of correlations table (Table 6.10) with their structures. The questionnaire items that represent these structures are presented in Table 6.9 (a–d) with their structures and coefficient of alienation values. Tables 6.9 (a) and (b) are market-driven questionnaire items (variables), whereas (c) and (d) management-driven items.

The correlation matrix shown in Table 6.10 reveals that the majority of the correlation coefficients are positive, with only 14 coefficients being negative. Put differently, although the interrelationships between items were largely positively correlated, the correlations were not perfect, which suggests that the informants were keying in on different perspectives in providing their responses (Jaworski and Kohli, 1993).

The correlation coefficients for the 20 variables, range from -0.17 to 0.77. The weakest negative correlation coefficient (-0.17) was between items 20 and 3 (the effectiveness of the
impact of the management-driven approach on interdepartmental relationships to facilitate marketing knowledge dissemination, and the effectiveness of the impact of the market-driven approach on company strategy to facilitate marketing knowledge development respectively), whereas the highest correlation coefficient (+0.77) was between items 11 and 16 (the effectiveness of the impact of the management-driven approach on company culture to facilitate marketing knowledge development, and the effectiveness of the impact of the management-driven approach on company culture to facilitate marketing knowledge dissemination respectively). The 14 negative correlation coefficient items ranged from −0.01 to −0.17, which were only just 7% of the overall coefficients found in the matrix.

Generally speaking correlation coefficients’ contradictions among marketing knowledge development and dissemination items as shown in Table 6.10 were not frequent, and therefore, it can be argued that all the questionnaire items correlate adequately well with one another as only few correlation coefficients (7%) were negative.
Table 6.9 (a): Market-driven items
Organization (x) evaluates the effectiveness of the following market-driven practices as a means of facilitating marketing knowledge development

<table>
<thead>
<tr>
<th>Structures</th>
<th>No.</th>
<th>Market-driven practices</th>
<th>Coefficient of Alienation</th>
</tr>
</thead>
<tbody>
<tr>
<td>alb1c1</td>
<td>1</td>
<td>Serving market needs by encouraging informal collaboration among departments to monitor and understand market trends.</td>
<td>.13 .10 .07</td>
</tr>
<tr>
<td>alb2c1</td>
<td>2</td>
<td>Structuring an organization around market segments to serve well defined market needs</td>
<td>.19 .09 .08</td>
</tr>
<tr>
<td>alb3c1</td>
<td>3</td>
<td>Involving all departments in learning-based strategic planning process guided by shared beliefs about creating value for customers.</td>
<td>.20 .07 .04</td>
</tr>
<tr>
<td>alb4c1</td>
<td>4</td>
<td>Encouraging both departments and individuals to understand where all activities fit in an organization</td>
<td>.24 .14 .07</td>
</tr>
<tr>
<td>alb5c1</td>
<td>5</td>
<td>Encouraging informal interaction among individuals and departments within an organization</td>
<td>.15 .08 .05</td>
</tr>
</tbody>
</table>

Table 6.9 (b) Market-driven items
Organization (x) evaluates the effectiveness of the following market-driven practices as a means of facilitating marketing knowledge dissemination

<table>
<thead>
<tr>
<th>Structures</th>
<th>No.</th>
<th>Market-driven practices</th>
<th>Coefficient of Alienation</th>
</tr>
</thead>
<tbody>
<tr>
<td>alb1c2</td>
<td>6</td>
<td>Serving market needs by encouraging informal collaboration among departments to monitor and understand market trends.</td>
<td>.16 .11 .08</td>
</tr>
<tr>
<td>alb2c2</td>
<td>7</td>
<td>Structuring an organization around market segments to serve well defined market needs</td>
<td>.24 .15 .08</td>
</tr>
<tr>
<td>alb3c2</td>
<td>8</td>
<td>Involving all departments in learning-based strategic planning process guided by shared beliefs about creating value for customers.</td>
<td>.20 .13 .09</td>
</tr>
<tr>
<td>alb4c2</td>
<td>9</td>
<td>Encouraging both departments and individuals to understand where all activities fit in an organization</td>
<td>.20 .11 .08</td>
</tr>
<tr>
<td>alb5c2</td>
<td>10</td>
<td>Encouraging informal interaction among individuals and departments within an organization</td>
<td>.13 .09 .07</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
Table 6.9 (c) Management items
Organization (x) evaluates the effectiveness of the following management-driven practices as a means of facilitating marketing knowledge development

<table>
<thead>
<tr>
<th>Structures</th>
<th>No.</th>
<th>Management-driven practices</th>
<th>Coefficient of Alienation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a2b1c1</td>
<td>11</td>
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<td>.22 .09 .08</td>
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<td>Formalizing how individuals and departments could interact within the organization</td>
<td>.11 .09 .06</td>
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Table 6.9 (d) Management items
Organization (x) evaluates the effectiveness of the following management-driven practices as a means of facilitating marketing knowledge dissemination

<table>
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Source: Fieldwork, May 2009
Table 6.10: Marketing knowledge development and dissemination inter-item correlation matrix (Pearson coefficients)

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Source: Fieldwork, May 2009
6.6 Similarity structure analysis (SSA)

To better understand and elaborate upon the initial findings in the correlation matrix (see Table 6.10), the Smallest Space Analysis (SSA) technique introduced by Guttman (1968) was used to produce space diagrams that graphically present the matrix data. The space diagrams help us to extend the Ghanaian respondents’ observations, in order to arrive at an understanding of the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations.

SSA is an intrinsically geometrical technique for analysing multivariate data, which emphasizes regions in the space of variables rather than coordinates. It is a nonmetric, multidimensional scaling procedure that operates upon the rank order of the correlation matrix derived from correlating every questionnaire item with every other. It locates an \( N \)-dimensional space such that the rank of the distances between the points, representing items in the space, has a maximum relationship to the rank of the correlation coefficients. Each variable (question) is presented as a point in a Euclidean space in such a way that the higher the correlation between two variables, the closer they are in the space. The space used is of the smallest dimensionality that allows such an inverse relationship between all pairs of observed correlations and observed geometric distances. The output is, thus, a distribution of points representing inter-item correlations. Only the relative sizes of correlation coefficients and the relative distances are of concern (Borg and Shye, 1995; Shye et al., 1994; Guttman, 1968).

In this study the HUDAP software was used for the data analysis (Amar and Toledano, 2001). The statistical program provides a measure of the “goodness of fit” between the rank order of the association coefficients and rank order of their spatial representation. This measure, the coefficient of alienation, is usually considered acceptable when it is .2 or below (Hair et al., 2006; Donald, 1994). The plot is then partitioned by the investigator by identifying regions that share an element of a facet in common. The elements of a facet are empirically validated if a region on the plot exists for them.

In the present study the original associations used in the SSA were Pearson product moment correlation coefficients (Table 6.10). The data analysis reported here is the full 20 items from the Ghanaian businesses’ evaluations of the questionnaire items. It is instructive to note that the emphasis is on structural lawfulness through (regional) hypotheses, which are dependent
on \textit{a priori} facet design of content (the mapping sentence described earlier) and not on values of co-ordinates (loadings) on ‘reference axes’ (Levy, 1990). According to Levy (1990) Facet Theory regionality is coordinate-free or independent of choice of reference axes. Hence, in contrast to what is often claimed, the ‘principal axis rotation’ is not necessarily the ‘most informative’ for confirming the regional structural hypothesis. By correspondence between the space regions and the elements of the facets in the mapping sentence, it is possible to observe the scattering of the points as hypothesised, and schematically described in the SSA plots.

6.6.1 SSA of the full item set

This section aims at mapping Ghanaian businesses’ evaluations of the questionnaire items representing the inter-relationships between facets of the processes for developing and disseminating marketing knowledge in organizations. Specifically the aim of this analysis was to validate the overall multivariate structure of the mapping sentence for this study. To achieve this requires determining which aspects of the processes should be more highly intercorrelated and which should be less intercorrelated, and in what pattern. The SSA revealed that it is possible to represent the matrix of intercorrelations (Table 6.10) between the 20 questionnaire items (see Appendix F3, Section A) fairly well in a three-dimensional space with coefficient of alienation .10466. The three-dimensional space enables the basic structure of the model to be seen more clearly in the projection of the SSA plot.

6.6.2 Selecting coefficient of alienation

As we noted earlier the SSA program solution to be used for the analysis, has a three-dimensional coefficient of alienation .10466, which is an acceptable measure of the “goodness of fit”. It is instructive to note that “while the coefficient of alienation is taken as an indication of “goodness of fit” between the correlation matrix and the spatial plots, with an acceptable level being between 0.15 and 0.2, the essential criterion for acceptability is most often taken to be the interpretability of the solution” (Donald and Canter, 1990; pp. 421–422). The implication here is that the model being tested should be relatively simple to the extent that examination of the projected SSA space would provide the evidence for the mapping sentence (Donald and Canter, 1990). The assertion of Donald and Canter (1990) is well illustrated by the summary of analysis set out in Table 6.14 below.

With HUDAP software the data was run for various dimensionalities with the following coefficient of alienations as set out in Table 6.14. From the table it could be seen that all three
dimensions' (2D, 3D, and 4D) coefficient of alienation for determining the “goodness of fit” between the correlation matrix and the spatial plots were acceptable. However, from the perspective of Facet Theory (FT), acceptability of the coefficient of alienation is further considered in the light of SSA plot interpretability (Shye et al., 1994; Donald and Canter, 1990; Canter, 1985).

**Table 6.11: Overall coefficient of alienation for questionnaire items**

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<th>Dimension</th>
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<td>3D</td>
<td>.10466</td>
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<td>4D</td>
<td>.07353</td>
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</tbody>
</table>

Source: Fieldwork, May 2009

As a consequence the two-dimensional and four-dimensional SSA plots were rejected because of the difficulty in interpreting the plots, which are interspersed with “noise”, namely, lack of correspondence. Its only three-dimensional plots that make it possible to reduce the “noise”. A four-dimensional solution would have improved the coefficient of alienation, but would not have added to the meaningfulness or interpretability of the plots. Consequently, the three-dimensional solution was chosen, it being both interpretable and within the conventionally acceptable stress level. The coefficients of alienation solution for individual questionnaire items as indicated in the Tables 6.9 (a) – (d) also provide support for the selection of the three-dimensional plots. Each projection of the SSA plot for the facets is discussed in the following sections.

### 6.7 Results

The hypotheses (H₁ through H₅) stated in Section 5.5 (pp. 104) were guided by the multifaceted definition (mapping sentence) for this study (see Figure 5.2, p. 100). These were tested by relating the conceptual structure of observations on the universe to features of the empirical structure of observations on that universe. These empirical structure were the results obtained from Pearson coefficients (r) calculations (see Table 6.10), which were used in Similarity Structure Analysis (SSA) to produce space diagrams that graphically present the matrix data. As previously noted, the results of the 3D SSA solution have a coefficient of alienation of .10466 which is acceptable. It is instructive to note that the type or shape of the
SSA plot partitions are modelled on general philosophical adherence to certain Facet Theory principles (Shye et al., 1994).

6.7.1 Facet A: Marketing knowledge approach

The hypothesis, $H_i$, (see section 5.5) which states that the elements of marketing knowledge approach facet (Facet A) would be ordered to play an axial role, requires that Facet A elements would partition the concept-space by straight line into two regions. The results of similarity structure analysis as shown in Figures 6.1(a) and 6.1(b) below confirms this hypothesis. The projections of the SSA plots in the said figures are those which most clearly partition in accord with the elements of the marketing knowledge approach facet (Facet A). In the plots, the region to the left contains all, $a1$, items concerned with the element, market-driven approach to developing and disseminating marketing knowledge in organizations. In the right region are $a2$ items addressing the management-driven approach element. The clear partitioning of Facet A elements indicates a robust support for this facet. This is because the partitioning of Facet A items into two regions is simple, without item deviations, with a smooth cutting line that characterizes the axial role of the facet and its elements (Borg and Groenen, 2005).

In addition, the partitioning indicates that there is a correspondence between Facet A elements of the mapping sentence and the empirical data. The correspondence as indicated in the SSA plot is based on Guttman’s (1968) definition of theory. From the FT perspective a theory is a hypothesis of a correspondence between a definitional system for a universe of observations and an aspect of the empirical structure of those observations, together with a rationale for such a hypothesis (Guttman and Greenbaum, 1998; Donald, 1995). The correspondence in the sense of FT meant that in the SSA solution, an element of a facet is expected to be found in one distinctive region. This is the case in this Ghanaian study with Facet A elements vertically partitioning the plot into two distinctive regions as shown in Figures 6.1(a) and 6.1(b).

In Figure 6.1(a) the variables (the 20 questionnaire items - see Appendix F3, Section A) are represented with their serial numbers as found in the correlation matrix in Table 6.10. It is worth noting that the negative correlation does not affect the partitioning of the plots. This observation is in accord with Brown’s (1985) assertion that when there are contradictions between the pattern revealed in the correlation matrix and the spatial analysis, it is recommended that investigators should accept the verdict of the regional partitions, and a
prior facet analysis is a compelling reason for doing this. For clarity of the SSA plot partitions, in Figure 6.1(b) the elements of Facet A are represented by their symbols (structs) — $a1$ for market-driven items and $a2$ for management-driven items. Figure 6.1(b) well illustrates how clearly the partition of elements of facet A is robustly supported by the SSA. FT characterizes Facet A as an ordered facet based on the notion of partitioning among its elements.

As an ordered facet, the correspondence between Facet A, an aspect of the mapping sentence, and the empirical regional partition pattern in Figure 6.1(a and b) are thought of as playing a predictable role in structuring or partitioning the non-metric multidimensional scaling (MDS) solution space. This role played by Facet A as noted earlier is termed an axial role.

In this sense the notion of order among Facet A elements is unrelated to elements in other facets of the mapping sentence (Borg and Groenen, 2005; Dancer, 1990). This implies that the facet is conceptually independent (Dancer, 1990). As Levy (2005) put it, Facet A axial role implies that it “directly modifies the name of the range, but does not modify the other facets” (p. 183). The axial role of facet A is evident in that each element of the facet partitioned into a distinct region in the SSA space, the order through the regions is as specified in the mapping sentence moving from $a1$ (market-driven items) at the left of the space to $a2$ (management-driven items) at the right; and that collectively the regions are aligned vertically in the MDS space, in contiguous, parallel, strips (Dancer, 1990).
Figure 6.1(a): Partitioning of Facet A elements - Space Diagram for Dimensionality 3, Axis 1 versus Axis 2
Source: Fieldwork, May 2009
Figure 6.1(b): Partitioning of Facet A elements by structs - Space Diagram for Dimensionality 3. Axis 1 versus Axis 2

Source: Fieldwork, May 2009
Table 6.12: Key to symbols used in figure 6.1(a) and (b)

<table>
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<th>Facet A elements</th>
<th>Regional symbols</th>
<th>Questionnaire items</th>
</tr>
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</table>

Source: Fieldwork, May 2009

6.7.2 Alternative partitioning of Facet A elements

There is further evidence of partitioning for the elements of Facet A when they are projected onto SSA space diagram (Dimensionality 3, Axis 2 versus Axis 3), Figure 6.2a, b. On this plot Facet A elements are ordered to play a modular role. Facet A elements partitioning, which is illustrated in Figure 6.2 (a) and (b) below, is described as ordered in that the partition corresponds to regions in an MDS space that resemble concentric circles and that one region of the elements of the facet comes before the other (Dancer, 1990). Although the partition is acceptable from point of view of Facet Theory, it contains two minor errors or deviations: items 15 and 20 do not quite lie in the region, a2, where they “should” be. They are found in region a1. From the perspective of Facet Theory, the notion of order between the elements of Facet A in Figure 6.2 (a) and (b) indicates that Facet A is related to one or more facets of the mapping sentence of this study. According to Dancer (1990) the property of order is manifest by the fact that variables represented by points in the innermost circle are more general in content than items represented by points in outer regions. Put another way, variables occupying positions in outer circles entail all that variables in inner circles entail, plus an additional level of complexity. Hence, it can be argued that Facet A plays a modular role in partitioning the SSA space.

Moreover, the structure of Facet A elements, market- and management-driven variables, from this analysis can be termed a cone (Hans et al., 1985). According to Hans et al. (1985) “a cone is generated when one facet ... plays two roles, axial and modulating” (p. 165). In this case, management-driven items were in the centre of the configuration, with market-driven items at the periphery (modulating role).
Figure 6.2(a): Facet A Elements—other partitioning - Space Diagram for Dimensionality 3. Axis 2 versus Axis 3
Source: Fieldwork, May 2009
Table 6.13: Key to symbols used in figure 6.2(a) and (b)

<table>
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<tr>
<td>Management-driven</td>
<td>a2</td>
<td>11, 12, 13, 14, 15, 16, 17, 18, 19, 20</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

The two partitions of Facet A elements as evidenced in the SSA plots, Figure 6.1 and Figure 6.2, imply different things (Borg and Shye, 1995). The concentric regions of Figure 6.2 predict that the evaluations of management-driven approach items should correlate higher among each other, on average, than those for market-driven approach. The parallel regions of Figure 6.1 do not thus restrict the correlations. Nevertheless, the two partitions are similar in splitting the plane into ordered regions. Neither the vertical partition induced by the straight line nor the partition induced by concentric circular lines would, therefore, have problems in accommodating a marketing knowledge approach facet (Facet A) that distinguishes between the two elements.

6.7.3 Facet B: Marketing knowledge infrastructure

As previously noted the elements of the marketing knowledge infrastructure facet (Facet B) carry the rationale for playing a polar role because there is no notion of order among its elements. It was, therefore, hypothesized that each element of Facet B would correspond to a different direction in the SSA space, emanating from a common origin, hence taking on a circular configuration (see H2, section 5.5). The projection of the SSA plot shown in Figure 6.3(a), which partitions MDS space in accordance with the elements of the marketing knowledge infrastructure facet (B) represented by their questionnaire items, confirms H2. The space is partitioned into five principal and clear regions, namely, organizational culture, structure, strategy, systems, and inter-departmental dynamics. The resulting arrangement of the items shows that the marketing knowledge infrastructure facet (B) plays a polarizing role: each element of the facet corresponds to a different region in the SSA space, emanating from a common origin. In addition, the Facet B SSA map, Figure 6.3(b), clearly displays the polar and circular structure of the marketing knowledge infrastructure facet elements represented by their structs (symbols) (Shye et al., 1994).

Region b1 contains the Facet B element, organizational culture, serving as a means of facilitating marketing knowledge development and dissemination in organizations. Moving
clockwise from the $b1$ space, the next region contains $b5$ variables, which are concerned with inter-departmental relationships as an element of the marketing knowledge infrastructure facet. The next region is occupied by the marketing knowledge infrastructure element $b4$, organizational systems. An item of organizational systems appears to be misplaced with regard to this region. Instead of four $b4$ items we have three and two items from $b3$ representing the company strategy variable placed in this region. “While arguments could be proposed as to why this may be the case, suffice it to say that it is rare to find all items, without exception, in the "correct" region, indeed the mislocation of only two items is in fact encouraging and a matter of little concern” (Donald, 1994; p. 248).

The next area of the space, which contains $b2$ items, represents the ‘organizational structure’ element. The final region ($b3$) is concerned with the ‘company strategy’ as another element of the marketing knowledge infrastructure facet. Two items appear to be misplaced with regard to this region. Instead of four $b3$ items we have two and one item from $b4$ representing the organizational systems variable placed in this region.

Table 6.14: Key to symbols used in figure 6.3(a) and (b)

<table>
<thead>
<tr>
<th>Facet B elements</th>
<th>Regional symbols</th>
<th>Questionnaire items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>$b1$</td>
<td>1, 6, 11, 16</td>
</tr>
<tr>
<td>Structure</td>
<td>$b2$</td>
<td>2, 7, 12, 17</td>
</tr>
<tr>
<td>Strategy</td>
<td>$b3$</td>
<td>3, 8, 13, 18</td>
</tr>
<tr>
<td>Organizational systems</td>
<td>$b4$</td>
<td>4, 9, 14, 19</td>
</tr>
<tr>
<td>Interdepartmental dynamics</td>
<td>$b5$</td>
<td>5, 10, 15, 20</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
Figure 6.3(b): Partitioning of Facet B elements by structs - Space Diagram for Dimensionality 3. Axis 2 versus Axis 3
Source: Fieldwork, May 2009
Several indicators of what may be considered as internal to the organization that facilitate the processes for developing and disseminating marketing knowledge are in the vicinity of the common origin. Closest to the common origin are: management-driven culture as an effective means to facilitate marketing knowledge development (item 11), management-driven culture as an effective means to facilitate marketing knowledge dissemination (item 16), and management-driven organizational structure as an effective means to facilitate marketing knowledge dissemination (item 17). With the exception of two items (15 and 20), which are management-driven inter-departmental relationships variables for marketing knowledge development and dissemination items respectively, the items spreading towards the periphery are market-driven knowledge infrastructure variables. These market-driven variables effectively facilitate both marketing knowledge development and dissemination elements at the organization’s periphery.

As we noted earlier, Facet B elements represent unordered, qualitative aspects of the content universe of the processes for developing and disseminating marketing knowledge in organizations. The elements of this facet (B) play a polar role and partition the MDS space into wedge-shaped regions. Because the elements of the facet correspond to an unordered semantic property, typically no rationale exists for an a priori hypothesis as to the circular ordering of these wedge-shaped regions about the centre of the space. As a result regions found to be adjacent to one another correspond to elements that are more similar conceptually than are elements that correspond to non-adjacent regions. For example, cultural variables lie adjacent to inter-departmental relationships variables and these variables (for both culture and inter-departmental relationships) can be considered to be more similar.

Moreover the circularly arranged polar regions signify that although these five marketing knowledge infrastructure elements serve as a means to develop and disseminate marketing knowledge differ in kind, they do not differ in degree. In this respect, it cannot be said that, on the basis of this configuration, culture as an element of marketing knowledge infrastructure requires something more than is required by organizational structure (another element) in order to effectively facilitate marketing knowledge development or dissemination. Distinctions among these five elements of the marketing knowledge infrastructure facet (B) are simply unordered, categorical differences. In other words, no Facet B element is greater than or less than another in relation to some underlying dimension. For example ‘degree of effectiveness of organizational culture’ to facilitate marketing knowledge development cannot be said to be greater than or less than ‘effectiveness of structure’ to do the same work. The
SSA plot of Facet B partitions thus signifies the existence of qualitative rather than quantitative differences among marketing knowledge infrastructure facet elements.

Considering the analysis of the SSA plot partitions of the marketing knowledge infrastructure Facet (B) elements, it can be argued that there is support for the five marketing knowledge infrastructure variables as hypothesized and their space distinctions. In sum, all the five marketing knowledge infrastructure elements – organizational culture, inter-department relationships, structure, strategy and systems – had support from the data analysis. In this respect it can be argued that the fivefold elements of the marketing knowledge infrastructure facet play a lawful role in the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations.

6.7.4 Facet C: Marketing knowledge processes

H3 hypothesized that marketing knowledge processes facet (Facet C) elements would be ordered to play a modular role partitioning roughly the SSA concept-space into two contiguous, concentric circles. Figure 6.4(a), which projects elements of the marketing knowledge processes facet (Facet C) onto a Space Diagram for Dimensionality 3, Axis 1 versus Axis 3, confirms H3. This is because elements of Facet C are ordered in concentric rings around an origin. All marketing knowledge development items are located inside the inner circle, relatively close to the origin. The items outside the inner circle express marketing knowledge dissemination variables as located towards the periphery.

In Facet Theory the partition of Facet C elements is described as ordered in that the partition corresponds to regions in an MDS space that resemble concentric circles and that one region of the elements of the facet comes before another. Moreover, the notion of order among Facet C elements implies that they are related to one or more facets of the mapping sentence for this study (Dancer, 1990).

Table 6.15: Key to symbols used figure 6.4 (a), (b)and (c)

<table>
<thead>
<tr>
<th>Facet C elements</th>
<th>Regional symbols</th>
<th>Questionnaire items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing knowledge development</td>
<td>cl</td>
<td>1, 2, 3, 4, 5, 11, 12, 13, 14, 15</td>
</tr>
<tr>
<td>Marketing knowledge dissemination</td>
<td>c2</td>
<td>6, 7, 8, 9, 10, 16, 17, 18, 19, 20</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
Figure 6.4 (a): Modular partitioning of Facet C elements - Space Diagram for Dimensionality 3, Axis 1 versus Axis 3.
Source: Fieldwork, May 2009
Figure 6.4 (c): Modular partitioning of Facet C elements - Space Diagram for Dimensionality 3, Axis 1 versus Axis 3
Source: Fieldwork, May 2009
Hence, as hypothesized, the elements of the marketing knowledge processes Facet (C) play a modulating role in partitioning the SSA space. This indicates that “variables at each successive ‘ring’ of a modular partition will be intercorrelated to the same degree” (Dancer, 1990; p.372), as shown in Figures 6.4 (a–c).

The modulating characteristic of Facet C is reflected in the inter-item correlation coefficients (see Table 6.10) of the facet elements. For example, the inter-item correlation between marketing knowledge development items ranges from -0.143 to 0.381 with only 3 weak inter-item correlation coefficients (-0.143, -0.003, -0.143); while marketing knowledge dissemination variables range from -0.120 to 0.260 with five weak inter-item correlation coefficients (-0.10, -0.120, -0.106, -0.26, -0.019). These observations support the modulating characteristic of this facet as asserted by Dancer (1990), in that, variables at each successive ring of Facet C partition of the SSA concept space is relatively intercorrelated to the same degree.

In addition, in an SSA space partitioning such as exhibited by Facet C elements, the centre of the innermost region can be thought of as the centre point of the space. The intercorrelations between marketing knowledge development items in the innermost region, as I just noted, are relatively higher than intercorrelations between items in outer regions (Dancer, 1990). Likewise, it will also be true that all pairs of adjacent items which are approximately equidistant from the centre of the configuration will have equal intercorrelations. This observation led Dancer (1990) to argue that variables at each successive ring of a modular partition will be intercorrelated to the same degree, but the magnitude of these correlations will decrease the further removed points are from the centre of the configuration. This Ghanaian study supports this.

The modulating characteristic of the marketing knowledge processes Facet (C) is further supported by the mean scores (in parenthesis) associated with each questionnaire item in Figure 6.4(b) above. As can be seen from Figure 6.4(b) the mean scores of marketing knowledge development and dissemination variables in regions c1 and c2 respectively exhibit the same level of increase. These range from 3.47 to 4.37 in the case of marketing knowledge development items (items 1 to 5 and 11 to 15), and 3.37 and 4.24 in that of dissemination items (items 6 to 10 and 16 to 20). The mean scores are also found in Table 6.19 below.

In sum the results of the data analysed clearly show that marketing knowledge development items are in relative terms more highly correlated on average than the dissemination items.
Also, the centrality of the marketing knowledge development items in the SSA plot strongly suggests the general importance of this variable. This is because it is the central aspect of the marketing knowledge processes in organizations. It is worth noting that the regional structure of Facet C elements’ partition is a product of the correlations between the items and so there is no direct link to the mean scores. The fact that the mean scores follow the regional pattern is a function of the psychological processes involved (Gough, 1985).

It should be noted that, in Figure 6.4 (a-c), the centre of region cl is hollow. This an indication that the essence of the marketing knowledge development facet (C) was not addressed in this study (Donald, 1985). This includes, market information acquisition, generation, dissemination, and processing/interpretation (Slater and Narver, 1999). Figure 6.4(c) illustrates the partitions of Facet C elements as they are represented by their structs (symbols) on the SSA plot. An item cl (encircled) appears to be misplaced, in that it should be in the marketing knowledge development items region but is found in the dissemination region. Likewise item c2 (encircled) is misplaced from marketing knowledge dissemination items region and is placed in the development items region. As we noted earlier, mislocation of just one item does not affect the partitioning of the SSA plot, and is of little concern.

Figure 6.4 (d) is another partition for the elements of the marketing knowledge processes Facet (C) on the Space Diagram for Dimensionality 3, Axis 2 versus Axis 3. Like the first partition of the elements of this facet on Space Diagram for Dimensionality 3, Axis 1 versus Axis 3, this partition is modular. However, in this partition there are two deviations of items from region cl into c2 and vice versa. These deviations are circled, and they do not affect the validity of the partitioning of Facet C elements of the SSA plot as a modulating facet. It is instructive to note in this partitioning of Facet C elements that the centre of the plot is not hollow. We have items 11, 16, 17, 5 and 4 in the centre, and what their centre position means will be made more clear below when Facets B and C are projected together to illustrate their underlying structure.

6.7.5 Alternative partitioning of Facet C elements

Another axial partitioning was evident when the elements of the marketing knowledge processes (Facet C) were projected onto the Space Diagram for Dimensionality 3, Axis 2 versus Axis 3. Figure 6.5(a) shows that the two elements of the marketing knowledge processes facet (C) form two distinct regions. Region c2 shows items referring to marketing knowledge dissemination variables, whereas cl refers to marketing knowledge development
variables.

Table 6.16: Mean scores for marketing knowledge and dissemination items

<table>
<thead>
<tr>
<th>Questionnaire No.</th>
<th>Questionnaire Item</th>
<th>Descriptive statistics</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a1b1c1</td>
<td></td>
<td>101</td>
<td>4.03</td>
<td>.77</td>
</tr>
<tr>
<td>2</td>
<td>a1b2c1</td>
<td></td>
<td>101</td>
<td>4.07</td>
<td>.86</td>
</tr>
<tr>
<td>3</td>
<td>a1b3c1</td>
<td></td>
<td>101</td>
<td>4.37</td>
<td>.80</td>
</tr>
<tr>
<td>4</td>
<td>a1b4c1</td>
<td></td>
<td>101</td>
<td>4.14</td>
<td>.75</td>
</tr>
<tr>
<td>5</td>
<td>a1b5c1</td>
<td></td>
<td>101</td>
<td>3.85</td>
<td>.91</td>
</tr>
<tr>
<td>6</td>
<td>a1b1c2</td>
<td></td>
<td>101</td>
<td>3.78</td>
<td>.95</td>
</tr>
<tr>
<td>7</td>
<td>a1b2c2</td>
<td></td>
<td>101</td>
<td>3.94</td>
<td>.97</td>
</tr>
<tr>
<td>8</td>
<td>a1b3c2</td>
<td></td>
<td>101</td>
<td>4.24</td>
<td>.76</td>
</tr>
<tr>
<td>9</td>
<td>a1b4c2</td>
<td></td>
<td>101</td>
<td>4.08</td>
<td>.88</td>
</tr>
<tr>
<td>10</td>
<td>a1b5c2</td>
<td></td>
<td>101</td>
<td>3.75</td>
<td>.90</td>
</tr>
<tr>
<td>11</td>
<td>a2b1c1</td>
<td></td>
<td>101</td>
<td>3.65</td>
<td>1.04</td>
</tr>
<tr>
<td>12</td>
<td>a2b2c1</td>
<td></td>
<td>101</td>
<td>3.71</td>
<td>1.01</td>
</tr>
<tr>
<td>13</td>
<td>a2b3c1</td>
<td></td>
<td>101</td>
<td>3.71</td>
<td>1.04</td>
</tr>
<tr>
<td>14</td>
<td>a2b4c1</td>
<td></td>
<td>101</td>
<td>3.48</td>
<td>1.05</td>
</tr>
<tr>
<td>15</td>
<td>a2b5c1</td>
<td></td>
<td>101</td>
<td>3.47</td>
<td>1.16</td>
</tr>
<tr>
<td>16</td>
<td>a2b1c2</td>
<td></td>
<td>101</td>
<td>3.55</td>
<td>1.08</td>
</tr>
<tr>
<td>17</td>
<td>a2b2c2</td>
<td></td>
<td>101</td>
<td>3.73</td>
<td>1.12</td>
</tr>
<tr>
<td>18</td>
<td>a2b3c2</td>
<td></td>
<td>101</td>
<td>3.75</td>
<td>.92</td>
</tr>
<tr>
<td>19</td>
<td>a2b4c2</td>
<td></td>
<td>101</td>
<td>3.37</td>
<td>1.06</td>
</tr>
<tr>
<td>20</td>
<td>a2b5c2</td>
<td></td>
<td>101</td>
<td>3.41</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
A close inspection of the plot shows that the discrimination between the two levels is not perfect. Items 2 and 15 (encircled), which refer to marketing knowledge development variables, are in the marketing knowledge dissemination region c2; while marketing knowledge dissemination items, 16 and 17 (encircled), are placed in the c1 region. However, with the exception of these items, the regions are clear. It should be noted that this SSA partition, Figure 6.5 (a) and (b), will not be included in later discussion as it adds little to the results already obtained from the analysis of the full set of items for this study.

6.7.6 The radex structure of the processes for developing and disseminating marketing knowledge

H₄ hypothesized that the combined structure for facets B and C would be a radex, with a radial distribution of the items as points where Facet C corresponds to the modular direction from center to periphery and Facet B relates to the direction angles. When elements of marketing knowledge infrastructure (Facet B) and the marketing knowledge processes (Facet C) are projected onto space Diagram for Dimensionality 3, Axis 2 versus Axis 3, they form a radex structure (see Figures 6.6 (a) and (b)), which confirms H₄.

The SSA space of the marketing knowledge infrastructure Facet (B) in Figure 6.6 (a) and (b) is partitioned into five polar (or angular) and two modular (or radial) regions. Each polar region corresponds to one of the five elements of the marketing knowledge infrastructure facet (culture, interdepartmental relationships, systems, organizational structure and strategy) with their respective items. According to Facet Theory interpretations of SSA space partitions, the elements of the polar facet are unordered but related. They differ in kind but not necessarily in complexity (Guttman and Greenbaum, 1998). While the marketing knowledge infrastructure variables are different, they exhibit their relatedness by imposing the same demands on the subject, which can be tested by the same modality of expression — their effectiveness to facilitate marketing knowledge development and dissemination in organizations.

As we noted earlier, the marketing knowledge processes facet (Facet C) plays a modulating role. Its elements are ordered in concentric rings around an origin. In this radex structure Facet C elements go from the innermost circle (the processes for developing marketing knowledge) to the outer circle (the processes for disseminating marketing knowledge). In this sense it can be argued that Facet C elements moderate Facet B elements in the processes for developing and disseminating marketing knowledge in organizations.
Figure 6.5 (a): Axial partitioning of Facet C elements - Space Diagram for Dimensionality 3. Axis 2 versus Axis 3
Source: Fieldwork, May 2009
Figure 6.5 (b): Axial partitioning of Facet C elements - Space Diagram for Dimensionality 3, Axis 1 versus Axis 3
Source: Fieldwork, May 2009
The principle underlying the radex structure is based on the hypothesis that marketing knowledge development and dissemination processes in organizations can be classified in at least two ways: differences in kind of content and differences in degree of complexity of variables (Guttman and Greenbaum, 1998). This observation is reflected in the size of correlations between items. As we previously noted in Section 6.7.4 correlations between items are relatively largest among items within the innermost circle, while the correlations between items are relatively lower between items of the outermost ring. Figure 6.6(b) also includes mean scores of items in parenthesis to show the extent of modulation among the variables within the radex structure.

Items 2 and 15 (encircled) refer to marketing knowledge development (c1) variables but are found in the marketing knowledge dissemination region (c2), while marketing knowledge dissemination items, 16 and 17, are placed in the c1 region. However, with the exception of these items, the regions are clear.

6.7.7 The cylindrex structure of the processes for developing and disseminating marketing knowledge

H₃ hypothesised that the resulting structure of the combined roles of the three facets’ (Facets A, B and C) dimensionality of the SSA space would be cylindrex. In the previous sections the results of SSA plots partitions indicated the relationship of each of the three facets to each of the others. Facet C, for example, has been presented as a modifier of Facet B. Facet A elements combine with the elements of Facets B and C to produce the ordered structuples. In this sense Facet A is predicted to be orthogonal to both Facets B and C. Given that B contains five qualitatively different elements that are modified by C, one form of geometrical representation of these relationships, as I noted above, is the radex. A radex with an ordered facet in a further dimension, orthogonal to the other two, gives rise to a cylindrex model configuration, which confirms H₃. The proposed cylinder is presented in Figure 6.7 below.

6.7.8 Justification of the cylindrex model

It is instructive to note that the hypothesized structural relationships (the mapping sentence) acts in partnership with nonmetric MDS in partitioning the SSA space in which the set of variables and their intercorrelations are geometrically portrayed to reveal the cylindrex structure.
Figure 6.6 (b): Radex partitioning of Facet B and C elements - Space Diagram for Dimensionality 3. Axis 2 versus Axis 3
Source: Fieldwork, May 2009
Figure 6.7: Cylindrex structure of the processes for developing and disseminating marketing knowledge in organizations

Source: Fieldwork, May 2009
Table 6.17: Key to symbols used Figure 6.7

<table>
<thead>
<tr>
<th>Facet</th>
<th>Facet element</th>
<th>Regional symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Inter-departmental relationships</td>
<td>IDR</td>
</tr>
<tr>
<td>C</td>
<td>Marketing knowledge development</td>
<td>MKDev</td>
</tr>
<tr>
<td>C</td>
<td>Marketing knowledge dissemination</td>
<td>MKDis</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

The results of the SSA solution in Table 6.14 has a three-dimensional coefficient of alienation 0.10466, which is acceptable measure of the “goodness of fit”, and justify the cylindrical model (Figure 6.7) as an output of the mapping sentence (Figure 5.2). The cylindrical model in essence represents the empirical structure of facets underlying the processes for developing and disseminating marketing knowledge, and, therefore, validates the hypothesized structural relationships as represented in the mapping sentence. Put differently there is a correspondence between the conceptual mapping (Figure 5.2) and the empirical mapping (Figure 6.7).

The cylindrical structure in Figure 6.7 may also “be regarded as a new kind of statistic, whose ‘values’ are the particular partition patterns” (Shye, 1998; p.166), of the three SSA concept-space(s), constructed schematically together, and thus this validates the three-dimensional faceted model (mapping sentence). Hence, the facets and their elements, as they relate to the content (domain) universe of marketing knowledge development and dissemination constructs, exhaustively reviewed from the literature, are of sufficient importance, and thus, reflect the internal structure of the constructs under study represented schematically in the empirical cylindrical.

6.7.9 Improving marketing knowledge processes in Ghanaian companies: the outcome from the cylindrical model

The cylindrical model (Figure 6.7), which is combination of three facets (Facets A, B and C) in this study “play one of three prototypical roles in this context ... axial, radial (modular), angular (polar)” (Borg and Shye, 1995; p.130). These prototypical roles, which are empirically “encountered frequently in practice” (Borg and Shye, 1995; p.131), provides some theoretical basis for creating understanding in the marketing knowledge development and dissemination processes in organizations, which could be used to improve activities within these processes in Ghanaian companies. Each feature of the cylindrical is a
representation of a different aspect of the processes for developing and disseminating marketing knowledge in organizations as evaluated by Ghanaian businesses.

First, some caution must be stated explicitly when using the cylindrex model to improve marketing knowledge processes in Ghanaian businesses. For this model to be successfully implemented there is the need for it to be custom designed for the particular business involved. Although this study has provided valid components of the processes for developing and disseminating marketing knowledge, successful implementation depends on the appropriateness of the model built for a particular business context.

Nevertheless, the cylindrex model has its value in terms of improving marketing knowledge processes in Ghanaian companies. First, the cylindrex structure demonstrates that Ghanaian business respondents' evaluations have a focus, or core, to them, epitomized by the centre of the radex in the cylinder (Dellapergola and Levy, 2009). They form an organized system of responses, an ordered set of evaluations which, whilst operating at a variety of levels, still maintain a common core. The content of the core region is represented by management-driven culture and structure elements as a means to facilitate marketing knowledge development and dissemination in the organizations. The role of culture and structure as core marketing knowledge infrastructure elements, and as important factors in the marketing knowledge processes in organizations, is underscored in the market orientation literature as reviewed in Chapter 3 of this study.

Moreover, in the core of the cylindrex is also the management-driven knowledge approach element, indicating the role of management in developing and disseminating marketing knowledge. Here, as an axial facet (A), the management-driven variable illustrates how management brings their focus in the form of knowledge approach decisions to bear, in a number of different, yet related ways, on the processes for developing and disseminating marketing knowledge in an organization. For example, the management-driven variable’s impact on culture (item 11, Figure 6.6a, p. 157) is manifested in terms of serving market needs by controlling collaboration among departments to monitor and understand market trends when developing marketing knowledge, while the management-driven structure (item 17, Figure 6.6a) is manifested in terms of structuring an organization according to rules and the hierarchy of reporting relationships to serve market needs, when disseminating marketing knowledge. These two examples of management’s role are found in the core of the radex
aspect of the cylindrex structure, and they are relevant to Ghanaian companies marketing knowledge development and dissemination activities.

The radex structure of the marketing knowledge infrastructure (Facet B) and marketing knowledge processes (Facet C) variables demonstrates the qualitative aspect of the processes for developing and disseminating marketing knowledge in organizations. The radex theory in this context is that it is based on the hypothesis that these processes’ content universe can be classified in at least two ways: differences in the kind of content (polar partition) and differences in the degree of complexity of the variables (modular partition) (Guttman and Greenbaum, 1998). It is likely, and it follows from this, that improvements in one area (e.g. culture) will not compensate for or improve effectiveness with the marketing knowledge infrastructure in any of the other areas (structure or strategy). Moreover, increases in total marketing knowledge infrastructure effectiveness are, to an extent, meaningless unless the qualitative divisions of the infrastructure aspects are also taken into account. This assertion stems from the fact that the effectiveness of the marketing knowledge infrastructure elements as they interact with the marketing knowledge processes cannot be viewed as unidimensional and linearly cumulative.

Considering Facet C SSA space it can be argued that Ghanaian businesses evaluated marketing knowledge development items as general activity that is performed by businesses, which, the marketing literature describes as organization-wide activities, comprising of information acquisition, generation, dissemination, and processing — the essence of market orientation (Deshpandé, 1999; Slater and Narver, 1999; Moorman, 1994). This is evident from the SSA partition results of Facet C elements (see Figure 6.4 (a) — (d)), with the marketing knowledge development items nesting within the dissemination items. This structure results from the knowledge development items being relatively more highly correlated, on average, with all other items, than are the knowledge dissemination items. Thus, thinking of evaluations (SSA plot) of the processes for developing and disseminating marketing knowledge as a system, anything that affects the centre or core of that system (the knowledge development items) is likely to have the greatest impact on the system as a whole (Guttman and Greenbaum, 1998; Donald, 1985).

Theoretical insights provided by the cylindrex model as discussed above could be used to improve marketing knowledge processes activities in Ghanaian companies. For example, the independent feature of the marketing knowledge approach facet (A) to marketing knowledge
infrastructure and marketing knowledge processes facets (as shown by their roles in the formation of the cylindrux structure) has implications for improving marketing knowledge development and dissemination in Ghanaian companies. As the author has just noted each element (market- and management-driven) of Facet A may be considered independent of the other. The implication to managers of business organizations in Ghana is that no Facet A element should be seen as an outgrowth of the other (Donald and Canter, 1990). Thus, for example, the market-driven approach should be seen as distinct from the management-driven approach to marketing knowledge development and dissemination in organizations.

With regard to the radex structure the managerial implication to Ghanaian managers is that when developing and disseminating marketing knowledge, management should pay specific attention to those internal marketing knowledge infrastructure core factors that could be manipulated to bring the production of the knowledge needed for dissemination and application by marketing practitioners. Additionally, the items located in the centre of the radex give clues to management about what activities have been empirically shown to be central needs to be managed in order to make the marketing knowledge processes effective. Finally, looking at Facet C in terms of the evaluations (SSA plot) of the processes for developing and disseminating marketing knowledge as a system, the implication for Ghanaian managers is that anything that affects the centre or core of that system (the knowledge development items) is likely to have the greatest impact on the system as a whole (Guttman and Greenbaum, 1998; Donald, 1985).

6.8 Hypothesis testing

As I previously noted the hypotheses stated for this study and based on the mapping sentence were tested by relating the conceptual structure of observations on the universe to features of the empirical structure of observations on that universe, using Similarity Structure Analysis (SSA). The results of SSA solution have a coefficient of alienation of .10466 which is acceptable and supports regional hypotheses H₁ to H₅ set out below. As a consequence:

**H₁**: That the marketing knowledge approach facet (Facet A) elements would be ordered to play an axial role partitioning the concept-space by straight line into two regions.

**H₁** was not rejected.
H2: That the marketing knowledge infrastructure facet (Facet B) elements would be unordered to play a polar role, partitioning the SSA space into five wedge-like regions emanating from a common origin.

H2 was not rejected.

H3: That the marketing knowledge processes facet (Facet C) elements would be ordered to play a modular role partitioning roughly the SSA concept-space into two contiguous, concentric circles.

H3 was not rejected.

H4: That the combined structure for facets B and C would be a radex, with a radial distribution of the items as points where Facet C corresponds to the modular direction from center to periphery and Facet B relates to the direction angles.

H4 was not rejected.

H5: That the resulting structure of the combined roles of the three facets' (Facets A, B and C) dimensionality of the SSA space would be cylindrex.

H5 was not rejected.

6.9 Summary

This chapter discussed the analysis of the data collected and results for the study. The data were from the administration of a self-completed questionnaire in business organizations in Ghana. There were 103 completed and returned questionnaires, which was reduced to 101 after editing and checking for normality of the data. Initial analysis was basically a description of the background of business organizations involved in the study. Descriptive statistics were used to understand how respondents characterize the relationships between marketing knowledge development and dissemination variables.

Pearson coefficients (r) were calculated for each pair of the 20 variables (the questionnaire items) to study the structure of inter-relationships among marketing knowledge development and dissemination facets and their elements. To better understand and elaborate upon the initial findings in the correlation matrix (Pearson coefficients), the Smallest Space Analysis (SSA) technique introduced by Guttman (1968) was used to produce space diagrams that graphically present the matrix data.
The SSA was used to determine a measure of the ‘goodness of fit’ (the coefficient of alienation) between the rank order of the association coefficients and rank order of their spatial representation. The Hebrew University Data Analysis Package (HUDAP) SSA version was used for the data analysis (Amar and Toledano, 2001). With the help of the HUDAP software, various dimensional representations of the data were run to determine the SSA solution that has an acceptable coefficient of alienation and could be interpreted for partition. The three-dimensional SSA solution was selected. It was examined and partitioned by identifying regions that share an element of a facet in common. Thus, the elements of a facet are empirically validated if a region on the plot exists for them.

The results of this study were discussed in terms of the SSA partitions. The partitioning of the SSA plots confirmed the expected interrelationship between facets and their elements — the mapping sentence, the model of the structure of facets underlying the processes for developing and disseminating marketing knowledge. The analysis of the partitions for the three key facets, marketing knowledge approach (Facet A), marketing knowledge infrastructure (Facet B), and marketing knowledge processes (Facet C), revealed the relationships they have to each and their elements.

Thus, the hypotheses of this study, with which the SSA partitions acted as a partner, supported the definitional framework — the mapping sentence for this study. The expected correspondence between the mapping definitional framework and the resulting empirical correlation matrix was a three-dimensional cylinder. Two roles (Facets B and C) were hypothesized for the circular base (a radex), and a third role (Facet A) for the axis of the cylinder, perpendicular to the circular base.

Thus, the results showed that:

1. The conceptual model in the form of mapping sentence was supported as the multifaceted definition of the processes for developing and disseminating marketing knowledge in organizations.

2. The identification and determination of the elements of facets were supported.

3. The inferred characteristics of Guttman’s measurement scale were necessary to fulfil the role identified in the principal aim of the study.

4. Guttman’s scale techniques served as a valid measure for the multifaceted definition of the subject under study.
The next chapter deals with the discussion and interpretation of the results following the analysis. This is followed by a discussion of the relevance of the findings in relation to previous studies and management practice. The chapter ends with a summary of the limitations of the study, and some suggestions for managerial practice and future research.
Chapter 7
Discussion

7.0 Introduction

Chapter 7 concentrates on interpretation and discussion of the results of the analysis. It highlights the major findings and their implications, explains the limitations, and suggests contributions and recommendations for research. The chapter ends with a summary and introduces the next chapter.

7.1 The discussion

The purpose of this discussion is to understand the structure of inter-relationships between the facets of the processes for developing and disseminating marketing knowledge items as evaluated by Ghanaian business respondents. The author begins by looking at the three facets, namely, marketing knowledge approach, marketing knowledge infrastructure, and marketing knowledge processes facets. Overall the results of the study supported these facets proposed in the mapping sentence. Taking the mapping sentence as a system, the central aspect of respondents’ evaluations is the components of the processes for developing and disseminating marketing in organizations (Donald, 1994).

In an earlier discussion, the three facets were hypothesized to play axial, polar and modular roles respectively. These roles were supported by the results of the data analysed. The results of the SSA revealed that the empirical structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations from the point of view of Facet Theory is cylindrex. Each of the facets is considered in detail in the remainder of the discussion. As the type or shape of the SSA plot partitions is meaningful, the discussion will make reference to the implications of the type of partitioning found (Donald, 1994).

7.1.1 Facet A: Marketing knowledge approach

The analysis of Ghanaian respondents’ evaluations of the 20 items (see Appendix F3, Section A, 20-questionnaire items) showed distinctions between the market- and management- driven approaches to developing and disseminating marketing knowledge in business organizations [see Figures 6.1 (a) and (b), pp. 135-136]. The results of the evaluations suggests that the distinction between the two elements of the marketing knowledge approach facet is relevant to the structure of facets underlying the processes for developing and disseminating marketing
knowledge in organizations (Donald, 1994). In addition, these results suggest that marketing knowledge development and dissemination processes are associated with different marketing knowledge approaches or orientations in organizations (Donald, 1994).

In the marketing literature, the marketing knowledge approach for developing or disseminating marketing knowledge in organizations has not been a subject for research and discussion. As a result this facet was not clear in the market orientation or marketing literature. What was clear in the literature was business orientation towards its markets, which, of course, is the subject of market orientation research (Deshpandé, 1999; Day, 1999b). This business orientation includes the market-driven approach to the market (Day, 1999b); managing antecedents of market orientation to foster the generation and dissemination of marketing intelligence and to respond to changes in market conditions (Kohli and Jaworski, 1990; Jaworski and Kohli, 1993); and creating enabling conditions in organizations for knowledge creation (Nonaka, 1994; Takeuchi and Nonaka, 1995). As previously noted these concepts were considered in a series of pilot studies to establish the reliability and validity of the multivariate structure of facets for this study. The analysis of data collected from these pilot studies resulted in the identification of the marketing knowledge approach Facet (A), which is empirically validated by the results of the current study.

Ghanaians' evaluations of Facet A elements (market- and management- driven) into two distinct variables as revealed by SSA plot partitions have support interspersed in the marketing literature on discussions about management practices or antecedents of market orientation (see Chapter 3) fostering market-orientated behaviour (Deshpandé, 1999; Day, 1999b; Slater and Narver, 1999; Moorman, 1995). In the marketing literature an organization’s approach to developing and disseminating marketing knowledge has been defined in terms of a market-driven organization’s approach to learning about markets (Day, 1999b), and it is this view to which this study subscribes.

The Facet A element “market-driven approach” is defined in terms of a company’s externally oriented culture, market sensing and relating capabilities, or configurations that align vertical functions and horizontal processes to markets (Day, 1999b). Day (1999b) argued that these configurations work together supportively in organizations with the greatest leverage on performance to foster market orientation. The market-driven concept is treated as an individual variable in the market orientation research literature but not as part of a family of
elements belonging to the marketing knowledge approach facet. From the point of view of Facet Theory, the empirical identification of Facet A and its elements in this study establishes the structure of this facet as part of a family of facets underlying the processes for developing and disseminating marketing knowledge in organizations.

The market-driven element in organizations has been conceptualized in the marketing literature as an organizational orientation that provides support and contexts for individuals and groups to develop superior quality and value on the customers’ own terms, and create advantage over rivals (Day, 1999b; Nonaka and Takeuchi, 1995). In this respect Day (1994) argued that the market-driven approach lends support to the behavioural perspective of a market orientation and embodies the idea of facilitative leadership in enabling marketing knowledge processes in organizations (Slater and Narver, 1995). Facilitative leadership, in this sense, involves empowering organizational management and executive staff to manage their own businesses in market-driven organizations (Slater and Narver, 1999).

In contrast the management-driven approach as an element of Facet A has been conceptualised as the model of the traditional, hierarchical organization’s approach to knowledge development (Nonaka, 2002). Nonaka and Takeuchi (1995) argued that the implicit assumption behind this traditional model is that “only top managers are able and allowed to create knowledge” (p. 125). In this sense, the management-driven element as an organizational factor is seen as management’s attempts to influence market-oriented behaviour through the use of control systems (Olson et al. 2005). Olson et al. (2005) explained that control is any processes that help align employees’ actions with the firm’s interests. In support of this view Day (1999b) pointed out that the management-driven knowledge approach is internally focused, which compromises the activity patterns advocated by the behavioural perspective of market orientation. In this sense, the management-driven approach to developing or disseminating marketing knowledge suggests an internal focus that weakens a firm’s ability to learn about markets (Day, 1994b).

From another perspective Moorman (1995), in a study on organizational market information processes conceptualized the market-driven element as externally focused culture, which has better developed information acquisition and instrumental utilization processes, both of which involve interaction with the external environment. The management-driven element, on the other hand, is an internally focused culture, which has better developed information transmission and conceptual utilization processes, both of which function completely
internally within the organization (Moorman, 1995). Results of the study emphasized “the importance of having an external orientation that motivates the need for information and an internal orientation that fosters its effective transmission and utilization” (Moorman, 1995; p. 328). Moorman (1995) argued that external information acquisition processes, for example, are critical in sensing signals of environmental change and, thus, allow organizations to generate timely strategies. Likewise, effective information transmission speeds up the processes of strategy development because it ensures that all parties involved are aware of relevant information that is crucial to a new product (Moorman, 1995).

From the point of view of Facet Theory, the partition of Facet A elements playing an axial role exhibits the attribute of quantitative order, in the sense that successive elements in the ordering of the facet denote a greater amount of the attribute than the preceding element (Dancer, 1990). As an illustration of this finding, if we assume that the market-driven approach is one extreme and management-driven is the other, then moving from the market-driven extreme to the management-driven extreme would denote less amount of where we are moving from to more amount to where we are moving to. This interpretation of the SSA plot partition of the elements of the marketing knowledge approach facet (A) presents us with a scenario in the marketing literature where management has trade-off decisions to make when it comes to selecting an approach to developing and disseminating marketing knowledge to build marketing capabilities in organizations. As we noted earlier, this dichotomy of approach permeates all the decisions concerning the type of marketing knowledge infrastructure organizations invest in to develop and disseminate marketing knowledge (Day, 1999b).

Another interpretation of the results obtained from this study is that the vertical line creating partitions of the regions of the elements of the marketing knowledge approach facet indicates that the variables are ordered and arranged along a continuum (Donald, 1994). This finding follows the discussion above and therefore presents the elements of marketing knowledge approach facet on a continuum, from market-driven approach to management-driven with others in between these two extremes. In the organizational behaviour literature Un and Cuervo-Cazurra (2004) identified other approaches for creating knowledge in organizations. These two approaches to knowledge creation in firms, which they termed organizational and team strategies (Un and Cuervo-Cazurra, 2004), can be argued to fit within this continuum of the marketing knowledge approach facet (A) and its elements.
In conclusion, the clear distinction between the variables – market-driven and management-driven as elements of the marketing knowledge approach Facet (A) – suggests a more fundamental differentiation of respondents’ evaluation of the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations. In the marketing literature these two approaches are normally conceptualized as internally and externally focused orientations of marketing knowledge processes in organizations (Day, 1999b). The results of this study, therefore, to some extent confirm these two variables as belonging to a family of elements of Facet A, which is also one of the facets underlying the processes for developing and disseminating marketing knowledge in organizations.

7.1.2 Facet B: Marketing knowledge infrastructure

The elements of the marketing knowledge infrastructure Facet (B) were hypothesized to be qualitatively distinct and thus unordered and this was empirically supported by the results of this study. From the perspective of Facet Theory the structural form which resulted from the SSA projection and corresponded to these qualitative features is circumplex — basically a circle. The important property of a circle is that of having no apparent order to the elements of which it consists; there is no obvious beginning or end, no high or low point. It is, therefore, not possible to deduce quantitative elements from the marketing knowledge infrastructure Facet (B), which has this property (Donald, 1985). The marketing knowledge infrastructure facet elements, as we noted earlier, include: organizational culture, structure, strategy, systems and inter-departmental relationships.

As we just noted, regions of an SSA plot that essentially form a circular structure represent facet elements that are qualitatively distinct or differentiated. The marketing knowledge infrastructure (B) and marketing knowledge processes (C) facets, respectively, represent polar and modulating facets. These two facets, when projected onto the same SSA space as shown in Figure 6.6 (a) and (b) (pp. 157–158), combine to form a radex structure (Donald, 1985). Two particular implications follow from this combination. First, a radex structure implies that these two facets are related. Second, the structure suggests that Facet C elements modulate Facet B elements when developing and disseminating marketing knowledge in organizations. The principle underlying the radex structure suggests that marketing knowledge development processes in organizations can be classified in at least two ways: differences in kind of content (Facet B) and differences in degree of complexity of variables – Facet C (Guttman and Greenbaum, 1998).
It is clear that marketing knowledge infrastructure as a facet of the processes for developing and disseminating marketing knowledge is only one part of the domain for evaluation. As a consequence, those studies that attempt to understand the nature of the structure of marketing knowledge processes in organizations by focusing on the marketing knowledge infrastructure facet are only considering a very small part of the processes and are, therefore, inadequate (Donald, 1994). From the evidence of SSA partition of Facet B, another implication is that an element of this facet, such as market-driven culture, is one component of the marketing knowledge infrastructure and not a special or different aspect of the domain compared to market-driven structure, for example. Additionally, the qualitative circular ordering of the elements of Facet B shows that no one element is more important than another.

This qualitative difference between the items also has implications for research into the processes for developing and disseminating marketing knowledge. There is the temptation to attempt to obtain rankings of the elements of the marketing knowledge infrastructure facet. The problem with such an approach is that it is not possible to meaningfully rank features of the marketing knowledge infrastructure facet that are drawn from qualitatively different components of the marketing knowledge processes in organizations. Further, it is worth noting that factor analysis, and other procedures that impose linear dimensions, would also not have been able to reveal this unordered structure of Facet B elements (Donald, 1985).

The circularly arranged, polar regions signify that, although the five elements of Facet B serving as a means to develop and disseminate marketing knowledge differ in kind, they do not differ in degree. Distinctions among these elements are simply unordered, categorical differences. In other words, no facet element is greater than or less than another in relation to some underlying dimension. For instance, degree of effectiveness of organizational ‘culture’ cannot be greater or less than the degree of effectiveness of ‘strategy’. Once again the partitions thus indicate that qualitative rather than quantitative differences exist among the effectiveness of organizational culture, structure, strategy, systems, and inter-departmental dynamics as a means of facilitating the marketing knowledge processes in organizations. The lack of order and the qualitative characteristics as revealed by the marketing knowledge infrastructure facet elements have theoretical support in the marketing literature (Slater and Day, 1999a, b; Narver, 1995; Sinkula, 1994; Kohli and Jaworski, 1999).

To conclude, the works of Slater and Narver (1999), and Day (1999b) as reviewed in Chapter 3 of this study support the results of SSA partition of marketing knowledge infrastructure
elements as being qualitative, and that no Facet B element (culture, structure, strategy, systems and interdepartmental relationship) is greater than or less than another in relation to some underlying dimension. They have to work in concert to produce market-oriented behaviour.

7.1.3 Facet C: Marketing knowledge processes

Ghanaian organizations' evaluations of the elements of the marketing knowledge processes Facet (C) suggested that there are central and peripheral SSA points of this facet. This result confirms the existence of marketing knowledge development and dissemination constructs as mutually exclusive processes in organizations. As we previously noted, Facet C plays a modulating role in the processes for developing and disseminating marketing knowledge in organizations. The elements of this facet therefore form two concentric circles (inner and outer) radiating from a central point — see Figures 6.4 (a) and (d) (pp. 146-148, 152) — and are simply ordered, from the centre or inner circle with marketing knowledge development items, to the outer circle with marketing knowledge dissemination items.

This property of order of Facet C elements is manifest by the fact that variables (marketing knowledge development items) represented by points in the innermost circle are more general in content than items (marketing knowledge dissemination items) represented by points in outer regions (Dancer, 1990). Put another way, marketing knowledge dissemination variables occupying positions in the outer circle entail all that marketing knowledge development variables in the inner circle entail, plus an additional level of complexity (Dancer, 1990). Dellapergola and Levy (2009) described the elements in the inner circle of a modular facet as core variables of the facet, while elements in the outer circle spreading towards the periphery as more specialized variables.

A critical point in SSA plot partition for the elements of the marketing knowledge processes facet (C) is the distinction between the core features of marketing knowledge development items and peripheral features of marketing knowledge dissemination items (Lyles and Schwenk, 1992). According to Lyles and Schwenk (1992) business environmental changes which challenge core features of knowledge structure in organizations evoke more profound changes in the structure of knowledge. These changes, therefore, makes it imperative for us to have a look at the differences between core and peripheral features of marketing knowledge processes in organizations.
Facet C SSA partition, Figure 6.4 (d), has culture as a marketing knowledge infrastructure element in the core of the inner circle region to facilitate marketing knowledge development. In the marketing literature, culture provides the beliefs and goals of business organizations (Slater and Narver, 1999; Lyles and Schwenk, 1992). In this sense Day (1999b) argued that culture plays a big role in how information is sought and turned into usable knowledge in an organization. Cultural factors in organizations therefore guide expectations about organizational behaviour in the broadest sense in competitive situations when developing marketing knowledge (Lyles and Schwenk, 1992). Lyles and Schwenk, (1992) also argued that beliefs, as a cultural factor, lead to co-operation, and development of a system of social action that overcomes the limitations of working alone. It, therefore, follows that beliefs in organizations serve as a basis for building domain consensus when developing knowledge (Slater and Narver, 1999). In the light of the above discussion, it can be argued that marketing knowledge development items found in the inner circle of Facet C SSA partition represent knowledge about markets on which there are most consensuses among organizational members (Lyles and Schwenk, 1992).

The peripheral structure of the Facet C SSA partition is characterized by elements of marketing knowledge dissemination items. As we are aware marketing knowledge disseminated in organizations is interpreted in the light of events in the business environment as they unfold, which include competitor signals. Due to division of labour in organizations a variety of perspectives develop during knowledge dissemination and interpretation stages. These in turn lead to the development of different marketing knowledge structures at the peripheral level, which feed back into the core (Day, 1999b; Szulanski, 1996; Lyles and Schwenk, 1992). In this way, it can be argued that the complementarity relationship between marketing knowledge development items at the core and marketing knowledge dissemination items at the periphery is well illustrated.

The implication to be drawn from the above discussion and the partitioning of Facet C elements as evaluated by Ghanaian respondents is that marketing knowledge development variables are more of a general, central and core task within organizations than dissemination of marketing knowledge, which is peripheral and specialized task (Dellapergola and Levy, 2009; Donald, 1994; Dancer, 1990). This result of the data analysis is supported by both marketing theory and empirical literature (Slater and Narver, 1999; Day, 1999b; Kohli and Jaworski, 1999). Theoretically, Achrol and Kotler (1999) argued that “the functions of
marketing are distributed throughout the organization”, which include “the creation and repository of a firm’s marketing skills and knowledge base ... marketing know-how, the latest in concepts and methods that operational levels of the organization will find invaluable to their success” (p. 150). This theoretical view proposed by Achrol and Kotler (1999) supports the generality of marketing knowledge development items as evaluated by Ghanaian organizations.

As previously noted, the centrality or generality of the marketing knowledge development element as found in Facet C SSA partition is also supported in the market orientation research literature as an organization-wide activity (Kohli and Jaworski, 1990). In the marketing literature empirical findings indicate that market orientation is a continuous, organization-wide generation of market intelligence, dissemination of the intelligence across departments, and organization-wide responsiveness to it (Day, 1999; Kohli and Jaworski, 1999; Jaworski and Kohli, 1999). Research conducted by Kohli and Jaworski (1990) using in-depth field interviews revealed that majority of interviewees emphasized that a market orientation is not solely the responsibility of a marketing department. Moreover, the executives interviewed emphasized that it is critical for a variety of departments to be cognizant of customer needs (i.e. aware of market intelligence) and to be responsive to those needs. The interviewees stressed the importance of concerted action by the various departments of an organization as part of market-oriented activities in organizations (Kohli and Jaworski, 1999). Marketing orientation in essence represents marketing knowledge processes in organizations.

It is clear in the current study that marketing knowledge development is a central activity in organization, as Facet C SSA plot partition illustrates, and this finding is supported by enormous research on market orientation in the marketing literature (Deshpande, 1999). However, the results of this study also show that marketing knowledge dissemination items play an important role in marketing knowledge processes in organizations. As we noted, the outer circle, from the point of view of Facet Theory, suggests that marketing knowledge dissemination activities in organizations are peripheral, specialized and complex tasks.

Current understanding of intra-firm knowledge transfer processes suggests that there are four distinct stages in knowledge transfer — initiation, implementation, ramp-up, and integration (Szulanski, 2000). In the literature, a distinction is usually made between the initiation and the implementation of a transfer. Within the implementation phase, further distinctions are often made among (a) the initial implementation effort, (b) the ramp-up to satisfactory
performance, and (c) subsequent follow-through and evaluation efforts to integrate the practice with other practices of the recipient (Szulanski, 2000, p. 12). It is worth noting that in all these stages, and especially at the integration stage, further knowledge is developed in order to help the recipient of the transferred knowledge to achieve satisfactory results (Argote et al., 2000; Szulanski, 1996). It is these stages in the intra-firm knowledge transfer systems that illustrate the specialized and complex nature of disseminating marketing knowledge in organizations as Facet C partitions indicate in the SSA plot.

Facet C elements’ partitions of the SSA space to some extent offer support to the knowledge development processes framework suggested by Slater and Narver (1995, 1999). In the framework, marketing knowledge development as a core or general activity in the organization is found in the inner circle. The outer circles entail adaptive and generative knowledge development variables respectively (see the framework in Figure 2.1 in Chapter 2). The arrows indicate that generative learning requires knowledge development to reach beyond the learning boundary for information or new ways of interpreting information (Slater and Narver, 1995). Put differently knowledge developed in an organization has to be disseminated and interpreted in the light of information received beyond the learning boundary. This interpretation may lead to further insights and further knowledge development (new knowledge) during the knowledge dissemination phase.

In this sense, if we consider Slater and Narver’s (1999) framework in the context of the partitions of Facet C elements’ — see Figure 6.4 (a) to (d) (pp. 146–148; 152) — we can argue that the centre of the framework represents market knowledge development items, which is a core activity in an organization. The adaptive and generative knowledge development variables in the outer circles represent marketing knowledge dissemination items. As we noted above, items in the outer circle are peripheral, complex and specialized activities in the organization as the knowledge disseminated has to be interpreted and applied in the light of information received beyond the learning boundary. Moreover, before knowledge developed at the core can be applied there is the need to provide insights to the recipients of the new knowledge to guide them as to how well they may be able to apply the core knowledge to achieve satisfactory results (Szulanski, 2000; 1996).

This view supports the perspective of Facet Theory that Facet C items occupying positions in the outer circles can be interpreted as having all the features of inner circle items, plus an additional level of complexity (Dancer, 1990). The successful knowledge dissemination and
development activities at the peripheries may lead to a change in behaviour as shown in Figure 2.1 (p. 48). According to Slater and Narver (1999), changed behaviour can be interpreted to be new knowledge that “confirms what was already suspected or changes managerial perspectives” (Slater and Narver, 1999; p. 245).

Lastly, some discernible patterns are evident in the partition of the elements of Facet C when projected onto Space Diagram for Dimensionality 3, Axis 1 versus Axis 3 (see Figure 6.4 (a) and (b); pp. 146 – 147). The centre of the Facet C SSA plot is hollow because the marketing knowledge items do not cover this space. As those items found in the centre of the inner circle of the SSA plot of Facet C are central to the marketing knowledge processes facet, a hollow centre shows either that the essence of the facet was not addressed in the study, or that this facet formulation was inappropriate for the processes for developing and disseminating marketing knowledge in organizations (Donald, 1994; 1985).

In this study I argue that the hollow SSA inner circle partition is an indication that this study did not consider the essence of the marketing knowledge processes facet. This is because only two of the marketing knowledge processes facet elements were selected for this study. Some of the other elements identified in the organizational behaviour literature include knowledge diffusion, transfer, sharing in respect of marketing knowledge dissemination; and information generation, acquisition, dissemination, and processing in respect of marketing knowledge development. The advantage of this study was to show that for some reason the essence of the processes for developing and disseminating marketing knowledge in organizations was not being considered and that as a result future studies require some changes in terms of particular facets.

7.2 Implications of this study

The hypotheses for this study, with which the SSA partitions acted as a partner, supported the mapping sentence — the general hypothesis from a Facet Theory point of view (Levy, 2005). The expected correspondence between the mapping definitional system and the resulting empirical correlation matrix was a three-dimensional cylinder. Two roles (Facets B and C) were hypothesized for the circular base (a radex), and a third role (Facet A) for the axis of the cylinder, perpendicular to the circular base. Each feature of the cylindrex is a representation of a different aspect of the processes for developing and disseminating marketing knowledge in organizations, with the more similar being closer together (Donald, 1985).
In assessing the significance of the cylindrex as the structure of respondents’ (businesses in Ghana) evaluation of the inter-relationships between facets and their elements it is necessary to consider the implications of the findings at two levels (Donald, 1985). First, one must evaluate the significance of the structure in terms of its lawfulness. Second, the implications of the actual cylindrex, at a more concrete level, can be considered.

7.2.1 Theoretical: the cylindrical structure

"In terms of the development of laws the cylindrex, per se, is not significant. What is important is the consistency of the structure across settings" (Donald, 1985; p. 199). By demonstrating the similarity of the structures of the process for developing and disseminating marketing knowledge across settings one can argue that respondents’ evaluation of different aspects of the process has a generality or consistency to such a degree that one may begin to view them in terms of a law, as defined by Shye et al. (1994).

For example, if one found the knowledge infrastructure facet (B) to be qualitatively ordered in the structural form of a radex, as it is in this Ghanaian study, it would have implications for theories about the process for developing and disseminating marketing knowledge in organizations. If this were the case for all settings, the lawfulness would remain undisturbed. However, if a radex structure of Facets B and C were found for certain settings but not others, then the consistency of respondents’ evaluations of these facets structure would be disputed and the lawfulness of the mapping sentence and associated empirical structure would be challenged. It is worth noting that this does not necessarily mean that the theory would then be invalid; rather, it may need refinement and qualification (Levy, 2005; Shye et al., 1994; Donald, 1985).

To support this assertion Donald (1985) pointed out that the progress of science has been enhanced by discovering exceptions to the rule. Shye et al. (1994) argued that the exploration of alternative aspects of the structure of observations that possess sufficient stability for the formulation of laws is an essential aspect of research. Levy (2005) also argued that, as in all science, attention should be paid to deviants from an anticipated structural lawfulness because these may be springboards to further growth. In sum, it can be argued that the consistency of the faceted structure of the process for developing and disseminating marketing knowledge in all settings is more important for the formulation of laws than the cylinder per se.
The results of the study also have implications for the understanding of Ghanaian businesses’ evaluations of the faceted structure underlying the process for developing and disseminating marketing knowledge in organizations (Kenny and Canter, 1981). They also have relevance for future research in this area, as well as evaluation studies in organizational knowledge processes in organizations.

First, two clear implications for understanding Ghanaian business respondents’ evaluations emerged from the cylindrex established — one from its structure and the other from its content. The structure demonstrates that Ghanaian business respondents’ evaluations have a focus, or core, to them, epitomized by the centre of the cylinder. Their evaluations are not the set of isolated dimensions indicated by factor analysis, nor are they a set of separate categories as revealed by content analyses (Kenny and Canter, 1981). They form an organized system of responses, an ordered set of evaluations which, whilst operating at a variety of levels, still maintain a common core. The content of the core region is represented by management-driven culture and structure elements as a means to facilitate marketing knowledge development and dissemination in the organizations. The role of culture and structure as marketing knowledge infrastructure elements, and as important factors in the marketing knowledge processes in organizations, is underscored in the market orientation literature as reviewed in Chapter 3 of this study (Deshpandé, 1999; Day, 1999b).

In the core of the cylindrex is also the management-driven knowledge approach element, indicating the role of management in developing and disseminating marketing knowledge. Here, as an axial facet (A), the management-driven variable illustrates how management brings their focus in the form of knowledge approach decisions to bear, in a number of different, yet related ways, on the processes for developing and disseminating marketing knowledge in an organization. For example, the management-driven variable impact on culture (item 11, Figure 6.6 a, p. 157) is manifested in terms of serving market needs by controlling collaboration among departments to monitor and understand market trends when developing marketing knowledge, while management-driven structure (item 17, Figure 6.6 a) is manifested in terms of structuring an organization according to rules and hierarchy of reporting relationships to serve market needs, when disseminating marketing knowledge. These two examples of management’s role are found in the core of the radex aspect of the cylindrex structure.

The faceted structure of the processes for developing and disseminating marketing knowledge in organizations also provides the basis for future studies. Certainly, there are indications in
the present results as to the major issues to which attention should be paid in future research. But in order to specify the variables, a parallel mapping sentence based upon the present one is necessary. However, the cylindrex model would predict three different facets of the processes for developing and disseminating marketing knowledge in organizations, each corresponding to one of the existing Ghanaian business respondents' conceptual facets. Future research will also need to elaborate the rationale for such a correspondence.

The question for future evaluation of the inter-relationships of facets underlying the processes for developing and disseminating marketing knowledge research, which is posed by the results of this study, is whether a cylindrex is a characteristic structure for the processes evaluations. Furthermore, the question is raised as to the general content of such recurring cylinders. Ghanaian businesses are operating in a developing-country business environment. It is therefore important to establish their similarities to and differences from other countries or economies. If such a general model could be established then it would provide the basis for devising studies of particular settings, without the need either to specify all the content area in detail in advance, or to start each study from the beginning. Instead a "template" is provided by current study, which could be filled in relation to the particular context under study.

In relation to the broader issue of studies on marketing knowledge development and dissemination in organizations, there are both methodological and theoretical implications of this study. Methodologically, the prospect provided by a Facet Theory approach to the development of standard instruments, which can nonetheless be tuned to specific contexts, would greatly improve current practice and facilitate cross-organization comparisons. Theoretically, the identification of different or additional facets and their elements related to marketing knowledge development and dissemination processes opens the way to incorporating additional issues more directly in studies of the processes in organizations.

Finally, it may be noted that the multidimensional statistical procedures employed in this research have proved to be of considerable value (Gough, 1985). Their ability to preserve the richness of detail and complexity of information on individuals, while at the same time enabling the identification of underlying facets, make them more valuable research methods (Gough, 1985). Their contribution to research in the field of marketing can be expected to grow and this movement has to be encouraged (Hornik et al., 2007).
7.2.2 Managerial implications

Having argued that the consistency of the empirical faceted structure of the evaluations of the processes for developing and disseminating marketing knowledge suggests lawfulness, it is possible to look at the cylindrex structure itself and consider some of its implications and consequences. In this respect it is useful to consider the relationship between the cylindrex structure of evaluations and features of the processes for developing and disseminating marketing knowledge in organizations. Each facet will be briefly taken and its implications discussed.

The independent feature of the marketing knowledge approach Facet (A) to marketing knowledge infrastructure and marketing knowledge processes facets, as shown by their roles in the formation of the cylindrex structure, has implication for managerial practice in businesses. As we just noted each element (market- and management-driven) of Facet A may be considered independent of the other. The implication to managers of business organizations is that no Facet A element should be seen as an outgrowth of the other (Donald and Canter, 1990). Thus, for example, the market-driven approach should be seen as distinct from the management-driven approach to marketing knowledge development and dissemination in organizations.

Secondly, the independence of organizational knowledge approach (Facet A) and its elements symbolize the independence of management’s role as decision taker with regard to the development and dissemination of marketing knowledge in organizations. In this sense the independence of Facet A can clearly be seen as a top-management decision to select the approach, taking into consideration the impact of their decision on the other facets of the processes. In this instance management has to make a choice between two organizational approaches, market- and management-driven, bearing in mind that no one approach is central to the processes for developing and disseminating marketing knowledge (Donald and Canter, 1990).

It is instructive to note that in Table 6.6 (p. 123), 60.4% of respondents indicated that the market-driven approach appears to be a better predictor of the outcomes of marketing knowledge development in organizations. However, I argue here that I have data on the benefits of using the approach but not on the cost of implementing them, which limits the establishment of the superiority of one approach over the other. Moreover, the SSA plot partition puts the two approaches side by side as independent and valid for developing and disseminating marketing knowledge in organizations (Donald and Canter, 1990).
The radex structure of the marketing knowledge infrastructure (Facet B) and marketing knowledge processes (Facet C) variables demonstrates the qualitative aspect of the processes for developing and disseminating marketing knowledge in organizations. It is likely, and it follows from this, that improvements in one area (e.g. culture) will not compensate for or improve effectiveness with the marketing knowledge infrastructure in any of the other areas (structure or strategy). Moreover, increases in total marketing knowledge infrastructure effectiveness are, to an extent, meaningless unless the qualitative divisions of the infrastructure aspects are also taken into account. This assertion stems from the fact that the effectiveness of the marketing knowledge infrastructure elements as they interact with the marketing knowledge processes cannot be viewed as unidimensional and linearly cumulative.

The marketing knowledge infrastructure facet is potentially of considerable importance for marketing practice, and when applied to formal settings, for management of organizations. The items located at the centre of the radex can be viewed as marketing knowledge infrastructure variables that are impacted by the management-driven approach to developing and disseminating marketing knowledge. These variables include organizational culture and structure. The managerial implication here is that when developing and disseminating marketing knowledge, management should pay specific attention to these internal marketing knowledge infrastructure factors that could be manipulated to bring the production of the knowledge needed for dissemination and application by marketing practitioners. Additionally, the items located in the centre of the radex give clues to management as to what activities have been empirically shown to be central needs to be managed in order to make the marketing knowledge processes effective.

Properties of the marketing knowledge infrastructure Facet (B) and its elements also indicate that a key managerial property of this facet is its focus on qualitative components that need to be considered when developing or disseminating marketing knowledge in organizations. It is modelled on general philosophical adherence to certain Facet Theory principles (Shye et al., 1994). As such, management interventions have to be targeted to all areas as reflected in the partition of marketing knowledge infrastructure items. For example, if the firm invests in culture to be market-driven the results of this study indicate that all variables in this facet need investment as well. This synergistic connection between marketing knowledge infrastructure items and the need for interventions to develop them as a whole reinforces the managerial significance of the result of this study.

182
The marketing knowledge processes Facet (C) and its ordered structure also has important implications. As we noted earlier, it was found that elements of this facet are nested within each other, and as such I could conclude that it would be possible to improve the effectiveness of the marketing knowledge development processes by changes in the knowledge dissemination processes. This observation affirms the Nonaka and Takeuchi (1995) case study findings, which indicated that improving the conditions that leads to effective knowledge sharing would equally lead to effectiveness of knowledge creation (marketing knowledge development) and vice versa.

Considering Facet C SSA space the author could argue that Ghanaian businesses evaluated marketing knowledge development items as a general activity that is performed by businesses. The marketing literature describes this as organization-wide activities, comprising of information acquisition, generation, dissemination, and processing — the essence of market orientation (Deshpandé, 1999; Slater and Narver, 1999; Moorman, 1994). This is evident from the SSA partition results of Facet C elements (see Figure 6.4 (a) – (d), pp. 146–148; 152), with the marketing knowledge development items nesting within the dissemination items. This structure results from the knowledge development items being relatively more highly correlated, on average, with all other items, than are the knowledge dissemination items. Thus, thinking of evaluations (SSA plot) of the processes for developing and disseminating marketing knowledge as a system, anything that affects the centre or core of that system (the knowledge development items) is likely to have the greatest impact on the system as a whole (Guttman and Greenbaum, 1998; Donald, 1985).

7.3 Limitations

The findings of this study are interesting, but they should be considered in the light of its inherent limitations. First, the study is limited to business organizations in Ghana, with the majority of them found in the nation’s capital and industrial centre, Accra. The generalizability, therefore, from a Ghanaian setting to other countries may be questionable. This is because all conclusions drawn from the study fall within this setting, though the implications for study beyond it have been made earlier.

Secondly, this study concentrates on Ghanaian organizations’ evaluations using Guttman’s measurement scale that defined the faceted structure underlying the processes for developing and disseminating marketing knowledge in organizations as a whole, and does not distinguish a priori among observed persons. Put differently, the study was limited to aggregating the
data across the sample in an attempt to identify the patterns underlying the conceptualizations of the whole sample, rather than the individual differences that could be the focus.

This study integrated theoretical perspectives (Day, 1999; Deshpandé, 1999) to develop a faceted model of the processes for developing and disseminating marketing knowledge in organizations, which was presented to Ghanaian businesses for evaluation. While this attempt seems to limit the model to broad concepts, it should be recognized that this is, essentially, an exploratory study attempting to clarify aspects of the processes for developing and disseminating marketing knowledge in organizations not previously investigated. Incidentally, it is instructive to note that by using the facet approach it was possible to be very clear and systematic about what is actually included and excluded from the present study.

The study made use of a self-reporting questionnaire which, though popular, has come under some criticism, such as common method variance or mono method bias. The data collected was of a nature where other methods were thought inappropriate. The constructs under study were mostly abstract in nature, which are best measured with self-reporting rather than by objective measures (Howard et al., 1980). However, maintaining the anonymity of respondents has also been suggested as a way of limiting the potential negative effects of self-reports and the study was designed to achieve this. Potential respondents were assured of anonymity in the covering letter that accompanied the questionnaire and each questionnaire had an envelope for completed questionnaire to be put in, which were picked up from their respective office receptions.

The response rate and therefore sample size used for the analysis of the data met the minimum requirements, but was not big enough from the point of view of empirical research. However, the SSA techniques used had features to deal with the situation of average sample sizes to resolve this issue and data performed well under the circumstances.

The cross-sectional nature of the research design was the most cost-effective and time-sensitive design available given the fact that the study was part of a degree programme and therefore time-bound. The cross-sectional nature of the research design does not lend itself to strong conclusions regarding deep understanding of the inter-relationship between the facets and their elements. Rather, inferences can be drawn which can be later tested by longitudinal research design.

Although there are various suggested competitive advantages to business organizations accruing from the processes for continuously developing and dissemination marketing
knowledge in organizations, the study concentrated on only three facets of these processes. Other potential benefits, such as researching facets relating to types of knowledge and capabilities etc., were not explored in the current study.

The suggested multiple managerial informant responses are to be seen as indicative and highly plausible rather than sacrosanct. This in itself is not a short-coming, as theoretically it is expected that different business organizations are likely to have different “realities” and evaluations of the facets and their inter-relationships as a result of the different interaction patterns among staff of different organizations.

Overall, the Guttman’s scale measure developed for the study was reliable and deemed valid, as the results of the SSA partitions show, but there is the need for further research to perfect the measure and explore the possibility of alternative measures.

7.4 Contributions

In spite of the above limitations, the study has contributed to the advancement of knowledge on a number of fronts:

- It re-organizes and renders coherent the otherwise fragmented marketing literature on the processes for developing and disseminating marketing knowledge in organizations by organizing this literature around a coherent conceptual framework (see Figure 3.1, p. 99).
- It expands the knowledge element of the market-orientation debate as advocated by Deshpandé (1999).
- It provides an abstracted model of the area for marketing knowledge development and dissemination processes in organizations in a conclusive mapping sentence that defines the boundaries of this area.
- It provides a tool (template) for helping organizations to contextualize this model in their organizations. This will enable them to organize their own marketing knowledge processes into at least three distinct set of activities (facets).
- It gives a worked example of a contextualized Guttman’s measurement scale developed in Ghanaian context.
- The three facets proposed and empirically tested in the Ghanaian context suggest that (at least) these three facets are relevant to the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations.
These include: marketing knowledge approach (Facet A), marketing knowledge infrastructure (Facet B) and marketing knowledge processes (Facet C).

- The results of this study suggest that the elements of the marketing knowledge approach facet (Facet A), market- and management-driven approaches, are ordered and arranged along a continuum; that successive elements in the ordering of the facet denote a greater amount of the attribute than the preceding element; and that the two elements are valid approaches for developing and disseminating marketing knowledge in organizations.

- The results also indicate that elements of the marketing knowledge infrastructure (Facet B) — company culture, structure, strategy, systems and strategy — are qualitatively distinct, suggesting that no one element is more important than the others; that it is not possible to meaningfully rank features of the marketing knowledge infrastructure facet elements due to their qualitative nature; and that these elements serving as a means to develop and disseminate marketing knowledge in organizations differ in kind, but they do not differ in degree.

- The results suggest that Ghanaian organizations’ evaluations of the elements of the marketing knowledge processes facet (Facet C) have central (or core) and peripheral SSA points; that the facet’s elements are simply ordered; that marketing knowledge development items represent general activities performed in organizations; and that marketing knowledge dissemination items represent specialized activities performed in organizations.

### 7.5 Recommendations

This study has contributed to the knowledge and understanding of the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations from the point of view of Ghanaian businesses. Hence the results of this study cannot be generalized to other countries without further research. Further studies in other countries would enhance understanding of the structure of these facets and their elements.

Although they are methods unfamiliar to most researchers in the field, Facet Theory and multidimensional data analysis, in partnership, promise significant advances in our understanding of the processes for developing and disseminating marketing knowledge in organizations. Based on analysis of previous works on the subject of this study, a conceptual framework was conceived leading to a multifaceted definition of this area under
consideration. The multifaceted definition also served as the basis for developing a Guttman’s measurement scale for the field survey in Ghana. Further studies to explore the Facet Theory approach to research in this area are encouraged.

As discussed earlier, the mapping sentence was designed for the current study in Ghana, but its abstract nature means that it is not specific to any place in particular, but, rather, it is generally applicable and ready for contextualization. Viewed in this way the mapping sentence of this study offers a template for contextual, specific observations in a firm. So my recommendation to use it as a tool requires its contextualization in order for it to be of relevance in any given environment. This means that any researcher who would want to research this topic has to undertake further pilot research to determine the details of the mapping sentence needed by the firm to develop and disseminate its marketing knowledge. The result of the pilot work will be a refined mapping sentence, the facets (and their elements) of which are relevant to the context under consideration and the development of Guttman’s measurement scale. The questionnaire items of the scale will also be relevant to the language and the experience of those who are to participate in the research.

The proof of the value of the structure of these facets will be their success in providing answers to two basic concerns about marketing knowledge development and dissemination processes in organizations: first, the search for continuity in marketing knowledge development and dissemination research in organizations over time; and secondly, the search for specific organizational factors that would enhance our understanding of marketing knowledge development and dissemination processes in organizations. The author is optimistic that the careful multifaceted definitional model (mapping sentence) of this area through the Facet Theory approach will guide the search for longitudinal continuity. The author is also optimistic that the simultaneous multivariate analysis of marketing knowledge development and dissemination items will refine the model. This in turn will provide understanding for the complex network of factors in this area of study, which will also determine the quality of the model’s output.

From the above discussion it should be apparent that the introduction of refinements and additions to the mapping sentence of this study may be of two types. First, additions of facets may be necessary to the abstract model itself. Secondly, refinements may be viewed as specific to a setting. The model may incorporate additional facets, but also be fruitfully used as a general tool for specific research. For example, these aspects of the mapping sentence
need clarifying: a) the possibility of investigating the two constructs – marketing knowledge development and marketing knowledge dissemination – separately; (b) the need to specify single goals for each construct when investigating them to provide a way to test the law of monotonicity; and (c) the appropriate focus on some facets of the mapping sentence, in relation to settings and goals. The search for these clarifications is encouraged.

There are two points to note here. First regarding the contextualization of the mapping sentence; the initial specification of facets is perhaps the greatest intellectual challenge to any researcher who advocates the Facet Theory approach to research. This study has provided this initial specification of facets. Secondly, it is instructive to note that, unlike a purely exploratory approach to research, a very clear statement is being made a priori rather than post hoc when one uses the Facet Theory approach. The mapping sentence places a strict framework on the research; it does not merely guide the research, it is the research.

7.6 Summary

This chapter discussed the results of the study. It highlighted the major findings and their implications; explained the limitations; suggested contributions and recommendations. The next chapter discusses the conclusions to this research.
Chapter 8

Conclusions

8.0 Introduction

This chapter makes a case for the sufficiency of this research as a contribution to marketing knowledge in four specific ways. The potential of Facet Theory methodology to lead a cumulative research development in this area of marketing is also discussed.

8.1 Contribution

To revisit previous discussions, this study investigated the development and dissemination of marketing knowledge, from the perspective of business organizations in Ghana. It specifically looked at the inter-relationship between facets of the processes for developing and disseminating marketing knowledge, and developed and empirically validated a model in the form of Guttman's measurement scale that defined the inter-relationships between these facets and their elements. By validating this model this study uncovered the structure of the key facets underlying these processes, which were unclear in the marketing knowledge literature.

The facets include marketing knowledge approach, marketing knowledge infrastructure and marketing knowledge processes. The Similarity Structure Analysis (SSA) performed on the data collected from business organizations in Ghana and the results obtained from this analysis showed that the hypotheses, with which the SSA partitions acted as a partner, supported the conceptual and definitional framework (model) for this study (see Figures 1.2, p.11 and 5.2, p. 100). The results showed that:

1. The conceptual model in the form of mapping sentence was supported as the multifaceted definition of the processes for developing and disseminating marketing knowledge in organizations.
2. The identification and determination of the elements of facets were supported.
3. The inferred characteristics of Guttman’s measurement scale were necessary to fulfil the role identified in the principal aim of the study.
4. Guttman’s scale techniques served as a valid measure for the multifaceted definition of the subject under study.

If it is accepted that at a fundamental level firms act on the basis of their market knowledge (their knowledge of customers and competitors) to gain performance advantages (Marinova,
2004; Day, 1999b), the creation of a clear understanding of the processes for developing and disseminating marketing knowledge in organizations should be a high priority. In this respect this research has made an attempt to create this understanding by examining the facets underlying these processes and uncovering their structure. Implications of this structure have been discussed in the previous chapter (see Section 7.2). Here, the author makes a case for contribution to marketing knowledge in this area under study in four specific ways.

First, this research re-organized and rendered coherent the otherwise fragmented marketing literature on the processes for developing and disseminating marketing knowledge in organizations, by organizing this literature around a coherent conceptual framework (see Figure 3.1, p. 99). This was achieved by integrating theoretical perspectives in the market orientation literature (Deshpandé, 1999). The conceptual framework developed in this study was an attempt to create understanding of the processes for developing and disseminating marketing in organizations. This was done by identifying from the literature the components of these processes and conceptualizing them in a framework that represented this area under study. The features in this conceptual framework served as a guide for multifaceted definition (see Figure 5.1, p. 100) that provided the foundation for developing a measure of the marketing knowledge development and dissemination constructs.

The development of this framework has support in the market orientation literature. According to Slater and Narver (1999) there is the need for researchers 'to develop knowledge about specific management practices and how they should be configured to provide solid guidance to managers in their efforts to' develop and disseminate marketing knowledge in their organizations (p. 261). The framework developed in this study has this configuration. The usefulness of these frameworks as a type of knowledge to help organizations to achieve their objectives of remaining market focused had been acknowledged in the marketing literature (Garda, 1988, Webster, 1988). For example, Garda's (1988) proposed levels of marketing knowledge, that would be required if organizations are to achieve their objectives of remaining market focused, shaping their market offerings and responding to observable needs and opportunities in the marketplace, renders support to the need to develop conceptual frameworks for practitioners.

Secondly, this study expands the knowledge element of the market-orientation debate, by getting the absolute kernel of the debate of marketing knowledge out of the literature. As I previously noted the marketing literature deals indirectly with marketing knowledge development and dissemination processes in organizations in a complex and fragmented way.
This fragmentation can be discerned from Deshpandé’s (1999) observations on the knowledge aspect of market orientation (see p. 16).

The current study, however, took a step further beyond these theoretical perspectives by integrating and organizing the concepts found in these perspectives, which are relevant to the processes for developing and disseminating marketing knowledge in organizations. Components or facets of these processes were identified and their interrelationship made clear to create understanding of the processes underlying the constructs. The components identified and their interrelationships guided the development of the conceptual and definitional frameworks for this research. As the results of this study had shown, the components and their interrelationship reviewed and presented in Chapters 2 and 3 are empirically valid and relevant to the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations. The implications of this structure have been discussed in Chapter 7.

This research also contributed to knowledge by providing an abstracted model in the form of a conclusive mapping sentence, which defined the boundaries of the area under study. This mapping sentence, as we previously noted is a definitional framework for empirical observations in this study and consisted three key facets, namely, marketing knowledge approach, marketing knowledge infrastructure, and marketing knowledge processes. The mapping sentence was designed for the current study in Ghana, but its abstract nature means that it is not specific to any place in particular, but, rather, it is generally applicable and ready for contextualization. Viewed in this way the mapping sentence of this study offers a template for contextual, specific observations in a firm.

Defining the boundaries of an area under study as means to clarify its domain is in line with Kohli and Jaworski’s (1999) work on market orientation. In the conclusion of their work on MO Kohli and Jaworski (1999) pointed out that by providing a working definition for the market orientation construct they have in effect clarified its domain and provided a foundation for developing a measure of the construct. They did this by identifying “three classes of factors affecting a market orientation and interrelationships among the elements of market orientation” (Kohli and Jaworski, 1999; p. 40). Like Kohli and Jaworski (1999), I believed that by providing the definition of the area under study, I was ready to develop a measure for the constructs. Unlike their research, this study used mapping definition, a system of observations that enables the constructs under study measurement.
Finally, the current study provided a tool in the form of Guttman’s scale (see p. 20; Appendices B and C) for helping organizations to contextualise this model, which in turn will enable them to organise their own marketing knowledge development and dissemination into three distinct sets of activities. Although this study gives a worked example of a contextualised Guttman’s measurement scale developed in Ghanaian context, as a tool it requires contextualization in order for it to be of relevance in any given environment. This means that any researcher who would want to research this topic has to undertake further pilot research to determine the details of the mapping sentence needed by the firm to develop and disseminate its marketing knowledge. The result of this pilot work will be a refined mapping sentence, the facets (and their elements) of which are relevant to the context under consideration and the development of Guttman’s measurement scale. The questionnaire items of the scale will also be relevant to the language and the experience of those who are to participate in the research.

The development of the Guttman’s scale finds support in the marketing literature. Kohli et al. (1993) suggested the use of this type of scales as an alternative research approach to examining ordering among the various components of the market orientation construct, which is an aspect of this study. Moreover, Slater and Narver (1999) have emphasized the need to develop “a valid measure” or “development of scales” to capture the dimensions of organizational learning — “the development of new knowledge or insights that have the potential to influence behaviour” (p. 260). The development of this scale fills this gap to a greater extent. The ‘behaviour’ as used this context by Slater and Narver (1999) is in essence market oriented behaviour. Market-orientated behaviour includes customer-oriented behaviours, competitor-oriented behaviours, innovation-oriented behaviours, and internal/cost-oriented behaviours. It is important to understand that these strategic behaviours are not mutually exclusive and that it is common for firms to engage in multiple sets of behaviours simultaneously (Olson et al., 2005).

8.2 FT and cumulative research development in the current study

Finally, the results of this study provided an insight into the structure of facets underlying the processes for developing and disseminating marketing knowledge in organizations, and open another chapter on the knowledge aspect of market orientation studies. The use of Facet Theory techniques in the current study has shown how research in other areas can be drawn upon to provide an indication of the components of a research domain. In this case the
components provide a template (the mapping sentence) for use in considerations about research into marketing knowledge development and dissemination in organizations.

From a methodological standpoint, the multidimensional statistical procedures employed in this research have proved to be of considerable value. Their ability to preserve the richness of detail and complexity of information on individuals, while at the same time enabling the identification of a structure with important non-linear relationships between and within facets, makes them more valuable research methods. Their contribution to research in the marketing field can be expected to grow and this movement is to be encouraged.

Shye et al. (1994) have argued that the use of Facet Theory permits more meaningful replications and verifications and gives a basis for corrections, additions, and deletions, which pave the way for systematic cumulative research. In this sense it can be argued that the mapping sentence of the processes for developing and disseminating marketing knowledge developed in Ghanaian settings can be further developed by additions, corrections, and deletions, to accommodate the dynamic nature of research in this area of study. The preceding chapters of this study have clearly shown how the application of Facet Theory could lead to a cumulative research development by using the mapping sentence and the associated Guttman’s scale as tools. In this way the Facet Theory approach to research has reduced one of the problems which would restrict the conception of cumulative research in this area of study.

Moreover, the Facet Theory approach taken here will not only allow research comparisons between marketing knowledge development and dissemination in one setting but between disparate settings. From here we can go on to apply the model to other settings and discover further refinements which may be necessary, and consider consistencies across a larger number of settings. The comparisons could mutually benefit marketing knowledge development and dissemination research in organizations.

8.3 Summary

This chapter made a case for the sufficiency of this research as a contribution to marketing knowledge in four specific ways. The potential of Facet Theory methodology to lead a cumulative research development in this area of marketing was also discussed.
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204

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209


Appendix A: Facet theory

A1: The Facet theory approach to research

The Facet Theory (FT) approach to research draws on principles of mathematical set theory to define the domain of a study represented by a finite collection of variables (Hornik et al., 2007; Shye et al., 1994). Technically, a facet is defined as a set of objects — concepts, people, etc. — that plays the role of a component set of a Cartesian set (Shye et al., 1995). A less technical definition is that facets are conceptually distinct categories that make up the universe of observations in an empirical investigation (Brown and Barnett, 2002; Donald, 1995).

FT represents a research methodology that integrates content design with data analysis. It offers a set of principles and procedures for analysing, structuring, and restructuring research contents as well as procedures for processing multivariate data and interpretation within a conceptual framework (Brown and Barnett, 2002; Shye et al., 1994). Its aim is to facilitate cumulative knowledge and open up new possibilities for discovering laws in substantive domains of research (Donald, 1995; Shye et al., 1994).

As a methodology FT integrates three components of research. These include formal definition of the area being studied, and integration of hypothesis and data analysis. It is worth noting that it is at the definitional stage that FT makes one of its most significant and important contributions by offering clarity and precision to the process of identifying basic components of a set of variables and relating these components to empirical data (Brown, 2010b; Donald, 1995). The key ingredients of FT are: facets and their constituent elements; a mapping sentence; rationale; conceptual structures and accompanying multivariate statistical procedures for analyzing data (Brown, 2010a).

A2: Advantages of a mapping sentence

There are numerous uses and advantages of mapping sentences (Donald and Cooper, 2001; Donald, 1995; Shye et al., 1994). They provide a precise, overt definition of the universe of observation, aid the perception of systematic relationships, and facilitate the modification of aspects of facets or their inter-relationships (Shye et al., 1994). The approach also aids in the systematic extension and reduction of the content of a domain by allowing the addition and collapse of facets, thereby facilitating the incorporation of new findings and theoretical developments (Donald, 1995). It is therefore also possible to determine whether the content universe of observations has been adequately represented (Donald and Cooper, 2001).
As previously noted, the mapping range of the mapping sentence would serve as the basis for “specifying in advance a range of possible responses” for the observational questions of a study. In using mapping range as a response to questionnaire items a researcher has two main types of rating scales to select from, namely, identically phrased ranges, and common meaning range scales.

A3: Facet theory hypotheses formulation

A conventional hypothesis refers to a proposition about how some variables are interconnected. In facet analysis, however, hypotheses are not merely concerned with the way a set of variables is structured. Rather, hypotheses in the facet approach almost always deal with how the variables will appear when portrayed geometrically (Tziner, 1987). Stated another way, facet hypotheses predict how the empirical data will look when plotted or mapped on paper, in accordance with the definitional system, the mapping sentence. What ultimately decides the tenability of any particular facet hypothesis, as of any hypothesis in general, is the empirical data — whether the data corroborates or disconfirms the hypothesis (Tziner, 1987). Thus, in FT having stated the definitional structure of the study, the aim of the analysis is to establish whether the proposed structure can be reconstructed in the empirical analysis. This is most often achieved by intercorrelating items and representing these as points in a spatial array through Smallest Space Analysis (SSA) concept space (Brown, 1985).

In this connection, the initial FT hypotheses make predictions about the sign of the correlations which lead to the enunciation of First Laws (Brown, 1985; Levy, 1985). Secondly, hypotheses are set up in relation to the magnitude of the correlations in the form of regional hypotheses — Second Laws (Brown, 1985; Levy, 1985). A brief discussion of the two hypotheses is given below.

A4: Monotonicity (sign) hypotheses

Monotonicity (sign) hypotheses predict that the observations for every two items in the content universe of marketing knowledge development and dissemination constructs with common range are monotonically related (Borg and Shye, 1995). In this respect items are expected to correlate non-negatively among each other. This is because different items of the marketing knowledge development and dissemination constructs’ content universe are interpreted as representing different aspects of the constructs in general (Borg and Shye, 1995; Shye et al., 1994).
As a consequence the law of monotonicity for this study is stated, thus: if any two items are selected from marketing knowledge development and dissemination content universe items, and if the population observed is not selected artificially, then the population regression between these two items will be monotone with positive or zero sign. In this law, regression means the slope of the regression curve of each item on the other (Levy, 2005, p. 181; Shye et al., 1994). It is instructive to note that a sign hypothesis, or First Law, like the other laws, is for the population as a whole, not for individuals and, therefore, the Law refers to an overall trend within the population as a whole (Levy, 1987). Any correlation that is not precisely equal to +1 implies that there are individuals who are contradictory in their behaviour.

The sign hypothesis gives three conditions which together provide a rationale for expecting positive correlation. The first condition is that all items are marketing knowledge development and dissemination content universe items, according to the mapping sentence of this study. The second condition is that marketing knowledge development and dissemination content universe items all have the same object. The third condition is that the population (whose observations are being studied) is not specially selected with respect to that object. In this sense, the hypothesis of the First Law is that, when all three conditions are satisfied, then the phenomenon of positive correlation should occur.

Given the definition for marketing knowledge development and dissemination content universe items, there is usually no problem in deciding whether or not any particular item belongs to the constructs. It is easy to fulfill this condition. However, the case is not always as simple for the remaining two conditions (Borg and Shye, 1995; Levy, 1987). First, it is not always obvious whether or not the items refer to a single object. Secondly, it is sometimes difficult to define what is “a non-artificial” population, or to determine a priori that a population has indeed been specially selected with respect to items (Levy, 1985).

Moreover, Levy (1985) pointed out that even where efforts had been made to fulfil the three conditions, there had been substantially negative correlations in results of an investigation. After careful consideration of these negative results, a fourth condition was introduced. This condition holds that items should be complementary rather than competing aspects of the object under study in order to expect positive correlation from the items (Borg and Shye, 1995; Levy, 1985). Despite the addition of the fourth condition, Levy (1985) cautioned that the First Laws, as already mentioned, refer only to the sign of the correlations (and the monotone shape of the regression). She argued that accepting these Laws makes redundant most of the work merely aimed at establishing the existence of positive correlations among
various classes of behaviour (Levy, 1985). Levy (1985) noted that progress had been made in developing further laws, which use facets to define the items, with specifications as to when to expect low correlations, resulting in Laws on the size of correlations — the Second Laws, or regional hypotheses (Levy, 1985). In this respect Borg and Shye (1995) pointed out the First Law conditions are but starting points and not the final answer to an investigation.

A5: Regional hypotheses

FT hypotheses are set up in relation to the magnitude or size of the correlations (Brown, 1985). Lawfulness of size has been established largely in terms of regions of a geometrical portrayal in which the variables appear as points. The size of the correlation between any two variables can be within limits imposed by the locations of the respect regions in which those variables fall. Hence the discussion is in terms of regional hypotheses, it being understood that attaining more and more refined regions leads to more and more refined restrictions on the size of correlations (Levy, 1985).

Regional hypotheses are by far the most successful kind of hypotheses developed in the FT context and they are concerned with the division of the SSA space into identifiable areas that correspond to the elements of facets (Borg and Shye, 1995; Brown, 1985). Hence, regional hypotheses that have been defined in terms of partition patterns in the concept-space or in the profile space are associated with the geometry of SSA (Shye et al., 1994). SSA treats each variable as a point in a Euclidian space in such a way that the higher the correlation between two variables, the closer they are in space. Thus, relationships expressed in terms of the magnitude of correlations find their equivalent geometric expression in the SSA space (Brown, 1985). In this respect Levy (1985) argued that regional hypotheses, which are based on relative size of correlations, could also be called “Second Laws” (Levy, 1985).

Regional laws concerning the size of correlations are based on the definitional systems of the content of the items to be studied. For a given problem, it is important to have the content design specify both similarities and differences between the questions asked. Levy (1985) pointed out that a convenient way of doing this is by use of the mapping sentence. She argued that fruitful strategies are made possible by use of mapping sentences since the latter lend themselves easily to correction, deletion, extension, and intension (Levy, 1985). Regional hypotheses link content facets to regions of empirical SSA space. The hypothesis is that the SSA space can be partitioned such that each region represents a different facet element. That is, all points within a particular region should be associated with the same facet element and
points in different regions should be associated with different facet elements. Regional hypotheses, therefore, are analogous to what is studied in discriminant analysis, in which one looks if and how a set of points that represent elements of different classes (typically, groups of persons such as males and females) can be separated optimally into non-overlapping sets. Discriminant analysis, however, only considers partition lines that are straight and parallel to each other. Regional hypotheses include this possibility as a special case (Borg and Shye, 1995).

The evidence of whether elements in a facet would find a predicted correspondence with an empirical structure is provided by the application of the principle of contiguity or regional contiguity. "In fact, facet theory claims that hypotheses formulated in terms of this aspect of reality stand a better chance of being confirmed than other kinds of hypotheses" (Shye et al., 1994; p. 66). Like any statistic, regional contiguity is an aspect, or partial view of empirical observations. As a statistic it is particularly suitable for multivariate observations and is best described by geometrical pictures rather than by algebraic expressions. In this sense, regional contiguity depicts a studied concept as a body having a physical expansion in a geometric space, and envisions each of the observational items of that concept (as prescribed by its mapping definition) as a point in that space. In the space, "the more similar two items from a content universe are observed to be, the shorter the distance between the points representing them in space" (Shye et al., 1994; p. 66). Based on the said principle it is expected that items which have the same facet elements should be more highly correlated, and so closer together in multidimensional space, than items which do not (Shye et al., 1994).

It is instructive to note that the division into regions is accomplished by introducing boundary curves according to the structuples of the variables in the mapping sentence. Regions are in general not "clusters" that are discernible by "empty space" around them. Regional hypotheses are generally for space that in principle has points everywhere. This means that some variables in one region may correlate less with other variables of the same region than they do with other variables from other regions (Levy, 1985).

When few facets are used, they generally partition the space into relatively large regions, thus allowing substantial variation in the size of correlations between two points taken from different regions, even though by and large the correlations tend to be much smaller the farther apart the regions are. Levy (1985) argued that the finer the partition into regions, the sharper the delimitation of sizes of correlation, and that the road to finer partition is through
increasing the number of content facets. However, it has been observed that research until now has been limited to relatively few facets, but they have proved to be sufficient for establishing basic lawfulness (Levy, 1985).

As discussed in the previous section, regional hypotheses and their dimensionality are based on specifying types of roles to be played by content facets (Levy, 1985). Regional hypotheses relate the several roles that content facets of the variables can play in partitioning the SSA space of the empirical correlation matrix of those variables (Levy, 1985). In constructing these partitions, it is crucial that there are some compelling reasons for doing so, and prior facet analysis provides such reasons (Brown, 1985). Rationale for various kinds of partitioning correspondences comes in part from consideration of order, for example, which facets have ordered elements — and in what sense — and which facets are unordered (Levy, 1985). An unordered facet can play a polar role: each element of the facet corresponds to a different direction in SSA space, emanating from a common origin. A simply (or partly) ordered facet can play a modular role, namely, have a correspondence with distance from the origin. A simple ordered facet can also play an axial role (when its notion of order is unrelated to that of other facets) or joint role (when its notion of order is the same as for one or more other facets) (Levy, 1985).

Various laws of correspondence between regions of the SSA space and elements of the facets have been given names such as “cylindrex,” “multiplex”, etc. This rationale is based on the roles of the content facets (Levy, 1985). The content facets often play one of three prototypical roles in this context: they partition the space in an axial, radial (modular), or angular (polar) way. An axial facet is one that corresponds to a linear pattern — the partitioning lines cut the space in a parallel fashion into simply ordered “stripes” (an axial simplex of regions). A radial facet leads to a pattern resembling concentric bands (a radial simplex of regions). An angular facet cuts the space, by rays emanating from a common origin, into sectors, similar to cutting a pie into pieces (circumplex of regions) (Borg and Shye, 1995).

A number of particular combinations of facets that play such roles lead to structures that were given names because they are encountered frequently in practice. For example, the combination of an angular facet and a radial facet in a plane, having a common centre, constitutes a radex, a structure similar to a dart-board. Adding an axial facet in the third dimension renders a cylindrex. Another interesting structure is a multiplex, a conjunction of at least two axial partitions. Special cases of multiplex are called duplex (two axial facets),
triplex (three axial facets), and so forth (Borg and Shye, 1995). There is also a variety of structures that are found less frequently in practice, for example, the spherex (polar facets in three-dimensional space) or conex (similar to the cylindrex, but with radexes that shrink as one moves along the axial facet).

To predict regional patterns requires one to clarify the expected roles of the facets in the definitional framework. This involves classifying the “scale level” of each facet. For ordered facets, one predicts a regional structure whose regions are also (linearly) ordered, so that the statement that some region \( R \) comes “before” another region \( R' \) has meaning (Borg and Shye, 1995). Geometrically, this relationship can express itself in parallel regions as or concentric regions. The order of the regions should mirror the order specified for elements of the corresponding facet (Borg and Shye, 1995). For another facet, one may have a substantive reason to believe that its elements are circularly ordered. In such instances, an angular facet may be hypothesized. For qualitative facets, some simple partitionability of the point configuration into regions, each of whose points share the same facet element, is already interesting. “If one combines an angular and an axial facet, and if the similarity data can be represented in a plane, one often obtains a radex. More generally, however, when no dependence is expected between the facets, the product of an angular and axial facet results in a cylindrical surface,” (Borg and Shye, 1995; p. 131).

What is the significance of regional hypotheses? Once confirmed, regional hypotheses bring to light a relatively stable aspect of the concept studied. On one level the very lawfulness observed is of interest in itself. The aim of science is to indentify lawfulness wherever and however it may be found. Furthermore, regional hypotheses disclose the internal structure of the concepts and attributes, providing insights concerning their empirically verifiable components and the way (in geometric language) these components interrelate. Finally, regional hypotheses are intimately related to rational measurements of subjects on the attribute investigated. That is, scientific measurements of subjects on the attribute such as marketing knowledge development and dissemination concepts is not really possible without an understanding of the internal composition of that attribute (Borg and Shye, 1995; Shye et al., 1994). For further information on FT hypotheses see Hornik et al., 2007; Brown, 1985; Levy, 1985; and Donald and Canter, 1990.
A6: Facet design and analysis

Finally, we have procedures that are particularly associated with Facet Design and Analysis — a multidimensional scaling technique. Multidimensional scaling includes a number of analytical techniques for understanding the structure or pattern of a matrix and displaying the structure or pattern as a geometrical form. FT takes this approach with the goal of conceptual clarity. For example, we have Smallest Space Analysis (SSA).

SSA provides a representation of concepts as physical spaces — similar to a correspondence map. This technique is the equivalent of traditional principal component or factor analysis, but the outputs are visual. It is based on the principle that the greater the similarity between two items (e.g. correlations), the smaller the distance between their positioning on the map. The name “Smallest Space” is derived from the fact that the items are plotted in the least number of dimensions that is necessary to retain as much of the richness of the data as possible. The dimensionality of the space is such that the rank of the distance between the points representing variables in the space has maximum relationship to the rank of the correlation coefficients. Thus, through the SSA computer program, the variables emerge on the printout as points in a Euclidean space. The distance between the points reflects the magnitude of variable inter-correlations. For further information on facet design and analysis see Cohen, 2009; Borg and Shye, 1995; Shye et al., 1994; and Canter, 1985.
Appendix B: Developing a model of the processes for developing and disseminating marketing knowledge in organizations

B1: Introduction

To develop a model that defines the inter-relationships between facets of the processes for developing and disseminating marketing knowledge in organizations I first reviewed the major conceptual literature on these processes to search for the concepts, which are relevant to the topic under study. This conceptual literature include works on market orientation (e.g. e.g. Day, 1999a, b; Slater and Narver, 1999; Kohli and Jaworski, 1999; Jaworski and Kohli, 1999); organizational capabilities and knowledge integration processes (e.g. Patnayakuni et al, 2007; Carlile, 2004; Okhuysen and Eisenhardt, 2002; Grant, 1996a, b); knowledge management (e.g. Easterby-Smith & Lyles, 2005; Chaston, 2004; Jashapara, 2004; Choo and N. Bontis, 2002; Zack, 2002; Zolingen et al., 2001) and organizational knowledge learning and creation processes (e.g. Nonaka, 2002; Nahapiet and Ghoshal, 2002; Wenger et al. 2002; Krogh et al. 2000; Nonaka and Takeuchi, 1995).

Drawing on facet theory approach to research (e.g., Cohen, 2009; Hornik et al., 2007; Bilsky and Elizur, 2005; Borg and Shye, 1995; Shye et al., 1994) and the above literature I attempted to identify the facets that constitute the domain of marketing knowledge development and dissemination processes in organizations to provide a working definition and a foundation for developing a measure of the facets of these processes. Three facets were identified from the literature and these include: organizational knowledge infrastructure (Facet A), knowledge infrastructure goals (Facet B), and marketing knowledge processes (Facet C). The discussion in this appendix (B) centres on the definition of these facets and their elements. It is worth noting that the identification of the facets was done in the light of the properties and principles of FT as found in (see Section 5.4) of this study.

For further information on organizational knowledge infrastructure (Facet A), knowledge infrastructure goals (Facet B), and marketing knowledge processes (Facet C), see Sections 3.1, 3.4 and 2.4 of this study.

B2: Defining facets of the processes for developing and disseminating marketing knowledge in organizations

Here each of the facets will be briefly discussed in relation to their general rationale in the processes for developing and disseminating of marketing knowledge in organizations starting with the mapping range facet.
B2.1: Mapping range facet

The mapping range for this first pilot study reflects a common general meaning shared by the mapping domain variables in the form of the concept of ‘effectiveness’ (Drucker, 2007). This concept gives expression to the efficacy of marketing knowledge development and dissemination processes in achieving their goals in organizations (Easterby-Smith and Prieto, 2008; Zack, 1999; Davenport et al., 1998). In this sense the concept of effectiveness as an element of the range facet is “ordered from high to low with respect to a particular sense or content criterion” of the mapping sentence. Thus, the concept of effectiveness providing a common meaning for marketing knowledge development and dissemination processes in organizations could be defined as follows:

An item belongs to the universe of items of marketing knowledge development and dissemination processes in organizations, if and only if its domain is evaluated to be effective (or ineffective) in achieving its goals, and its range is ordered

{very effective}

from { to } toward an objective rule (Shye et al., 1994; p. 58).

{very ineffective}

This definition of the mapping common range serves as a criterion for selecting or creating observational items (i.e. specific questions with possible answers). Reasonable responses for the effectiveness of the marketing knowledge development and dissemination items ranged from ‘very effective’ to very ‘ineffective’. Any item whose range could be interpreted as contrasting very effective to very ineffective for developing and disseminating marketing knowledge would be eligible for inclusion, whereas those not referring to such a contrast would be excluded outright (Shye et al., 1994).

B2.2: Background facet

The background facet or the population is indicated by (x). In this pilot study the population comprised a sample of organizations in Ghana. The data collected from respondents did not require individual differences in evaluation with respect to facets of marketing knowledge development and dissemination constructs. Here it was the patterns underlying the conceptualizations of the whole sample, rather than the individual differences, that were the focus (Brown and Barnett, 2002).
B2.3: Domain (content) facets

The rationale for the selection of three domain facets was based on the premise that the marketing knowledge processes in organizations have the following dimensions (Nonaka, 2002; Day, 1999a). First, issues related to knowledge development and dissemination processes in organizations; secondly, issues related to the ontological dimension of the knowledge processes in organizations for developing and disseminating knowledge — individual and organizational processes; and thirdly, issues related to the conditions or infrastructures for energising knowledge processes (Nonaka, 2002; Day, 1999; Nonaka and Takeuchi, 1995). The details of these dimensions of knowledge processes have been discussed in the literature reviewed for this study.

Recognising the issues involved in the knowledge processes in organizations as described in the literature, the concepts of developing and disseminating marketing knowledge were defined as elements of marketing knowledge processes in organizations (Schlegelmilch and Penz, 2002; Zolingen et al. 2001). These elements of the marketing knowledge processes facet are energised by organizational conditions (Day, 1999a). These conditions are usually referred to in the management literature as organizational knowledge initiatives and management practices (marketing knowledge infrastructure in this study) (Zack, 1999; Slater and Narver, 1999). The marketing knowledge infrastructure has the goal of facilitating marketing knowledge processes to produce knowledge needed in an organization (Easterby-Smith and Prieto, 2008).

B2.4: Facet A: Marketing knowledge infrastructure

What follows is the process for determining the elements of the marketing knowledge infrastructure facet (A) as they were reviewed from the marketing, management, and organizational behaviour literature. The elements of Facet A are presented in the Table B.1 below. In the literature these elements are presented as organizational factors that are meant to facilitate marketing knowledge development and dissemination processes in organizations. A careful analysis of the content of Table B.1 reveals that some of these elements share common meaning. Facet Theory (FT) properties for constructing a mapping sentence hold that “in principle, one should strive to use facet elements (i.e. item classes) that are conceptually exhaustive of the facet classification and mutually exclusive (not overlapping in their meanings)” (Shye et al., 1994; p. 75).
Taking into consideration the above FT properties, Facet A elements in Table B.1 were "collapsed" into seven categories based on how they share meaning with each other. Key dimensions of market-driven organization and antecedents of market-orientation variables were used as the basis around which collapsed elements were categorised.

Table B.1: Elements of Facet A reviewed from the literature

<table>
<thead>
<tr>
<th>Knowledge Processes Theoretical Perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Orientation Process</strong></td>
</tr>
<tr>
<td>KEY DIMENSIONS OF MARKET-DRIVEN ORGANIZATION (Day, 1999a)</td>
</tr>
<tr>
<td>1. Market-Driven Culture</td>
</tr>
<tr>
<td>2. Market-Driven or Hybrid Organizational Structure</td>
</tr>
<tr>
<td>4. Organizational Supporting Programs</td>
</tr>
<tr>
<td>a) Leadership commitment</td>
</tr>
<tr>
<td>c) Shaping the Vision</td>
</tr>
<tr>
<td>d) Mobilize commitment</td>
</tr>
<tr>
<td>e) Aligning structures, systems, and incentives</td>
</tr>
<tr>
<td>i) Organizational and process redesign</td>
</tr>
<tr>
<td>ii) Incentives and Rewards</td>
</tr>
<tr>
<td>iii) Systems</td>
</tr>
<tr>
<td>f) Reinforcing change</td>
</tr>
<tr>
<td>LEARNING ORGANIZATION (Slater and Narver, 1999)</td>
</tr>
<tr>
<td>1. Market-oriented Culture</td>
</tr>
<tr>
<td>2. Entrepreneurial Culture</td>
</tr>
<tr>
<td>3. Facilitative Leadership</td>
</tr>
<tr>
<td>4. Organic organizational Structure</td>
</tr>
<tr>
<td>5. Learning-Based Strategy</td>
</tr>
<tr>
<td>ANTECEDENTS TO MARKET</td>
</tr>
<tr>
<td>ORIENTATION (Kohli and Jaworski (1999))</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>1. Top Management Factors</td>
</tr>
<tr>
<td>a) Commitment or emphasis</td>
</tr>
<tr>
<td>b) Risk aversion or Willingness to take risk</td>
</tr>
<tr>
<td>2. Interdepartmental dynamics</td>
</tr>
<tr>
<td>a) Promoting interdepartmental connectedness</td>
</tr>
<tr>
<td>b) Avoiding interdepartmental conflict</td>
</tr>
<tr>
<td>3. Organizational systems</td>
</tr>
<tr>
<td>a) Formalization</td>
</tr>
<tr>
<td>b) Centralization</td>
</tr>
<tr>
<td>c) Departmentalization</td>
</tr>
<tr>
<td>d) Reward systems</td>
</tr>
</tbody>
</table>

Source: The Author Based on Multiple Sources, May 2008

This technique of selecting variables from the literature demonstrates one of the advantages of using a FT approach to structure the domain of a study (Donald, 1995; p. 125). Table B.2 below presents the collapsed elements of Facet A categorised into seven elements as indicated in the last column of the table. The seven elements include: 1) market-driven culture; 2) market-driven organizational structure; 3) market-driven strategy; 4) top-management commitment; 5) managing organizational systems; 6) management interventions; and 7) managing interdepartmental dynamics (relationships).

Table B 2: Modified Elements of Facet A (Organizational knowledge infrastructure)

<table>
<thead>
<tr>
<th>No.</th>
<th>Market Orientation Process</th>
<th>Knowledge Integration Process</th>
<th>Organizational Knowledge Creation Process</th>
<th>Seven Facet A Elements</th>
</tr>
</thead>
</table>
| 1.  | 1. The role of Market-Driven Culture  
2. Market-oriented Culture  
| 2.  | 1. Market-Driven Organizational Structure  
2. A Flexible, Organic Structure | 1. Team-Based/Modular Organizational Structure | 2. Hierarchical Organizational Structure (Hierarchical Relations) | Market-Driven Organizational Structure (Day, 1999a) |
| 3.  | 1. Market-Driven Strategy  
2. Learning-Based Strategy  
3. Shaping the vision | 1. Survival and Advancement Strategies  
2. Instilling a knowledge Vision | | Market-Driven Strategy (Day, 1999a) |
<table>
<thead>
<tr>
<th>Intention</th>
<th>3. Leadership commitment</th>
<th>2. Facilitative Leadership</th>
<th>3. Top Management Commitment (Factors)</th>
<th>4. Reinforcing the Change</th>
<th>1. Management Style (Middle-up-down model)</th>
<th>2. Stakeholder Support and Executive Sponsorship</th>
<th>Top Management Commitment (Kohli and Jaworski, 1999)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing Interdepartmental dynamics (Kohli and Jaworski, 1999)</td>
<td>Source: The Author Based on Multiple Sources, May 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

In Table B.2 each row indicates the elements that share meaning with each other. At this point marketing knowledge infrastructure facet (A) would be defined as organizational practices and initiatives with the goal of facilitating marketing knowledge development and dissemination in organizations. This definition shows that Facet A relates to Facets B and C, that is, marketing knowledge infrastructure goals (Facet B) mediating between marketing knowledge infrastructure (Facet B) and marketing knowledge processes (Facet C) facets respectively.

B2.5: Facet B: Marketing knowledge infrastructure goals

The elements of the marketing knowledge infrastructure goal facet (B) indicate the sense in which Facet A elements relate to marketing knowledge development and dissemination constructs (Facet C elements). In other words Facet B elements attempt to answer the
question: in what sense should one assess the inter-relationships between marketing knowledge infrastructure and marketing knowledge processes elements in organizations (Shye et al., 1994)?

The marketing, management and organizational behaviour literature once again served as a field for identifying and determining Facet B elements. It is worth noting that the literature reviewed produced a number of marketing knowledge infrastructure goal elements as presented in Table B.3 below. With the help of Oxford English Thesaurus, three Facet B elements were selected from the three theoretical perspectives, namely, “enabling, fostering, and facilitating” (Kohli and Jaworski, 1999; Nonaka and Takeuchi, 1995).

Table B.3: Elements of Facet B (marketing knowledge infrastructure goals)

<table>
<thead>
<tr>
<th>Knowledge Processes Theoretical Perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Orientation Process</strong></td>
</tr>
<tr>
<td>define,</td>
</tr>
<tr>
<td>direct,</td>
</tr>
<tr>
<td>enable,</td>
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<tr>
<td>encourage,</td>
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<tr>
<td>engender,</td>
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<tr>
<td>enhance,</td>
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<tr>
<td>facilitate,</td>
</tr>
<tr>
<td>foster,</td>
</tr>
<tr>
<td>guiding,</td>
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<tr>
<td>help,</td>
</tr>
<tr>
<td>motivate,</td>
</tr>
<tr>
<td>nurture,</td>
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<tr>
<td>promote,</td>
</tr>
<tr>
<td>provides,</td>
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<tr>
<td>shape,</td>
</tr>
<tr>
<td>specify</td>
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<tr>
<td>support,</td>
</tr>
<tr>
<td><strong>Knowledge Integration Process</strong></td>
</tr>
<tr>
<td>cooperate,</td>
</tr>
<tr>
<td>coordinate,</td>
</tr>
<tr>
<td>enable,</td>
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<tr>
<td>encourage,</td>
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<tr>
<td>improve,</td>
</tr>
<tr>
<td>enhance,</td>
</tr>
<tr>
<td>facilitate,</td>
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<tr>
<td>foster,</td>
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<tr>
<td>immerse,</td>
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<tr>
<td>permit,</td>
</tr>
<tr>
<td>promote,</td>
</tr>
<tr>
<td>provide,</td>
</tr>
<tr>
<td>support,</td>
</tr>
<tr>
<td><strong>Organizational Knowledge Creation Process</strong></td>
</tr>
<tr>
<td>accelerate,</td>
</tr>
<tr>
<td>address,</td>
</tr>
<tr>
<td>allow,</td>
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<tr>
<td>coordinate,</td>
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<tr>
<td>enable,</td>
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<tr>
<td>encourage,</td>
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<tr>
<td>espouse,</td>
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<tr>
<td>facilitate,</td>
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<tr>
<td>foster,</td>
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<tr>
<td>give,</td>
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<tr>
<td>help,</td>
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<tr>
<td>orient,</td>
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<tr>
<td>promote,</td>
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<tr>
<td>provide,</td>
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<td>shape,</td>
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<tr>
<td>smooth,</td>
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<tr>
<td>sponsor,</td>
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<tr>
<td>stimulate,</td>
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<tr>
<td>support,</td>
</tr>
<tr>
<td>trigger,</td>
</tr>
<tr>
<td>unleash,</td>
</tr>
</tbody>
</table>

Source: The Author Based on Multiple Sources, May 2008

From Table B.4 it can be seen that the synonyms of the two elements of the knowledge infrastructure goal facet (B), enabling and fostering, exhaustively share meaning with other elements identified in the literature. As a result the two elements of Facet B, “enabling and fostering” were selected after taking into consideration FT properties for constructing mapping sentences.
Table B.4 Synonyms of elements of Facet B

<table>
<thead>
<tr>
<th>Enable</th>
<th>Foster</th>
<th>Facilitate</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLOW,</td>
<td>ALLOW,</td>
<td>MAKE EASIER/EASIER</td>
</tr>
<tr>
<td>permit,</td>
<td>promote,</td>
<td>make possible,</td>
</tr>
<tr>
<td>let, give the means,</td>
<td>further,</td>
<td>make smooth/smooth;</td>
</tr>
<tr>
<td>equip,</td>
<td>stimulate,</td>
<td>smooth the way for;</td>
</tr>
<tr>
<td>empower,</td>
<td>advance,</td>
<td>enable, assist,</td>
</tr>
<tr>
<td>make able,</td>
<td>forward,</td>
<td>help (along),</td>
</tr>
<tr>
<td>fit;</td>
<td>cultivate,</td>
<td>aid,</td>
</tr>
<tr>
<td>authorize,</td>
<td>nurture,</td>
<td>oil the wheels of,</td>
</tr>
<tr>
<td>entitle,</td>
<td>strengthen,</td>
<td>expedite,</td>
</tr>
<tr>
<td>qualify;</td>
<td>enrich; help,</td>
<td>speed up,</td>
</tr>
<tr>
<td>formal, capacitate</td>
<td>aid,</td>
<td>accelerate,</td>
</tr>
<tr>
<td></td>
<td>contribute to,</td>
<td>further,</td>
</tr>
<tr>
<td></td>
<td>support,</td>
<td>encourage</td>
</tr>
</tbody>
</table>

Source: The Author Based on Multiple Sources, May 2008

‘Enabling’ marketing knowledge development and dissemination is defined as the overall set of organizational activities that positively affect marketing knowledge creation or development (Krogh et al. 2000). Differently, ‘enabling’ an organizational context to develop and disseminate knowledge has been defined in terms of taking management control out of knowledge creation activities in organizations (Krogh et al., 2000). Fostering marketing knowledge development and dissemination is defined as organizational factors or conditions that encourage market intelligence (information) generation and dissemination. ‘Fostering’ an organizational context to develop and disseminate marketing knowledge implicitly embodies the idea of management controlling knowledge creation activities in organizations (Jaworski and Kohli, 1999; Day 1999b).

‘Facilitating’ is another marketing knowledge infrastructure goal (Facet B) element extracted from the literature. However, as Table B.4 shows, the synonyms of facilitating embody the idea of both ‘enabling’ and ‘fostering’. As such it did not satisfy the FT properties requirement of mutual exclusivity of facet elements and therefore was not selected.

B2.6: Facet C: Marketing knowledge processes

Facet C, marketing knowledge processes, is defined as organizational processes for developing and disseminating marketing knowledge. In the literature “development” and “dissemination” of marketing knowledge represent elements of knowledge processes in organizations (Zolingen et al., 2001). Marketing knowledge development is, therefore, defined as organizational processes for acquiring, generating, disseminating of market
information and processing this information into marketing knowledge (Slater and Narver, 1999; Day, 1999b; Kohli and Jaworski, 1999). Marketing knowledge dissemination is defined as organizational processes for diffusing, transferring, and sharing of marketing knowledge (Chaston, 2004; Roger, 2003; Nonaka and Takeuchi, 1995). Taken together the three facets above define the domain of the first pilot study.

B3: The first mapping sentence for marketing knowledge development and dissemination constructs

The mapping sentence below represented the first definitional framework of the processes for developing and disseminating marketing knowledge in organizations. The mapping sentence has the following domain (content) facets: marketing knowledge infrastructures (Facet A), marketing knowledge infrastructures’ goals (Facet B), and marketing knowledge processes (Facet C). The facets and their elements were specified in a general, abstract form, but they were interpreted in relation to observations made in particular organizational contexts. In keeping with our purposive model, marketing knowledge development and dissemination constructs can be broadly conceptualized as the extent to which an organization considers marketing knowledge infrastructures as the means of facilitating the processes for developing and disseminating marketing knowledge in organizations.

An item belongs to the universe of the items of marketing knowledge development and dissemination constructs if and only if, its domain asks organization (x) to evaluate the effectiveness of ...

{FOCUS FACET= A: MARKETING KNOWLEDGE INFRASTRUCTURE
{a1. market-driven culture
{a2. market-driven organizational structure
{a3. market-driven strategy
{a4. top-management commitment
{a5. managing organizational systems
{a6. management interventions
{a7. managing interdepartmental dynamics

as a component of marketing knowledge infrastructure in

{GOAL FACET = B
{b1. enabling marketing knowledge
{b2. fostering

{MARKETING KNOWLEDGE PROCESSES FACET = C
{c1. development in organizations with the objective of building marketing capabilities
{c2. dissemination

by stating whether the infrastructure is

{very effective
{effective
{neither effective nor ineffective
{ineffective
{very ineffective

according to an objective rule.
The above mapping sentence contains three major types of facets. These include the mapping (common) range, the population or background, and domain (content) facets. It is worth noting “each facet in the mapping sentence is specified as having a certain formal role. According to Guttman, the general hypothesis of Facet Theory is that the roles of the facets in a mapping sentence provide a rationale for a hypothesis of a correspondence between the definitions of the mapping sentence and an aspect of the observed distribution of the data” (Levy 1998; p. 302).

**B4: Facet theory questionnaire design**

In the literature one of the accepted procedures for developing questionnaire items is to explore previous works of the subject under study (Donald, 1995). The procedure provides a framework for developing questions, and ensuring that the project can build upon previous studies. According to Donald (1995) this procedure is acknowledged to be quite good description of the way in which questionnaires are developed in practice. However, he argued that this procedure is “not systematic, and does not ensue from a clear a priori definition of the research area of concern”, and that it is with this problem concerning normal practice for developing questionnaire items that FT makes a difference (Donald, 1995; p. 118). As a result in this study the mapping sentence, which prescribes the boundaries of the research, and defines the content universe, served as a template to generate questions for the study (Donald, 1995).

FT offers two approaches for developing questionnaire items, namely, sampling and covering items of the content universe as represented by a mapping sentence (Shye et al., 1994). Covering items is using the same terms employed as facet elements for questionnaire items, so that “the entire content profile (sub-universe) is essentially covered”. Constructing actual questionnaire items by using sampling items is where the researcher “taps or probes into a content universe without aiming to fully represent it” and such cases “quite a few sampling items may be needed to represent a given content universe satisfactorily” (Shye et al. 1994; p. 80-81). According to Shye et al. (1994) the advantage of sampling items is that “each sampling item focuses on a concrete observation, making it easier for respondents and researchers to relate to it at the observational stage…”(Shye et al. 1994; p. 81). This study
used both approaches to ensure that the content universe is fully represented and the same
time making it easier for respondents in the questionnaire items.

B4.1: Facet theory questionnaire development procedure
The FT questionnaire development procedure entails a template for observational questions,
structuples for questionnaire items, responses to the questionnaire, and recording of
responses. In the section below we offer further information on recording of responses.
Information on the other matters will be found in the pilot studies, as they practically
demonstrate how observational questions can be developed from the point of view of FT.

B4.2: Responses to questionnaire
The mapping range of the mapping sentence served as a template for “specifying in advance a
range of possible responses” for the observational questions of this study. The range of
responses indicated in the mapping sentence confers common meaning on the content
universe for this study and as such was suitable for developing Guttman’s scale (Guttman and
Greenbaum, 1998; Levy, 2005; Shye et al., 1994). The Guttman’s scale developed was aimed
at measuring the interrelationships between facets of the processes for developing and
disseminating marketing knowledge in organizations. Responses to questionnaire items were
given via a five-point Guttman’s rating scale.

"Guttman’s scale" is defined as a “highly specific pattern of observations that may be
hypothesised and tested. If confirmed, a scale in this sense becomes a theory on which
measurements can be based. If not confirmed, the concept is too complex for a single scale,
and one should turn to multiple scaling by partial-order scalogram analysis” (Shye et al.,
1994; pp.1–2). In short, Guttman’s scale provides a means for assessing whether a finite
collection of conceptually related variables (e.g. questionnaire items) represent a
unidimensional — and hence scalable — content (Guttman and Greenbaum, 1998).

B4.3: Recording of responses
As we noted above, the common range forms the basis for measurements with five
effectiveness criteria. For each of the five effectiveness criteria, the focused subject was
assigned a score, and the list of these scores formed the subject’s score profile, following
appropriate empirical observations. For convenience, the scores were listed in a pre-specified,
fixed order.

Empirical observations were more conveniently presented in a data matrix, wherein each row
lists the scores of a focused subject. A data matrix is “a rectangular array of observations in
which the entry in the $i$th row and the $j$th column specifies the score assigned to the $i$th subject on the $j$th variable" (Shye et al., 1994; p. 54). It is instructive to note that a particular profile may be shared by one, two, or more subjects or by no subject at all. The latter case implies that certain score combinations have not been observed in a particular population. This possibility of unobserved profiles may form the basis of an alternative class of structural hypotheses and constitutes an important feature in multivariate measurement by multiple scaling (Shye et al., 1994).

It is worth noting that, although the number of categories in sets would happen to be the same, their units are different and not comparable to each other. What is assumed, however, is that, within the range of each question, scores are ordered by the levels of effectiveness they represent in that question, so that if the higher numerical value represents higher effectiveness in one question, this would also be the case in all other questions and vice versa.
Appendix C: The first pilot study

C1: Developing the questionnaire for the first pilot study

The first mapping sentence (Appendix C2) was used as a template to develop questionnaire items for the first pilot study.

Stage 1 below shows the initial questionnaire development process by using the elements of facets in the mapping sentence to form structuples. Stage 2 shows the modified structuples in stage 1. Stage 3 represents the layout of the questionnaire piloted in Ghana in May 2008.

C2: Stage 1

An item belongs to the universe of marketing knowledge development and dissemination processes if, and only if, its domain asks a...

<table>
<thead>
<tr>
<th>No.</th>
<th>Questionnaire Items</th>
<th>Structuples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Practitioner (x) to evaluate the effectiveness of (a1) market-driven culture as a component of marketing knowledge infrastructure in (b1) enabling marketing knowledge (c1) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a1b1c1</td>
</tr>
<tr>
<td>2.</td>
<td>Practitioner (x) to evaluate the effectiveness of (a2) market-driven organizational structure as a component of marketing knowledge infrastructure in (b1) enabling marketing knowledge (c1) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a2b1c1</td>
</tr>
<tr>
<td>3.</td>
<td>Practitioner (x) to evaluate the effectiveness of (a3) market-driven strategy as a component of marketing knowledge infrastructure in (b1) enabling marketing knowledge (c1) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a3b1c1</td>
</tr>
<tr>
<td>4.</td>
<td>Practitioner (x) to evaluate the effectiveness of (a4) top management commitment as a component of marketing knowledge infrastructure in (b1) enabling marketing knowledge (c1) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a4b1c1</td>
</tr>
<tr>
<td>5.</td>
<td>Practitioner (x) to evaluate the effectiveness of (a5) managing organizational systems as a component of marketing knowledge infrastructure in (b1) enabling marketing knowledge (c1) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a5b1c1</td>
</tr>
<tr>
<td>6.</td>
<td>Practitioner (x) to evaluate the effectiveness of (a6) management interventions as a component of marketing knowledge infrastructure in (b1) enabling marketing knowledge (c1) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a6b1c1</td>
</tr>
<tr>
<td>7.</td>
<td>Practitioner (x) to evaluate the effectiveness of (a7) managing interdepartmental dynamics as a component of marketing knowledge infrastructure in (b1) enabling marketing knowledge (c1) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a7b1c1</td>
</tr>
</tbody>
</table>
| 8. | Practitioner (x) to evaluate the effectiveness of (a) market-driven culture as a component of marketing knowledge infrastructure in (b) enabling marketing knowledge (c) 
| 9. | Practitioner (x) to evaluate the effectiveness of (a) market-driven organizational structure as a component of marketing knowledge infrastructure in (b) enabling marketing knowledge (c) 
| 10. | Practitioner (x) to evaluate the effectiveness of (a) market-driven strategy as a component of marketing knowledge infrastructure in (b) enabling marketing knowledge (c) 
| 11. | Practitioner (x) to evaluate the effectiveness of (a) top management commitment as a component of marketing knowledge infrastructure in (b) enabling marketing knowledge (c) 
| 12. | Practitioner (x) to evaluate the effectiveness of (a) managing organizational systems as a component of marketing knowledge infrastructure in (b) enabling marketing knowledge (c) 
| 13. | Practitioner (x) to evaluate the effectiveness of (a) management interventions as a component of marketing knowledge infrastructure in (b) enabling marketing knowledge (c) 
| 14. | Practitioner (x) to evaluate the effectiveness of (a) managing interdepartmental dynamics as a component of marketing knowledge infrastructure in (b) enabling marketing knowledge (c) 
| 15. | Practitioner (x) to evaluate the effectiveness of (a) market-driven culture as a component of marketing knowledge infrastructure in (b) fostering marketing knowledge (c) 
| 16. | Practitioner (x) to evaluate the effectiveness of (a) market-driven organizational structure as a component of marketing knowledge infrastructure in (b) fostering marketing knowledge (c) 
| 17. | Practitioner (x) to evaluate the effectiveness of (a) market-driven strategy as a component of marketing knowledge infrastructure in (b) fostering marketing knowledge (c) 
<p>| 18. | Practitioner (x) to evaluate the effectiveness of (a) top management |</p>
<table>
<thead>
<tr>
<th>Practitioner (x) to evaluate the effectiveness of ((a_4)) managing organizational systems as a component of organizational knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</th>
<th>a5b2c1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) management interventions as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a6b2c1</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) managing interdepartmental dynamics as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) development with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a7b2c1</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) market-driven culture as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) dissemination with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a1b2c2</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) market-driven strategy as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) dissemination with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a3b2c2</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) top management commitment as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) dissemination with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a4b2c2</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) managing organizational systems as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) dissemination with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a5b2c2</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) managing organizational systems as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) dissemination with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a5b2c2</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) management interventions as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) dissemination with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a6b2c2</td>
</tr>
<tr>
<td>Practitioner (x) to evaluate the effectiveness of ((a_4)) managing interdepartmental dynamics as a component of marketing knowledge infrastructure in ((b_2)) fostering marketing knowledge ((c_2)) dissemination with the objective of building marketing capabilities, by stating whether the infrastructure is {very effective ... very ineffective} in accomplishing its goals.</td>
<td>a7b2c2</td>
</tr>
</tbody>
</table>
very ineffective} in accomplishing its goals.

Source: The Author Based on Multiple Sources, May 2008

C3: Stage 2

Questionnaire draft

(a1.) Market-driven culture

1) Would you assess the practice of instilling *market-driven culture* in organizations as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?

2) Would you assess the practice of instilling *market-driven culture* in organizations as effective or ineffective means of *enabling* marketing knowledge *dissemination* when building marketing capabilities?

3) Would you assess the practice of instilling *market-driven culture* in organizations as effective or ineffective means of *fostering* marketing knowledge *development* when building marketing capabilities?

4) Would you assess the practice of instilling *market-driven culture* in organizations as effective or ineffective means of *fostering* marketing knowledge *dissemination* when building marketing capabilities?

(a2) Market-driven organizational structure

5) Would you assess the creation of *market-driven organizational structure* as effective or ineffective means of *enabling* marketing knowledge *development* in organizations when building marketing capabilities?

6) Would you assess the creation of *market-driven organizational structure* as effective or ineffective means of *enabling* marketing knowledge *dissemination* in organizations when building marketing capabilities?

7) Would you assess the creation of *market-driven organizational structure* as effective or ineffective means of *fostering* marketing knowledge *development* in organizations when building marketing capabilities?

8) Would you assess the creation of *market-driven organizational structure* as effective or ineffective means of *fostering* marketing knowledge *dissemination* in organizations when building marketing capabilities?

(a3) Market-driven strategy

9) Would you assess the implementation of *market-driven strategy* in organizations as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?

10) Would you assess the implementation of *market-driven strategy* in organizations as effective or ineffective means of *enabling* marketing knowledge *dissemination* when building marketing capabilities?
11) Would you assess the implementation of market-driven strategy in organizations as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?

12) Would you assess the implementation of market-driven strategy in organizations as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?

(a4) Top-management commitment

13) Would you assess top management commitment to organizational knowledge initiatives as effective or ineffective means of enabling marketing knowledge development when building marketing capabilities?

14) Would you assess top management commitment to organizational knowledge initiatives as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

15) Would you assess top management commitment to organizational knowledge initiatives as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?

16) Would you assess top management commitment to organizational knowledge initiatives as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?

(a5) Managing organizational systems

17) Would you assess the practice of managing organizational systems as effective or ineffective means of enabling marketing knowledge development in organizations when building marketing capabilities?

18) Would you assess the practice of managing organizational systems as effective or ineffective means of enabling marketing knowledge dissemination in organizations when building marketing capabilities?

19) Would you assess the practice of managing organizational systems as effective or ineffective means of fostering marketing knowledge development in organizations when building marketing capabilities?

20) Would you assess the practice of managing organizational systems as effective or ineffective means of fostering marketing knowledge dissemination in organizations when building marketing capabilities?

(a6) Management interventions

21) Would you assess management intervention programs in organizations as effective or ineffective means of enabling marketing knowledge development when marketing capabilities?
22) Would you assess management intervention programs in organizations as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

23) Would you assess management intervention programs in organizations as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?

24) Would you assess management intervention programs in organizations as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?

(a7) Managing interdepartmental dynamics

25) Would you assess the practice of managing interdepartmental dynamics in organizations as effective or ineffective means enabling marketing knowledge development when building marketing capabilities?

26) Would you assess the practice of managing interdepartmental dynamics in organizations as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

27) Would you assess the practice of managing interdepartmental dynamics in organizations as effective or ineffective means fostering marketing knowledge development when building marketing capabilities?

28) Would you assess managing interdepartmental dynamics in organizations as effective or ineffective means fostering marketing knowledge dissemination when building marketing capabilities?

C4: Stage 3

Sample of questionnaire layout for pilot study

Section A

The questionnaire items below contain seven (7) management knowledge initiatives or practices that enable or foster marketing knowledge development and dissemination with the aim of building marketing capabilities in organizations. The seven items include: market-oriented culture, market-driven organizational structure, market-driven strategy, top management commitment, managing organizational systems, management interventions, and managing interdepartmental dynamics.

By using the scale below, please tell us the extent to which the above 7 factors effectively or ineffectively enable or foster marketing knowledge development and dissemination by placing a number in the box provided.

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very effective</td>
<td>Effective</td>
<td>Neither effective nor ineffective</td>
<td>Ineffective</td>
<td>Very ineffective</td>
</tr>
</tbody>
</table>
1) Would you assess the practice of instilling *market-driven culture* in organizations as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?

2) Would you assess the creation of *market-driven organizational structure* as effective or ineffective means of *enabling* marketing knowledge *development* in organizations when building marketing capabilities?

3) Would you assess the implementation of *market-driven strategy* in organizations as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?

4) Would you assess *top management commitment* to organizational knowledge initiatives as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?

5) Would you assess *managing organizational systems* in organizations as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?

6) Would you assess *management intervention* programs in organizations as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?

7) Would you assess *managing interdepartmental dynamics* in organizations as effective or ineffective means *enabling* marketing knowledge *development* when building marketing capabilities?

8) Would you assess the practice of instilling *market-driven culture* in organizations as effective or ineffective means of *enabling* marketing knowledge *dissemination* when building marketing capabilities?

9) Would you assess the creation of *market-driven organizational structure* as effective or ineffective means of *enabling* marketing knowledge *development* when building marketing capabilities?
knowledge dissemination in organizations when building marketing capabilities?

10) Would you assess the implementation of market-driven strategy in organizations as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

11) Would you assess top management commitment to organizational knowledge initiatives as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

12) Would you assess managing organizational systems in organizations as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

13) Would you assess management intervention programs in organizations as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

14) Would you assess managing interdepartmental dynamics in organizations as effective or ineffective means of enabling marketing knowledge dissemination when building marketing capabilities?

15) Would you assess the practice of instilling market-driven culture in organizations as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?

16) Would you assess the creation of market-driven organizational structure as effective or ineffective means of fostering marketing knowledge development in organizations when building marketing capabilities?

17) Would you assess the implementation of market-driven strategy in organizations as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?
18) Would you assess top management commitment to organizational knowledge initiatives as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?

19) Would you assess managing organizational systems in organizations as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?

20) Would you assess management intervention programs in organizations as effective or ineffective means of fostering marketing knowledge development when building marketing capabilities?

21) Would you assess managing interdepartmental dynamics in organizations as effective or ineffective means fostering marketing knowledge development when building marketing capabilities?

22) Would you assess the practice of instilling market-driven culture in organizations as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?

23) Would you assess the creation of market-driven organizational structure as effective or ineffective means of fostering marketing knowledge dissemination in organizations when building marketing capabilities?

24) Would you assess the implementation of market-driven strategy in organizations as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?

25) Would you assess top management commitment to organizational knowledge initiatives as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?
26) Would you assess managing organizational systems in organizations as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?

27) Would you assess management intervention programs in organizations as effective or ineffective means of fostering marketing knowledge dissemination when building marketing capabilities?

28) Would you assess managing interdepartmental dynamics in organizations as effective or ineffective means fostering marketing knowledge dissemination when building marketing capabilities?

Section B

Company Background Information

1) Company name:

2) What is your position in the company? Please tick of the following:
   (a) General Manager
   (b) Marketing Manager
   (c) Sales Manager
   (d) Other (Please give your position in the space provided)

3) What is the size of your company (in staff numbers)? Please, tick one of the boxes below.
   (a) Fewer than 20
   (b) Between 20 – 99
   (c) Over 100

4) Which of the following indicate the business of your organization?
   a) Manufacturing
   b) Services (Non Financial)
   c) Services (Financial)
   d) Other (Please, give a brief description)
Section C

Please, could you assess the questionnaire above by answering the questions below.

1. How long did it take you to complete?
2. Were the instructions clear?
3. Were any of the questions unclear or ambiguous? If so, will you say which and why?
4. Did you object to answering any questions?
5. In your opinion, has any major topic been omitted?
6. Was the layout of the questionnaire clear/attractive?
7. Any comments?
Appendix D: Report of the first pilot study

D1.0: Introduction

After analysing the data of the pilot study with the SPSS ALSCAL program, expert advice was sought to interpret the results of the ALSCAL solution. The interpretations were done in the light of the objectives of the pilot study (stated below) and Facet Theory properties.

D 2.0: Objectives

1. To check on the adequacy of questionnaire statements, and determine an appropriate strategy to maximize response rates.
2. To check the clarity and appropriateness of the questionnaire for a sample population who would be similar to those of the main study.
3. To analyse feedback from respondents in the form of suggestions based on their experience when completing the questionnaire items.
4. To determine whether there will be a correspondence between the conceptual mapping and the empirical mapping for marketing knowledge development and dissemination constructs.

D3.0: Background information

The data analysed was made up of respondents’ evaluations of an instrument designed to measure the interrelationships between facets of the processes for developing and disseminating marketing knowledge in organizations. These data were collected through a self-completed questionnaire, personally administered to marketing and general managers in Ghana. A covering letter was attached to the questionnaires explaining the objectives of the study, and requesting the general manager or a senior manager in charge of marketing and related tasks to fill out the questionnaire within two weeks, after which it would be picked up.

All organizations concerned were theoretically sampled to ensure that the sample included specifically marketing and general managers in manufacturing (industrial) and service industries (see Table D.2 below). This sample was based on a business directory, *Surf Yellow Pages Ghana: 2007 edition* (SURF Team, 2007).

In all 60 organizations were approached and 60 questionnaires were distributed. Out of the 60 questionnaires, 22 were retrieved indicating a response rate of 36.66% as shown Table E.1 below.
Of the 22 questionnaires that were retrieved, one was rejected because of too much missing data, which left 21 (35%) usable responses. All respondents included in the final data set were either marketing or general managers of the organizations concerned.

Table D.2: Size of company (in staff numbers)

<table>
<thead>
<tr>
<th>No.</th>
<th>Staff</th>
<th>No. of companies selected</th>
<th>% selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fewer than 20</td>
<td>6</td>
<td>27.27</td>
</tr>
<tr>
<td>2</td>
<td>20 – 99</td>
<td>3</td>
<td>13.64</td>
</tr>
<tr>
<td>3</td>
<td>Over 100</td>
<td>13</td>
<td>59.10</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008

Care also was taken to sample large as well as small organizations as shown in Table D.2 above. In Ghana, available data from the Registrar General indicates that 90% of companies registered are micro, small and medium enterprises. Generally, micro enterprises are defined as companies employing up to 5 employees; small enterprises employ between 6 and 29; and medium enterprises employ between 30 and 99 employees (Mensah, 2004). These estimates were based on UNIDO classification of enterprises in developing countries. The UNIDO classification has the following categories: Large – firms with 100+ workers; Medium – firms with 20–99 workers; Small – firms with 5–19 workers; and Micro – firms with < 5 workers (Quartey, 2001).

Considering the categorization of firms above based on UNIDO classification of enterprises in developing countries, it could be seen that more than half (13 respondents, 59%) were large firms as shown in Table D.2.
Table D.3 below indicates types of companies selected for the pilot study. The selection of different types and sizes of companies was to tap a wide range of experiences and perspectives in the course of the data collection (Kohli and Jaworski, 1999).

**Table D.3: Company types**

<table>
<thead>
<tr>
<th>No.</th>
<th>Organizations</th>
<th>No. selected</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Services</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Manufacturing</td>
<td>9</td>
<td>40.91</td>
</tr>
<tr>
<td>3</td>
<td>Missing Data</td>
<td>2</td>
<td>9.09</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008

**D4.0: Respondents' assessment of questionnaire items**

This section analyses the adequacy, clarity and appropriateness of questionnaire statements for the sample population. A total of 28 questionnaire items were generated covering the content universe of this study as represented by the mapping sentence, and presented to the sample population. The following criteria were used by respondents to assess questionnaire items:

1) Time it took to complete questionnaire
2) The clarity of instructions
3) The clarity of questionnaire items
4) Objection to answering questions
5) Omission of major topic
6) Layout of questionnaire
7) Respondents' comments

The analysis is based on section C of the first pilot study questionnaire. It provides feedback from respondents in the form of their experience when completing the questionnaire items.

**D4.1: Time to complete questionnaire**

Respondents were asked to indicate the time they took to complete the questionnaire. Table D.4 below represents their estimations.
Table D4: Time for completing questionnaire

<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than 30 minutes</td>
<td>5</td>
<td>22.72</td>
</tr>
<tr>
<td>2</td>
<td>30 minutes — 1 hour</td>
<td>13</td>
<td>59.09</td>
</tr>
<tr>
<td>3</td>
<td>More than 1 hour</td>
<td>3</td>
<td>13.64</td>
</tr>
<tr>
<td>4</td>
<td>Missing data</td>
<td>1</td>
<td>4.55</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008

From Table D4, out of 22 respondents 13 (59.09%) spent between 30 minutes and 1 hour to complete the questions, while 5 (22.72%) and 3 (13.64%) spent less than 30 minutes and more than an hour respectively. In sum, 18 out of 22 respondents spent up to 1 hour in completing the questionnaire.

D4.2: Clarity of instructions

The next issue that respondents were asked to assess was the clarity of questionnaire instructions. Table D.5 below indicates respondents’ assessment of the instructions.

Table D.5: Clarity of instructions

<table>
<thead>
<tr>
<th>No.</th>
<th>Instructions</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clear</td>
<td>17</td>
<td>77.27</td>
</tr>
<tr>
<td>2</td>
<td>Neither clear nor unclear</td>
<td>1</td>
<td>4.55</td>
</tr>
<tr>
<td>3</td>
<td>Unclear</td>
<td>3</td>
<td>13.64</td>
</tr>
<tr>
<td>4</td>
<td>Missing data</td>
<td>1</td>
<td>4.55</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008

From Table D.5, 17 (77.27%) out of 22 respondents indicated that the questionnaire instructions were clear. Three (13.64%) indicated that the instructions were not clear, and one (4.55%) indicated that the instructions were ambiguous (neither clear nor unclear).
D4.3: Clarity of questionnaire items

Respondents were asked to assess whether any of the questions were unclear or ambiguous and, if so, to give their reasons. Table D.6 represents their responses.

Table D.6: Clarity of questionnaire items

<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clear</td>
<td>7</td>
<td>31.82</td>
</tr>
<tr>
<td>2</td>
<td>Neither clear nor unclear</td>
<td>4</td>
<td>18.18</td>
</tr>
<tr>
<td>3</td>
<td>Unclear</td>
<td>6</td>
<td>27.27</td>
</tr>
<tr>
<td>4</td>
<td>Missing data</td>
<td>5</td>
<td>22.73</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008

From Table D.6, only 7 (31.82%) respondents indicated that the questionnaire was clear, while 4 (18.18%) and 6 (27.27%) indicated that the questionnaire was neither clear nor unclear, and unclear respectively. Five respondents did not give an indication of their assessment of the clarity of the questionnaire. In conclusion, it could be argued that the responses in Table D.6 raise questions about the clarity of the questionnaire content. This suggested that a second look had to be taken with regard to clarity of questionnaire items.

D4.4: Objection to answering questions

Respondents were asked to indicate whether they objected to answering any of the questionnaire items. Table D.7 represents their responses.

Table D.7: Objecting to answering questions

<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>5</td>
<td>22.73</td>
</tr>
<tr>
<td>2</td>
<td>Neither Yes nor No</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>13</td>
<td>59.09</td>
</tr>
<tr>
<td>4</td>
<td>Missing data</td>
<td>4</td>
<td>18.18</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008
With regard to respondents objecting to answering some questionnaire items, 13 (59.09%) said No, while 5 (22.73%) said Yes. 4 (18.18%) respondents did not respond to this question.

D4.5: Omission of major topic

Respondents were asked to indicate whether in their opinion any major topic related to objectives of the questionnaire had been omitted. Table D.8 below represents their responses.

**Table D.8: Omission of major topic**

<table>
<thead>
<tr>
<th>No.</th>
<th>Omission of topic</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>2</td>
<td>9.09</td>
</tr>
<tr>
<td>2</td>
<td>Neither Yes nor No</td>
<td>1</td>
<td>4.55</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>14</td>
<td>63.64</td>
</tr>
<tr>
<td>4</td>
<td>Missing data</td>
<td>5</td>
<td>22.73</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008

From Table D.8 only 2 (9.09%) gave affirmative responses, 14 (63.64%) gave No responses, and 1 (22.73%) said he does not know (neither yes nor no).

D4.6: Layout of questionnaire

Respondents were asked to indicate whether in their opinion the layout of the questionnaire was clear and attractive. Table D.9 below indicates their responses.

**Table D.9: Questionnaire layout**

<table>
<thead>
<tr>
<th>No.</th>
<th>Questionnaire layout</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>14</td>
<td>63.63</td>
</tr>
<tr>
<td>2</td>
<td>Neither Yes nor No</td>
<td>3</td>
<td>13.64</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>1</td>
<td>4.55</td>
</tr>
<tr>
<td>4</td>
<td>Missing data</td>
<td>4</td>
<td>18.18</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>
From Table D.9, 14 (63.63%) said Yes, only 1 (4.55%) responded No. Three (13.64%) responses were neither Yes nor No, while 4 (18.18%) did not give any response.

D4.7: Respondents’ comments

Respondents were asked if they had any comments on answering the questionnaire. Table D.10 below represents their responses.

Table D.10: Respondents’ comments

<table>
<thead>
<tr>
<th>No.</th>
<th>Comments on questionnaire</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>10</td>
<td>45.45</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>5</td>
<td>22.73</td>
</tr>
<tr>
<td>3</td>
<td>Missing Data</td>
<td>7</td>
<td>31.82</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

From Table D.10, ten (45.45%) said Yes, only 5 (22.73%) responded No, and 7 (31.82%) did not give any response. In sum, there was no clear indication of suggestions in their comments to be taken into consideration when modifying the content of this pilot study. As a result the comments were not reported here.

D5.0: Analysing and interpreting the ALSCAL solution of the first pilot study data

It is instructive to note that the ALSCAL solution to the data analysis and subsequent interpretation of the results were done in the light of the following:

- the first mapping sentence; and
- properties of facets (previously noted).

One of the rationales for the mapping sentence was that the literature reviewed provided all the key variables that exhaustively define the domain of concern. Secondly, the variables extracted represent facets of the processes for developing and disseminating marketing knowledge in organizations. These rationales as drawn from the literature justify the
conceptualizations of the content of the mapping sentence, which serves as the theoretical formulation for this study.

It is worth noting that the facets of marketing knowledge development and dissemination constructs as represented in the mapping sentence shows the inter-relationships between the facets and their elements. It is, therefore, hypothesised that:

- Facet A would play a polar (angular) role;
- Facet B would play a radial (modular) role; and
- Facet C would play an axial role.

D5.1: Facet A: Marketing knowledge infrastructure

Figure D.1 below represents elements of the Facet A partition of ALSCAL plot. As can be seen from the figure, there are four partitioned regions. These regions of Facet A were interpreted to be playing a polar (angular) role, which is an indication that it is an unordered facet. The interpretation of the polar partition of this facet meant that its element cut the space into sectors, by rays emanating from a common region, similar to cutting a pie into pieces.

Although Facet A partition is interpreted to be playing a polar role, it came up in the discussion that correspondence between the elements of the mapping sentence did not clearly reflect in the empirical data analysis. The reason for this non-correspondence is based on Guttman’s definition of theory. Guttman (1968) defined theory as a hypothesis of a correspondence between a definitional system for a universe of observations and an aspect of the empirical structure of those observations, together with rationale for such a hypothesis (Donald, 1995). Considering Guttman’s definition of theory in terms of this study implies that there should be correspondence between the conceptual mapping sentence and the empirical representation as shown in Figure D.1, but that the correspondence in this sense meant that, in the SPSS ALSCAL plot, an element of a facet is expected to be found in one distinctive region (based on the questionnaire items). For example, in Facet A we were expecting 7 distinctive partitioned regions on the ALSCAL plot representing the seven elements. However, we had only 4 regions. Region A has 3 elements, namely, market-driven culture, structure and strategy scrambled together, while in region D 2 elements ‘management intervention’ and ‘managing organizational systems’ could not be partitioned.
Figure D1: Partitioning of Facet A elements (elements of marketing knowledge infrastructure facet)

Source: Fieldwork, May 2008

A) CulED; CulFD; CulEDis; CulFDis/ StucED; StucEDis; StucFD; StrucFDis/ StraED; StraFD; StraEDis; StraFDis

B) TmcED; TmcFD/ TmcEDis; TmcFDis

C) ; MiED; MiFD/ MiEDis; MiFDis

D) MosED; MosFD/ MosEDis; MosFDis/ MidED; MidFD/ MidED; MidFDis

Table D11: Key to symbols used in figure D1

<table>
<thead>
<tr>
<th>FACET A ELEMENTS: Marketing Knowledge Infrastructure</th>
<th>FACET B ELEMENTS: Marketing knowledge Infrastructure goals</th>
<th>FACET C ELEMENTS: Marketing Knowledge Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cul = Market-driven culture</td>
<td>E = Enabling</td>
<td>D = Development</td>
</tr>
<tr>
<td>Struc = Market-driven culture</td>
<td>F = Fostering</td>
<td>Dis = Dissemination</td>
</tr>
<tr>
<td>Stra = Market-driven culture</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Two elements, top-management commitment and managing interdepartmental dynamics, were in two distinctive regions, namely, regions B and C respectively. Thus, the ALSCAL plot in Figure D.1 did not empirically support partitions of the Facet A elements. Despite this non-correspondence it came up in the discussion that respondents were able to identify a new facet which has two elements, namely, market-driven element(s), represented in region A. Regions B, C, and D combined to give the management-driven element. This observation of a new facet by respondents, which was not part of the first mapping sentence, would be taken into consideration when adjusting the mapping sentence. It is worth noting that the polar partition role of this facet would also be considered.

The new facet identified in essence represents another aspect of an organization’s orientation to the processes for developing and disseminating marketing knowledge. These observations by respondents are supported by the marketing and organizational behaviour literature, which perceives management of organizations as playing ‘enabling’ and ‘fostering’ roles or facilitative (market-driven) and controlling (management-driven) roles respectively when engaged in knowledge creating activities (Ichijo, 2004; Krogh et al., 2000; Kohli and Jaworski, 1999; Jaworski et al., 2001; Day, 1999b). Further information on these observations can be found in Chapter 3 of this study.

D5.2: Facet B: Marketing knowledge infrastructure goals

Partitioning of the ALSCAL plot by elements of Facet B was interpreted to be playing modular role, which looks like a set of concentric bands. It was expected that there would be two regions, representing the elements of Facet B, namely, “enabling” and “fostering” as marketing knowledge infrastructure goals. However, three regions were identified by the respondents. “Enabling” items were found in two regions, A and C respectively, while
“fostering” items were found in region B. In this respect, there was no clear support for Facet B elements partitioning the ALSCAL plot from the point of view of Facet Theory.

**Derived Stimulus Configuration**

Euclidean distance model

![Diagram of Euclidean distance model with regions A, B, and C labeled.]

Source: Fieldwork, May 2008

**Figure D2: Partitioning of Facet B elements (elements of knowledge infrastructure goal facet)**

SOURCE: Fieldwork

A) Edev2; Edev3; Edev5; edi3; edi4; edi7

B) Fdev1; Fdev2; Fdev3; Fdev4; Fdev5; Fdev6; Fdev7 fdi1; fdi2; fdi3; fdi4; fdi5; fdi6; fdi7

C) Edev1; Edev4; Edev6; Edev7 edi1 edis2; edis5; edi6;

ALSCAL plot partitions representing Facet B elements are shown in Figure D.2 above. Table D.12 below shows the interpretation of the symbols used in the figure. The interpretation should be read in the following order: Facet A Elements; Facet B; (marketing knowledge) and Facet C.
Table D12: Key to symbols used in Figure D2

<table>
<thead>
<tr>
<th>FACET B Elements</th>
<th>FACET C Elements</th>
<th>FACET A Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>E = Enabling</td>
<td>marketing</td>
<td>1 = Market-driven culture</td>
</tr>
<tr>
<td>F = Fostering</td>
<td>knowledge</td>
<td>2 = Market-driven structure</td>
</tr>
<tr>
<td>e = enabling</td>
<td>dev = Development</td>
<td>3 = Market-driven strategy</td>
</tr>
<tr>
<td>f = fostering</td>
<td>di = Dissemination</td>
<td>4 = Top-management commitment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = Managing organizational systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 = Management intervention</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 = Managing interdepartmental dynamics</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008

It is instructive to note that the discussion on the partitioning of Facet B elements indicated that “enabling” organizational context in essence denotes the facilitative role of management, which in the marketing literature is identified with market-driven orientation in an organization (Day, 1999b). “Fostering”, on the other hand, is identified with management efforts at driving markets by “influencing the structure of the market and/or the behaviour(s) of market players in a direction that enhances the competitive position of a business” (Jaworski et al., 2001; p. 45). As a consequence respondents might have misinterpreted ‘fostering’ and ‘enabling’ to mean the same thing, thus resulting in region A in Figure D.2.

It is of interest to note that “facilitating” acts as common synonym for “fostering” and “enabling”. In this sense the property of facet elements being mutually exclusive is not met with regard to Facet B elements for this pilot study. As such the two elements of Facet B (fostering and enabling) cannot be elements of Facet B at the same time from the point of view of Facet Theory. In effect, only one of these two elements can be used as an element of Facet B. Despite the lack of correspondence between elements of Facet B as represented in the mapping sentence and their ALSCAL plot partitioning, it is worth noting that the modular role of this facet would be considered when adjusting the mapping sentence for the main study.

D5.3: Facet C: Marketing knowledge processes

Facet C was interpreted to be an axial facet, and is represented on the ALSCAL plot as partitioning lines that cut the space into subspaces, which look like parallel stripes of a plane.
This facet (C) had two elements, namely, “developing” and “disseminating” marketing knowledge in organizations.

Figure D3: Partitioning of Facet C Elements (Elements of Marketing knowledge processes Facet)
Source: Fieldwork, May 2008

DEV = Marketing Knowledge Development Items
DIS = Marketing Knowledge Dissemination Items

Table D13: KEY TO SYMBOLS USED IN FIGURE D3

<table>
<thead>
<tr>
<th>Marketing knowledge infrastructure symbols</th>
<th>Knowledge infrastructure goals symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>c = Market-driven culture</td>
<td>e = enabling</td>
</tr>
<tr>
<td>s = Market-driven structure</td>
<td>f = fostering</td>
</tr>
<tr>
<td>st = Market-driven strategy</td>
<td></td>
</tr>
<tr>
<td>t = Top-management commitment</td>
<td></td>
</tr>
<tr>
<td>os = Managing organizational systems</td>
<td></td>
</tr>
<tr>
<td>mi = Management intervention</td>
<td></td>
</tr>
<tr>
<td>id = Managing interdepartmental dynamics</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2008
Like Facet B, the marketing knowledge processes facet (C) elements' empirical partitioning did not clearly support the structure of Facet C. However, the ALSCAL partitioning of this Facet C as parallel stripes would be considered when adjusting the mapping sentence.

**D6.0: Conclusion**

To conclude the discussion, two reasons may be given for the non-correspondence between the first mapping sentence and the ALSCAL plot's empirical partitions. First, it could be that the facets of the mapping sentence and questionnaire items were not specified correctly. Secondly, it might be that questionnaire items were not articulated clearly and as such respondents might have interpreted them in a different way. As result, efforts were made to adjust the mapping sentence with the assistance of an expert in order to improve the questionnaire items. The adjustment of the first mapping sentence resulted in two mapping sentences for the second and third pilot studies respectively.
Appendix E: Second pilot study

1) An item belongs to the universe of the processes for developing and disseminating marketing knowledge in organizations if, and only if, its domain asks the extent to which organization (x) evaluates ....

{FOCUS FACET = A }
{a1. market-oriented culture }
{a2. organic organizational structure }
{a3. learning-based strategy }
{a4. facilitative leadership }

as an organizational practice that

{SENSE FACET = B }
{b1. facilitates }

the achievement of marketing knowledge

{FACET = C }
{c1. development }
{c2. dissemination }

goals in organizations,

and its range is ordered

{RANGE FACE = R }
{Facilitates to a great extent }
{Facilitates to moderate extent }
{Neither facilitates nor hinders }
{Hinders to moderate extent }
{Hinders to great extent }

toward an objective rule.

E1: The second mapping sentence for the second pilot study

Source: The Author Based on Multiple Sources, April 2009

FACET A = Marketing knowledge infrastructure(s)

FACET B = Marketing infrastructure goal(s)

FACET C = Marketing knowledge process(es)

E2: Questionnaire design

Section A

Marketing knowledge infrastructure facilitating marketing knowledge development

1) The extent to which organization (x) evaluates {a1. market-oriented culture} as an organizational practice that {b1. facilitates} the achievement of marketing knowledge
2) The extent to which organization (x) evaluates {a2. organic organizational structure} as an organizational practice that {b1. facilitating} the achievement of marketing knowledge {c1. development} goals in organizations.

3) The extent to which organization (x) evaluates {a3. learning-based strategy} as an organizational practice that {b1. facilitating} the achievement of marketing knowledge {c1. development} goals in organizations.

4) The extent to which organization (x) evaluates {a4. facilitative leadership} as an organizational practice that {b1. facilitating} the achievement of marketing knowledge {c1. development} goals in organizations.

Section B
Marketing knowledge infrastructure facilitating marketing knowledge dissemination

5) The extent to which organization (x) evaluates {a1. market-oriented culture} as an organizational practice that {b1. facilitates} the achievement of marketing knowledge {c2. dissemination} goals in organizations.

6) The extent to which organization (x) evaluates {a2. organic organizational structure} as an organizational practice that {b1. facilitates} the achievement of marketing knowledge {c2. dissemination} goals in organizations.

7) The extent to which organization (x) evaluates {a3. learning-based strategy} as an organizational practice that {b1. facilitates} the achievement of marketing knowledge {c2. dissemination} goals in organizations.

8) The extent to which organization (x) evaluates {a4. facilitative leadership} as an organizational practice that {b1. facilitates} the achievement of marketing knowledge {c2. dissemination} goals in organizations.

Section C
Marketing knowledge infrastructure hindering marketing knowledge development

9) The extent to which organization (x) evaluates {a1. market-oriented culture} as an organizational practice that {b1. hinders} the achievement of marketing knowledge {c1. development} goals in organizations.

10) The extent to which organization (x) evaluates {a2. organic organizational structure} as an organizational practice that {b1. hinders} the achievement of marketing
knowledge (c1. development) goals in organizations.

11) The extent to which organization (x) evaluates (a3. learning-based strategy) as an organizational practice that (b1. hinders) the achievement of marketing knowledge (c1. development) goals in organizations.

12) The extent to which organization (x) evaluates (a4. facilitative leadership) as an organizational practice that (b1. hinders) the achievement of marketing knowledge (c1. development) goals in organizations.

Section D

Marketing knowledge infrastructure hindering marketing knowledge dissemination

13) The extent to which organization (x) evaluates (a1. market-oriented culture) as an organizational practice that (b1. hinders) the achievement of marketing knowledge (c2. dissemination) goals in organizations.

14) The extent to which organization (x) evaluates (a2. organic organizational structure) as an organizational practice that (b1. hinders) the achievement of marketing knowledge (c2. dissemination) goals in organizations.

15) The extent to which organization (x) evaluates (a3. learning-based strategy) as an organizational practice that (b1. hinders) the achievement of marketing knowledge (c2. dissemination) goals in organizations.

16) The extent to which organization (x) evaluates (a4. facilitative leadership) as an organizational practice that (b1. hinders) the achievement of marketing knowledge (c2. dissemination) goals in organizations.

E3: Operationalization of elements of marketing knowledge infrastructure (Facet A)

<table>
<thead>
<tr>
<th>FACET A ELEMENTS (VARIABLES)</th>
<th>MARKET-ORIENTED/KNOWLEDGE MANAGEMENT SCALE ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>a1. market culture</td>
<td>1) Monitoring our competitors’ marketing efforts regularly (Gray, et al., 1998)</td>
</tr>
<tr>
<td></td>
<td>2) Close collaboration among all departments to serve customers (Kuada and Buatsi, 2005)</td>
</tr>
<tr>
<td></td>
<td>3) Giving close attention to after-sales service (Slater and Narver, 1999).</td>
</tr>
<tr>
<td>a2. organic organizational structure</td>
<td>1) Organic organizational structure, where the individual value is known and valued (Deshpandé et al., 1999).</td>
</tr>
</tbody>
</table>
2) Organizational structure which is very dynamic and entrepreneurial place (Deshpandé et al., 1999).
3) Organization structured around market segments so responsibilities for serving market needs are well defined (Day, 1999b).

**a3. learning-based strategy**

1) Frequently collecting marketing data on our competitors to help direct our marketing plans (Gray et al., 1998).
2) Business strategies guided by shared beliefs about how to create value for customers (Day, 1999b).
3) Collaborative planning process with emphasis on creating integrated strategies (Day, 1999b).

**a4. facilitative leadership**

1) Leadership that supports the learning and development of employees (Crossan and Holland, 2001).
2) Leadership that encourages experimentation and innovation (Crossan and Holland, 2001).
3) Leadership that facilitates prototyping, benchmarking, and test marketing, and challenging spirit within the organization (Nonaka et al., 1994).

Source: The Author Based on Multiple Sources, April, 2009

**E4: Operationalization of elements of marketing knowledge processes (Facet C)**

<table>
<thead>
<tr>
<th>Marketing Knowledge Development Items</th>
<th>Marketing Knowledge Dissemination Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Processes for acquiring marketing knowledge (Gold et al., 2001).</td>
<td>1. Processes for distributing marketing knowledge throughout the organization (Gold et al., 2001).</td>
</tr>
<tr>
<td>2. Processes for generating marketing knowledge (Gold et al., 2001).</td>
<td>2. Processes for transferring marketing knowledge to individuals (Gold et al., 2001).</td>
</tr>
</tbody>
</table>

Source: The Author Based on Multiple Sources, April 2009

**E5: Questionnaire layout**

**Instruction:** The questionnaire items below assess the effectiveness of business practices as means of facilitating marketing knowledge development and dissemination in organizations.

In answering, use the following response scale and place the most appropriate number in the box provided. Please, respond to each statement.

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective to a great extent</td>
<td>Effective to a moderate extent</td>
<td>Neither effective nor ineffective</td>
<td>Ineffective to a moderate extent</td>
<td>Ineffective to a great extent</td>
</tr>
</tbody>
</table>

259
Section A: Marketing knowledge development items

(i) Processes of acquiring marketing knowledge

Question: To what extent would you evaluate the effectiveness of the following business practices as a means of facilitating the processes for acquiring marketing knowledge from your organization's point of view?

1) Organization-wide monitoring of competitors' marketing efforts regularly
2) Close collaboration among all departments to serve customers
3) Giving close attention to organization-wide after-sales service
4) Organic organizational structure, where the individual value is known and valued
5) Organizational structure which is very dynamic and entrepreneurial place
6) Organization structured around market segments to serve well defined market needs.
7) Frequently collecting marketing data on competitors to help direct marketing plans
8) Business strategies guided by shared beliefs about how to create value for customers
9) Emphasising collaborative planning process to creating integrated strategies
10) Leadership that supports the learning and development of employees.
11) Leadership that encourages experimentation and innovation.
12) Leadership that facilitates prototyping, benchmarking, test marketing, and challenging spirit within the organization.

(ii) Processes for generating marketing knowledge

Question: To what extent would you evaluate the effectiveness of the following business practices as a means of facilitating the processes for generating marketing knowledge from your organization's point of view?

13) Organization-wide monitoring of competitors' marketing efforts regularly
14) Close collaboration among all departments to serve customers
15) Giving close attention to organization-wide after-sales service

16) Organic organizational structure, where the individual value is known and valued

17) Organizational structure which is very dynamic and entrepreneurial place

18) Organization structured around market segments to serve well defined market needs.

19) Frequently collecting marketing data on competitors to help direct marketing plans

20) Business strategies guided by shared beliefs about how to create value for customers

21) Emphasising collaborative planning process to create integrated strategies

22) Leadership that supports the learning and development of employees.

23) Leadership that encourages experimentation and innovation.

24) Leadership that facilitates prototyping, benchmarking, test marketing, and challenging spirit within the organization.

Section B: Marketing knowledge dissemination items

(iii) Processes for distributing marketing knowledge

Question: To what extent would you evaluate the effectiveness of the following business practices as a means of facilitating the processes for distributing marketing knowledge throughout an organization from your point of view?

25) Organization-wide monitoring of competitors’ marketing efforts regularly

26) Close collaboration among all departments to serve customers

27) Giving close attention to organization-wide after-sales service

28) Organic organizational structure, where the individual value is known and valued.

29) Organizational structure which is very dynamic and entrepreneurial place
30) Organization structured around market segments to serve well defined market needs.

31) Frequently collecting marketing data on competitors to help direct marketing plans.

32) Business strategies guided by shared beliefs about how to create value for customers.

33) Emphasising collaborative planning process to create integrated strategies.

34) Leadership that supports the learning and development of employees.

35) Leadership that encourages experimentation and innovation.

36) Leadership that facilitates prototyping, benchmarking, test marketing, and challenging spirit within the organization.

(iv) Processes for transferring marketing knowledge

Question: To what extent would you evaluate the effectiveness of the following business practices as a means of facilitating the processes for transferring marketing knowledge to individuals/groups/departments in an organization from your point of view?

37) Organization-wide monitoring of competitors' marketing efforts regularly

38) Close collaboration among all departments to serve customers

39) Giving close attention to organization-wide after-sales service

40) Organic organizational structure, where the individual value is known and valued

41) Organizational structure which is very dynamic and entrepreneurial place

42) Organization structured around market segments to serve well defined market needs.

43) Frequently collecting marketing data on competitors to help direct marketing plans

44) Business strategies guided by shared beliefs about how to create value for customers

45) Emphasising collaborative planning process to create integrated strategies
46) Leadership that supports the learning and development of employees.

47) Leadership that encourages experimentation and innovation.

48) Leadership that facilitates prototyping, benchmarking, test marketing, and challenging spirit within the organization.

E6: Second pilot study report

It is sufficient to say that in the second pilot study the ALSCAL program solution did not support the mapping sentence. As a consequence the second mapping sentence was abandoned. However, the analysis and results of respondents' assessment of questionnaire items of this second pilot study were considered when developing questionnaire items for the main study.
Appendix F: Third pilot study

An item belongs to the universe of the processes for developing and disseminating marketing knowledge in organizations if, and only if, its domain asks ...

Organization (x) to evaluate the effectiveness of

Facet A: Marketing knowledge approach
\{a1: market-driven \} style that impacts on 
\{a2: management-driven \}

Facet B: Marketing knowledge Infrastructure
\{b1: culture \}
\{b2: structure \}
\{b3: strategy \}
\{b4: systems \}
\{b5: interdepartmental dynamics \}

Facet C: Marketing knowledge processes
\{c1: develop \}
\{c2: disseminate \}

building marketing capabilities will be \{effective \} 
\{ineffective \}

F1: The third mapping sentence for the 3rd pilot study

Source: The Author Based on Multiple Sources, May 2009

F2: Questionnaire design

Table F.1: Structuples of the mapping sentence

<table>
<thead>
<tr>
<th>No.</th>
<th>Structuples</th>
<th>Structuple items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a1 b1 c1</td>
<td>The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b1: culture} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.</td>
</tr>
<tr>
<td>2</td>
<td>a1b2c1</td>
<td>The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b2: structure} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.</td>
</tr>
<tr>
<td>3</td>
<td>a1b3c1</td>
<td>The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b3: strategy} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.</td>
</tr>
</tbody>
</table>
|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b4: organizational system} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b5: interdepartmental dynamics} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b1: culture} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b2: structure} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b3: strategy} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b4: organizational system} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b5: interdepartmental dynamics} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b1: culture} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b2: structure} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b3: strategy} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b4: organizational system} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b5: interdepartmental dynamics} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.

|   |   | The effectiveness with which company (x) engages in {a1: market-driven} style that impacts on {b4: organizational system} of a company in order to {c1: develop} marketing knowledge with a view to building marketing capabilities will be **effective ... ineffective**.
driven) style that impacts on {b1: culture} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.

The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b2: structure} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.

The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b3: strategy} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.

The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b4: organizational system} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.

The effectiveness with which company (x) engages in {a2: management-driven} style that impacts on {b5: interdepartmental dynamics} of a company in order to {c2: disseminate} marketing knowledge with a view to building marketing capabilities will be {effective ... ineffective}.

Source: The Author Based on Multiple Sources, May 2009

F3: Questionnaire layout

Section A: Market-driven and Management-driven items

INSTRUCTION: The questionnaire items below assess the effectiveness of how market- and management-driven practices facilitate marketing knowledge development and dissemination in organizations when building marketing capabilities.

In answering the questions, use the following response scale and place the most appropriate number in the box provided. Please, respond to each statement.

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective to a great extent</td>
<td>Effective to a moderate extent</td>
<td>Neither effective nor ineffective</td>
<td>Ineffective to a moderate extent</td>
<td>Ineffective to a great extent</td>
</tr>
</tbody>
</table>

Market-driven items

QUESTION: How would you assess the effectiveness of the following market-driven practices as a means of facilitating marketing knowledge development when building marketing capabilities from your company's point of view?

1) Serving market needs by encouraging informal collaboration among departments to monitor and understand market trends

2) Structuring an organization around market segments to serve
well defined market needs

3) Involving all departments in learning-based strategic planning process guided by shared beliefs about creating value for customers

4) Encouraging both departments and individuals to understand where all activities fit in an organization

5) Encouraging informal interaction among individuals and departments within an organization

Question: From your company’s point of view, would you assess the following market-driven practices as effective or ineffective means for facilitating marketing knowledge dissemination when building marketing capabilities in organizations?

6) Serving market needs by encouraging informal collaboration among departments to monitor and understand market trends

7) Structuring an organization around market segments to serve well defined market needs

8) Involving all departments in learning-based strategic planning process guided by shared beliefs about creating value for customers

9) Encouraging both departments and individuals to understand where all activities fit in the organization

10) Encouraging informal interaction among individuals and departments within an organization

Management-driven items

Question: To what extent would you evaluate the effectiveness of the following management-driven practices as a means of facilitating marketing knowledge development when building marketing capabilities from your company’s point of view?

11) Serving market needs by controlling collaboration among departments to monitor and understand market trends

12) Structuring an organization according to rules and hierarchy of reporting relationships to serve market needs

13) Controlling how both individuals and departments could participate in the strategic planning process to create value for markets.

14) Controlling how departments and individuals could have access to where activities fit in the organization.
15) Formalizing how individuals and departments could interact within the organization

Question: Would you assess the following management-driven practices as effective or ineffective means for facilitating marketing knowledge dissemination when building marketing capabilities from your company’s point of view?

16) Serving market needs by controlling collaboration among departments to monitor and understand market trends

17) Structuring an organization based on rules and hierarchy of reporting relationships to serve market needs

18) Controlling how both individuals and departments could participate in the strategic planning process to create value for markets.

19) Controlling how departments and individuals could have access to where activities fit in the organization.

20) Formalizing how individuals and departments could interact among within the organization

Section B: Relationship between Facet B elements

INSTRUCTION: The questionnaire items below assess how you would characterise the relationship between the business practices/structures listed below from your company point of view.

In answering the questions, use the following response scale and place the most appropriate number in the box provided. Please, respond to each statement.

1  2  3  4  5

Negative to a Negative to a Neither negative Positive to a Positive to a
great extent moderate extent nor positive moderate extent great extent

Question: How would you evaluate the relationship between the following business practices or structures from your company point of view?

1) Company culture and Organizational Structure

2) Company culture and Corporate Strategy

3) Company culture and Organizational Systems

4) Company culture and Interdepartmental Relationships

5) Organizational Structure and Corporate Strategy

268
Section C: Company approach to marketing knowledge development and dissemination

Instruction: Please, select one of the following that best describes your company approach to marketing knowledge development and dissemination.

In answering the questions, use the following response scale and place the most appropriate number in the box provided. Please, respond to each statement.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management driven to a great extent</td>
<td>Management driven to a moderate extent</td>
<td>Neither management-driven nor market-driven</td>
<td>Market-driven to a moderate extent</td>
<td>Market-driven to a great extent</td>
</tr>
</tbody>
</table>

In answering the questions, use the above response scale and place the most appropriate number in the box provided. Please, respond to each statement.

1) Would you consider your company’s marketing knowledge development activities to be management-driven or market-driven when building marketing capabilities? [ ]

2) Would you consider your company’s marketing knowledge dissemination activities to be management-driven or market-driven when building marketing capabilities? [ ]

Section D: Interrelationship between marketing knowledge development and dissemination constructs

Instruction: Please, select one of the following that best describes how marketing knowledge development and dissemination activities are viewed in your organization.

In answering the question, use the following response scale and place the most appropriate number in the box provided. Please, respond to the statement.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complementary</td>
<td>Complementary</td>
<td>Neither</td>
<td>Incompatible</td>
<td>Incompatible</td>
</tr>
</tbody>
</table>
to great extent to moderate extent complementary nor nor extent extent extent

1. Would you evaluate marketing knowledge development and marketing knowledge dissemination activities as complementary or un-complementary in your organization?

Section E: Company Background Information

5) Company name:

6) What is your position in the company? Please tick of the following:
   - (e) General Manager
   - (f) Marketing Manager
   - (g) Sales Manager
   - (h) Other (Please give your position in the space provided)

7) What is the size of your company (in staff numbers)? Please, tick one of the boxes below.
   - (d) Fewer than 20
   - (e) Between 20 – 99
   - (f) Over 100

8) Which of the following indicate the business of your organization?
   - a) Manufacturing
   - b) Services (Non Financial)
   - c) Services (Financial)
   - d) Other (Please, give a brief description)

Section F: Please, could you assess the questionnaire above by answering the questions below.

1. How long did it take you to complete?
2. Were the instructions clear?
3. Were any of the questions unclear or ambiguous? If so, will you say which and why?
4. Did you object to answering any questions?
5. In your opinion, has any major topic been omitted?
6. Was the layout of the questionnaire clear/attractive?
7. Any comments?
Appendix G: Report of the third pilot study

G1: Background information

In all 30 organizations were approached and 50 questionnaires were distributed. Out of the 50 questionnaires, 21 were retrieved indicating a response rate of 42% as shown Table G.1 below.

Table G.1: Distribution of respondents

<table>
<thead>
<tr>
<th>Organizations</th>
<th>Questionnaires distributed</th>
<th>Retrieved</th>
<th>% of respondents</th>
<th>Usable responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>50</td>
<td>21</td>
<td>42</td>
<td>21</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

Table G.2 below summarises the size of organizations as indicated by number of employees sampled for the third pilot study. Interpreting the size of organizations sampled in the light of UNIDO classification of enterprises in developing countries, it can be argued that majority of the sampled population were large firms 17 (80.95%). From the table only 4 (3+1) representing 19.05% (14.29% + 4.76%) of the firms were not within the large-firms category.

Table G.2: Size of company (in staff numbers)

<table>
<thead>
<tr>
<th>No.</th>
<th>Staff</th>
<th>No. of companies selected</th>
<th>% selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fewer than 20</td>
<td>3</td>
<td>14.29</td>
</tr>
<tr>
<td>2</td>
<td>20 — 99</td>
<td>1</td>
<td>4.76</td>
</tr>
<tr>
<td>3</td>
<td>Over 100</td>
<td>17</td>
<td>80.95</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

In addition, different types of companies were selected as shown in Table G.3 below. The selection of different types and sizes of companies was to tap a wide range of experiences and perspectives in course of the data collection (Kohli and Jaworski, 1999).
Table G.3: Company types

<table>
<thead>
<tr>
<th>No.</th>
<th>Organizations</th>
<th>No. selected</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Services</td>
<td>16</td>
<td>76.19</td>
</tr>
<tr>
<td>2</td>
<td>Manufacturing</td>
<td>5</td>
<td>23.81</td>
</tr>
<tr>
<td>3</td>
<td>No response</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

G2: Respondents' assessment of questionnaire items

This section analyses the adequacy, clarity and appropriateness of instructions and questionnaire statements for the sampled population. The analysis is based on section C of the pilot study and it provides feedback from respondents’ experience when completing the questionnaire.

A total of 20 questionnaire items were generated, covering the content universe of the third mapping sentence and presented to the sample. Sections B and C comprised 12 questions. These sections were added to understand how respondents would characterise the inter-relationships between marketing knowledge infrastructure and marketing knowledge approach elements as aspects of the processes for developing and disseminating marketing knowledge in organizations. What follows are the analyses of the feedback from respondents.

Time to complete questionnaire

Respondents were asked to indicate the time they took to complete the questionnaire. Table G.4 below represents their estimation of the time involved in completing the questionnaire.

Table G.4: Time for completing questionnaire

<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than 30 minutes</td>
<td>9</td>
<td>42.86</td>
</tr>
<tr>
<td>2</td>
<td>30 minutes</td>
<td>5</td>
<td>23.81</td>
</tr>
<tr>
<td>3</td>
<td>Between 30 minutes and 1 hour</td>
<td>2</td>
<td>9.52</td>
</tr>
<tr>
<td>No.</td>
<td>Instructions</td>
<td>Responses (frequencies)</td>
<td>Responses (percentages)</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------</td>
<td>-------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Clear</td>
<td>19</td>
<td>90.48</td>
</tr>
<tr>
<td>2</td>
<td>Neither clear nor unclear</td>
<td>1</td>
<td>4.76</td>
</tr>
<tr>
<td>3</td>
<td>Unclear</td>
<td>1</td>
<td>4.76</td>
</tr>
<tr>
<td>4</td>
<td>No response</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

From Table G.5, 19 (90.48%) out of 21 respondents indicated that the questionnaire instructions were clear. Only 1 respondent (4.76%) indicated that the instructions were not clear, while another 1 (4.76%) indicated that the instructions were neither clear nor unclear.

Clarity of questionnaire items
Respondents were asked to assess whether any of the questions were unclear or ambiguous and, if so, to give their reasons. Table G.6 represents their responses.

**Table G.6: Clarity of questionnaire items**

<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clear</td>
<td>14</td>
<td>66.67</td>
</tr>
<tr>
<td>2</td>
<td>Neither clear nor unclear</td>
<td>1</td>
<td>4.76</td>
</tr>
<tr>
<td>3</td>
<td>Unclear</td>
<td>4</td>
<td>19.05</td>
</tr>
<tr>
<td>4</td>
<td>No response</td>
<td>2</td>
<td>9.52</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

From Table G.6, 14 (66.67%) respondents indicated that the questionnaire were clear, while 4 (19.05) and 1 (4.76%) respondents indicated that the questionnaire items were unclear, and neither clear nor unclear, respectively. Two (9.52%) respondents did not give any indication of their assessment of the clarity of the questionnaire items. In conclusion, it can be argued that questionnaire items were clear to the majority of respondents.

Objection to answering questions

Respondents were asked to indicate whether they objected to answering any of the questionnaire items. Table G.7 represents their responses.

**Table G.7: Objecting to answering questions**

<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>2</td>
<td>9.52</td>
</tr>
<tr>
<td>2</td>
<td>Neither Yes nor No</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>19</td>
<td>90.48</td>
</tr>
<tr>
<td>4</td>
<td>No response</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
With regard to respondents' objecting to answering some questionnaire items, 19 (90.48%) said No, while only 2 (9.52%) said Yes. It can, therefore, be argued that 90% who did not object to answering the questionnaire items implicitly support the statement that the items were clear to the majority of the respondents.

Omission of major topic

Respondents were asked to indicate whether in their opinion any major topic related to objectives of the questionnaire has been omitted. Table G.8 below represents their responses.

Table G.8: Omission of major topic

<table>
<thead>
<tr>
<th>No.</th>
<th>Omission of topic</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>4</td>
<td>19.05</td>
</tr>
<tr>
<td>2</td>
<td>Neither Yes nor No</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>14</td>
<td>66.67</td>
</tr>
<tr>
<td>4</td>
<td>No response</td>
<td>3</td>
<td>14.29</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

From Table G.8, only 4 (19.05%) gave affirmative responses, 14 (66.67%) indicated No, and 3 (14.29%) did not respond to the question.

Layout of questionnaire

Respondents were asked to indicate whether in their opinion the layout of the questionnaire was clear and attractive. Table G.9 below indicates their responses.

Table G.9: Questionnaire layout

<table>
<thead>
<tr>
<th>No.</th>
<th>Questionnaire layout</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>21</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Neither Yes nor No</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>No response</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
From Table G.9, it could be seen that all the respondents affirmed that the questionnaire layout was clear.

Respondents' comments

Respondents were asked if they have any comments on answering the questionnaire. Table G.10 below represents their responses.

Table G.10: Respondents' comments

<table>
<thead>
<tr>
<th>No.</th>
<th>Comments on questionnaire</th>
<th>Responses (frequencies)</th>
<th>Responses (percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>8</td>
<td>38.09</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>6</td>
<td>28.57</td>
</tr>
<tr>
<td>3</td>
<td>No response</td>
<td>7</td>
<td>33.33</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>

The comments include the following:

1. I think the responses provided for some of the questions are loaded. You need to simplify them to make them more meaningful and also avoid a situation where the responses might be given different interpretation.
2. Credit to design and effectiveness of the researcher.
3. Research outcome could be very exciting.
4. Will you be offering services to organizations in terms of organizational practices for market knowledge dissemination?
5. I'm also learning greatly from this exercise.
6. A very detailed marketing oriented questionnaire.
7. I wish you all the best.
8. I wish you well in your studies.
Conclusion: Considering respondents' overall assessment of the adequacy, clarity of questionnaire items, and appropriateness of instructions on sample population, it can be argued that their assessment were significantly positive.

G3: Method

G3.1: Data collection

This section covers analysis of the field data collected from organizations in Ghana. The third mapping sentence served as a template for questionnaire items of the third pilot study. The structuples of the mapping sentence and questionnaire items generated are found in Appendix G1 to G3. The questionnaire consisted of self-completed items, and was administered to marketing and general managers in Ghana and collected personally. A covering letter was attached to the questionnaire explaining the objectives of the study and requesting the general manager or manager in charge of marketing and related tasks to fill in the questionnaire within two weeks, after which it was picked up.

All organizations concerned were theoretically sampled to ensure that the sample included specifically marketing and general managers in manufacturing (industrial) and service industries (see Table G.2 above). This sample was based on a business directory, Surf Yellow Pages Ghana: 2007 edition (SURF Team, 2007). As previously noted 30 organizations were approached and 50 questionnaires were distributed.

G3.2: Data analysis

The data was analysed using the non-metric MDS procedure, SPSS Scale program called ALSCAL. The ALSCAL program begins by calculating the association coefficients between each pair of questionnaire items. It then represents the items as points in an n-dimensional space such that the rank of the distances between the points is the inverse of the rank of the inter-item association coefficients. Thus, the closer together two points are in the space, the higher their positive association. The program also provides a measure of the ‘goodness of fit’ between the rank order of the association coefficients and the rank order of their spatial representation. This measure, the coefficient of alienation, or the stress measure (in the language of SPSS ALSCAL program), is usually considered acceptable when it is not more than 0.2 (Hair et al., 2006; Donald, 1994). Alternatively, the SPSS ALSCAL program offers a squared correlation index, sometimes used as index of fit ($R^2$ measure). The $R^2$ measure is usually acceptable when it is .60 or better (Hair et al., 2006). The ALSCAL plot is then
partitioned by the investigator by identifying regions that share an element of a facet in common. Thus, the elements of a facet are empirically validated if a region on the plot exists for them.

The data analysis reported here is the full 20 questionnaire items administered to Ghanaian business respondents. The aim of this analysis was to establish the overall multivariate faceted structure of the processes for developing and disseminating marketing knowledge in organizations (the mapping sentence).

G4: SPSS ALSCAL analysis of the full item set

The SPSS ALSCAL program solution has Stress measure 0.15746 and squared correlation (RSQ) = .87969, which are acceptable.

G4.1 Facet A: Marketing knowledge approach

The projection of the ALSCAL plot shown in Figure G.1 is partitioned by the elements of the marketing knowledge approach facet (A). As can be seen from Figure G.1, there are two clear partitioned regions in accordance with the elements of Facet A. Region \( a_1 \) represents market-driven items, while region \( a_2 \) contains management-driven items. The clear partitioning of Facet A (marketing knowledge approach) elements empirically indicates a robust support for this facet. This is because the partitioning is simple with a smooth cutting line that characterizes the role of the facet that induces the regions without item deviations (Borg and Groenen, 2005).

From the point of view of Facet Theory, the partition of Facet A elements is characterized as an ordered facet and playing an axial role in that the notion of order among its elements is unrelated to elements in other facets of the mapping sentence (Borg and Groenen, 2005; Dancer, 1990). This implies that the facet is conceptually independent (Dancer, 1990). The axial role of Facet A is further evident as each element of the facet corresponds to a distinct region in the ALSCAL space (regions \( a_1 \) and \( a_2 \)), and collectively the regions are vertically aligned in the space in contiguous, parallel strips (Dancer, 1990).

Furthermore, the clear partitioning indicates that there is a correspondence between elements of Facet A of the mapping sentence and the empirical data. The notion of this correspondence is based on Guttman's definition of theory. Guttman (1968) defined theory as a hypothesis of a correspondence between a definitional system for a universe of observations and an aspect
of the empirical structure of those observations, together with rationale for such a hypothesis. Considering Guttman’s definition of theory in terms of the SPSS ALSCAL solution for Facet A, it was expected that an element of this facet would be found in one distinctive region. This was the case for Facet A elements with two distinct regions in the plot as shown in Figure G.1.

**Derived Stimulus Configuration**

![Euclidean distance model](image)

**Figure G.1: Partitioning of Facet A elements (elements of marketing approach facet)**

Source: Fieldwork, May 2009

**Table G.11: Key to symbols used figure G.1**

<table>
<thead>
<tr>
<th>Facet A elements</th>
<th>Items for facet a elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-driven, a1</td>
<td>a1, a2, a3, a4, a5, a6, a7, a8, a9, a10</td>
</tr>
<tr>
<td>Management driven, a2</td>
<td>a11, a12, a13, a14, a15, a16, a17, a18, a19, a20</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009
G4.2: Facet B: Marketing knowledge infrastructure

A second projection of the ALSCAL plot as shown in Figure G.2 has not been partitioned in relation to the elements of marketing knowledge infrastructure facet (B). The partitioning of the elements of this facet (B) was expected to play a polar role. But because the ALSCAL solution has only two dimensions it was not appropriate for this polar partitioning and interpretation. It is of interest to note that with the help of HUDAP SSA software this facet (B) data was later analysed. The SSA plot partitioning of Facet B elements, which is found in Chapter 6 of the main study, supported the polar role expected of this facet.

Derived Stimulus Configuration

Euclidean distance model

Figure G.2: Partitioning of Facet B elements (elements of marketing knowledge infrastructure facet)

Source: Fieldwork May 2009
Table G.12: Key to symbols used figure H.2

<table>
<thead>
<tr>
<th>Facet B elements</th>
<th>Items for Facet A Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture, b1</td>
<td>b1, b6, b11, b16,</td>
</tr>
<tr>
<td>Structure, b2</td>
<td>b2, b7, b12, b17</td>
</tr>
<tr>
<td>STRATEGY, b3</td>
<td>b3, b8, b13, b18</td>
</tr>
<tr>
<td>Organizational systems, b4</td>
<td>b4, b9, b14, b19</td>
</tr>
<tr>
<td>INTERDEPARTMENTAL DYNAMICS, b5</td>
<td>b5, b10, b15, b20</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

G4.3: Facet C: Marketing knowledge processes

Figure G.3 projects the marketing knowledge processes (Facet C) elements, namely, marketing knowledge development and dissemination items, onto a space.

Derived Stimulus Configuration

Source: Fieldwork, May 2009

Figure G.3: Partitioning of Facet C Elements (Elements of marketing knowledge processes Facet)
Table G.13: Key to symbols used figure H.3

<table>
<thead>
<tr>
<th>Facet C Elements</th>
<th>Items for Facet A Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development, c1</td>
<td>c1, c2, c3, c4, c5, c11, c12, c13, c14, c15</td>
</tr>
<tr>
<td>Dissemination, c2</td>
<td>c6, c7, c8, c9, c10, c16, c17, c18, c19, c20</td>
</tr>
</tbody>
</table>

Source: Fieldwork, May 2009

Facet C can be interpreted to be ordered and playing a modular role, which looks like a set of concentric bands (Borg and Groenen, 2005). As one can observe there are two clear partitions, c1 (development) and c2 (dissemination), for the two elements of the knowledge processes facet (Facet C). The clear partitioning of Facet C elements indicates that there is empirical support for this facet.

Two items, c3 and c6, appear to be misplaced with regard to the regions they occupy. Donald (1994) has pointed out that “while arguments could be proposed as to why this may be the case, suffice it to say that it is rare to find all items, without exception, in the ‘correct’ region, indeed the mislocation of only two items is in fact encouraging and a matter of little concern” (p. 248).

G5: Discussion and conclusion

Overall the results of the third pilot study supported the facets proposed in the mapping sentence. There are three key facets of the processes for developing and disseminating marketing in organizations: marketing knowledge approach, marketing knowledge infrastructure, and marketing knowledge processes. To conclude, the results provide an insight into the way Ghanaian organizations evaluate the facets of the processes for developing and disseminating marketing knowledge in organizations. There is a clear structure of these processes as the empirical support for the adjusted mapping sentence illustrates.