The Pennsylvania State University

The Graduate School

College of Education

FORECASTING THE COMPETENCIES THAT WILL DEFINE

"BEST-IN-CLASS" BUSINESS-TO-BUSINESS MARKET

MANAGERS: AN EMERGENT DELPHI-HYBRID COMPETENCY

FORECASTING MODEL

A Thesis in

Workforce Education and Development

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

December 2003

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Abstract

First, this study sought to generate and critically analyze a concise, systematic and rigorous multi-method approach to future-oriented competency modeling. The next phase involved using this hybrid methodology and with the help of top business market management experts around the world, develop a model that will profile exemplary business-to-business market managers five years into the future. A prospective naturalistic inquiry methodology centered on a pragmatic inductive analysis approach was used because of the exploratory nature of this study. Such an approach allowed for a tremendous amount of flexibility and tolerated slight adjustments of the study's design based on the data: the researcher could look into new directions that had not been originally anticipated. This research was conducted using a modified Delphi technique where the initial Delphic instrument was designed using a literature review, interviews and expert review panels.

Business marketing practitioners, educators and researchers were consulted in the pre-Delphic stages of the study. All these individuals were selected based on variants of purposeful sampling approaches. Prior to the Delphi, a prelusive competency model was developed through an environmental scanning process conducted simultaneously with a literature review supplemented with a series of review panels composed of business market management practitioners and researchers. All the members of these panels were attendees of ISBM educator consortium meetings that took place in Atlanta (Georgia); Pittsburgh (Pennsylvania) and State College (Pennsylvania). Prior to being sent to the Delphic panelists, the first iteration instrument was scrutinized by 27 survey researchers who were asked to critique the clarity of the instructions, the functionality of

the layout and to identify flaws such as loaded questions, double barrel statements and so forth.

The Delphi panelists were selected using a purposive non-probabilistic dual-stage stratified sampling technique mixed with a snowball approach. Initially, 25 experts from each group (educators and practitioners) with expertise in over a dozen areas within B-to-B market management were identified and nominated. The second step of the sampling process involved asking these 50 experts to nominate additional experts for the Delphi panel. The subjects represented three continents and a wide range of expertise.

At the end of the first Delphic iteration, a preliminary functional competency model was developed and refined with the assistance of the Delphic panel. In an effort to further enhance the model, data were collected separately from the two groups of expert participants during the second and third iterations of the modified Delphi process. Three main data collection methods were used throughout this piece of research which took place over a period of three years punctuated by the ups and downs of the American economy.

The design of the competency model entailed three main steps: construction, de-construction and reconstruction. The construction phase involved all the stages from the project's inception until the end of the last iteration of the Delphi. During the process, 153 competencies were identified, arranged into 17 functional clusters and rated by the Delphic panel. Using the quantitative data, the model was deconstructed and its various parts examined. It was later reconstructed based on the results of the analysis.

In the last two iterations of the Delphi, the panelists rated the competencies using a 6-level (1= least important ... 6= most important) dichotomous (1,2,3 = supplemental and 4,5,6= core) Likert-type scale. Due to (1) the nature of the study, (2) the fact that the

data were inherently qualitative and subjective, and (3) the data measured concepts that were heuristic in nature, the researcher deemed it prudent to treat the quantitative data at the ordinal level using non-inferential and non-parametric approaches. Agreement within the groups was measured for each competency in order to assess levels of consensus, differences within the groups were measured to identify controversial competencies and inter-rater reliability was measured to assess the consistency of the ratings. Competencies were clustered in order of importance and a competency "kernel" was identified. Since a large number of competencies were identified, the data were analyzed and broken down into a series of "perspectives" with more manageable "chunks" of data:

(1)   The first perspective looked at the instruments that were utilized to collect the data. A coefficient of reliability was used to measure inter-item reliability.

(2)   The second perspective looked at the experts who generated the competencies. Descriptive data on all the participants were organized and examined; inter-rater reliability was measured. In a preliminary attempt to estimate consensus building, inter-rater reliability was measured using the ICC(3,k) two-way mixed model average measure reliability (please note that the latter was done with caution). In all the cases, the Delphi panelists were a fixed effect and the only judges of interest.

(3)   The third perspective looked at all 153 ratings to identify areas of dissentience between the two expert groups. The latter were labeled: "controversial competencies". The differences between the two groups were examined and the competencies on which the two groups diverged were isolated. Four levels of dissentience were identified at the end of this analysis.

(4)   Once the controversial competencies had been isolated, the remaining traits were assessed. The fourth perspective identified and analyzed the highest rated competencies in the model, which were branded: "kernel competencies".

(5)   After the kernel and controversial competencies had been identified, the outstanding traits were analyzed to isolate the remaining core competencies. The latter were further subdivided into 4 categories that emerged from the data.

(6)   Perspective six looked at the residual, non-core competencies (identified as "supplemental competencies"). These lowest rated cases were analyzed and clustered into 5 categories.

(7)   The final part of the analysis looked at the modified Delphi process as a consensus-building tool: the evolution of consensus within the two groups and between the last two iterations was examined. While perspective 2 examined the data in the early phases of the quantitative process, this analysis used a holistic approach and provided snapshots of the consensus building process.

In an attempt to provide a more comprehensive view of the data, an emergent model based on the six strata of the 102 "core" competencies was synthesized. The latter depicted the data in a less compartmentalized and myopic manner than seen thus far and offered a comprehensive view of the competencies. Aside from the "controversial core" competencies, each stratum exhibited commonalities between its component competencies:

- The kernel. Composed of six main themes, the kernel represented the most important competencies that will define exceptional business marketers over the next five years.

- Tier 2. The second level of competencies (based on importance) encompassed various aspects of the design of a competitive strategy, especially segmentation.

- Tiers 3 through 5. The last three levels of the model focused more on the execution of marketing strategy and the marketing plan.

- Controversial "core". The competencies in this stratum were labeled as controversial because the two expert groups diverged in the perceived importance of these competencies. The ratings from the two groups attested that these competencies were "core", albeit the researchers and educators could not agree on their degree of importance.

In an effort to offer a more complete assessment of the findings, two additional expositions were offered. In the second adaptation of the model, the 102 core competencies were broken down and reanalyzed to synthesize the "Emergent Functional Model" (EFM). The latter was based only on competencies that had been identified as "core" by both expert groups. The third synthesis of the model, the "Emergent Systems Model" (ESM) was exploratory and sought to depict the interdependencies and relationships that exist between the core competencies. This holistic perspective of the business-to-business market management competencies was built based on concepts borrowed from systems theory and cybernetics (first and second order). The ESM blurs the line between individual and organizational market management competencies.

From the point of view of the competencies as a system, the most critical concept identified was "segmentation", a concept that is omnipresent throughout the model. Most of the technical and marketing process-related competencies rely heavily on the accuracy or the appropriateness of the segmentation scheme. Segmentation is somewhat the technical manifestation of truly "understanding the customer", the top competency out of the entire pool of 153. Furthermore, it is at the heart of strategy.

Looking at the competencies as a system, it is critical that the b-to-b market management function be setup in such a way that market strategy is guided and controlled through a series of negative and positive feedback loops. The ESM maps a market strategy paradigm that is controlled through a series of sensing activities aimed at detecting and predicting environmental changes. Based on input collected and assimilated through the marketing function, marketing strategy is slightly corrected to adapt to changing market conditions (negative feedback loop) or it is redrafted or redesigned to adapt in anticipation of drastic changes in the markets (positive feedback loop). At the heart of this anticipatory self-correcting model is an adaptive segmentation approach.

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List of abbreviations

ASTD : American Society for Training and Development

BC   : Borderline Competency

B-to-B : Business-to-Business

CC   : Core Competencies

CCC   : Controversial Core Competencies

CM   : Change Management

CR   : Consensus Range

CSC   : Controversial Supplemental Competencies

EFM   : Emergent Functional Model

EM   : Emergent Model

ESM   : Emergent Systems Model

HR   : Human Resources

HRD   : Human Resource Development

HRM   : Human Resource Management

HRP   : Human Resource Planning

ICC   : Intraclass Correlation Coefficient

IDP   : Individual Development Plan

IQR   : Interquartile Range

IRTD : Institute for Research in Training and Development

ISBM : Institute for the Study of Business Markets

KC   : Kernel Competencies

NAICS: North American Industry Classification System

OD   : Organization Development

PM   : Performance Management

SC   : Supplemental Competency

SKA   : Skills, Knowledge and Attitudes

SP   : Succession Planning

T&D   : Training and Development

TDC   : Truly Divergent Competencies

WFED : Workforce Education and Development

WLP   : Workplace Learning and Development

Preface

Three years ago, about two dozen member firms of the ISBM (**Institute for the Study of Business Markets**) were polled and asked if:

(1) they had developed or were currently using a B-to-B marketing competency model (or some form of skills inventory)

(2) in the event that they did have such an instrument, they were asked if they would be willing to share it with the other member firms.

Over 80% of the respondents had not developed a competency model or skills inventory, and among the very few who did, only ONE agreed to share it. Due to the high cost of developing competency models, it is possible that if a corporation did invest in such a venture, the results of the study would be treated as strategic information thus, would not be published. Rothwell and Lindholm (1999) explained that "rigorous competency models remain time-consuming and expensive to develop. It is not uncommon for a competency study of all upper management positions in a large U.S. company to cost between $1 million and $3 million". They went on to explain that traditionally, competency models had been built using retrospective studies focused on past critical events but due to the dynamic nature of the world we live in, a future orientation was warranted.

The purpose of this study was two-fold. First, it sought to develop and analyze a systematic approach to building future-oriented competency models by refining and adding rigor to a modified hybrid-Delphi methodology. The latter was then used to identify the competencies that will define exceptional business-to-business market managers over the next five years and synthesize a series of models based on these traits. Even though the business-to-business market management occupation is present in

various types of industries, it was assumed that there exists a core set of competencies that is common to all exemplary performers in that occupation.

The business market management competency models were designed to address various Management and Human Capital issues among which:

- Performance management
- Succession management and high potential identification
- Competency-based workforce planning
- Gap assessment
- Training curriculum design
- Recruitment and selection
- Career pathing
- Individual development planning
- Coaching, counseling, mentoring, sponsoring
- Various facets of "portable competencies"
- Strategic HR planning at various levels

In order to be used effectively, the models should be customized to the requirements of a specific firm or at least a specific industry. The model is meant to be tailored to the needs of a specific environment: it should be aligned with the company's (or business unit's) overall strategy taking into account the organization's culture. If a firm is already using some form of a skills inventory, integrating aspects of this model should be easier. Depending on the environment, the customization can range from very simple to very complex. For example, the model suggests that marketers work with sales to align the marketing and sales strategies. If the relationship between the marketing and the sales functions is dysfunctional, that aspect of the competency model may be very

difficult to implement (in such a case, what would be needed is no longer training but an organization management intervention).

The customized competency model will provide the user with a map that describes what people should "look" or "act" like at different levels[1] and in different roles[2] within the market management function of a specific business unit, firm or industry. Since the "behavioral anchors" (also called "behavioral indicators") will vary from company to company, it is imperative that the model be customized. In the early stages of the study, a quick overview of the levels[1] within the marketing function at a few b2b firms showed that some organizations had 3 levels while others had more than 5. In some environments, the market management function was spread[2] amongst a large staff of highly specialized individuals while in others; the work was being completed by a handful of "generalists" who wore multiple hats. Creating a very detailed but generic competency model that could be applied to every firm, in every industry under any market conditions would have been a futile exercise.

This thesis follows a classic five chapter layout. The first chapter introduces the research and its parameters. The second chapter covers the literature on three main topics: business market management, competence and the Delphi technique. The third chapter describes the methodology, data collection and subject selection. Chapter 4 goes over the findings from the various analyses used to breakdown and explore the competencies. The last chapter covers the synthesis of all the findings from the preceding chapter into three emergent holistic models; suggestions for future research and a review of the Delphi-hybrid are also offered.

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[1] vertical (ie. junior level ... senior level)

[2] horizontal (ie. Product managers, Brand managers, Marketing Research managers, Market Communications managers ...)

The document includes various internal hyperlinks which are identified by text in "**blue bold font**". In addition, external links to the internet can be identified by their "<u>**underlined blue bold font**</u>". Once a link is clicked, the reader will be taken to the link's destination. If the link's target is a large figure, the page size will automatically change to allow you to view the entire figure. Depending on your screen size, the page may become too small to read; in such a case, you may resize it to a dimension that suits your needs. If you wish to navigate the document, please use the bookmarks, which follow the same hierarchy as the table of contents.

This report depicts work that is still in progress. The study raises many issues related to (1) the development of future-oriented emergent functional competency models and (2) to the business market management occupation. Over the next few years, the researcher hopes to further investigate these topics and will provide updates on the study's web portal (**www.B2Bcompetencies.com**). Your input and suggestions are always welcomed (**allen@CompetencyPlexus.com**).

Acknowledgements

I acknowledge intellectual debts to all the members of the Delphi panel who invested their precious time into this research effort. In addition to the experts listed in Appendix B, I would like to thank the dozens of practitioners and academics who participated in the early phases of the study, this piece of research would not have been possible without the input of the expert panels that preceded the modified Delphi.

I am grateful to Paul Krueger, Ph.D., Ed.D., a great mind and superb methodologist, and the Institute for Research in Training and Development (IRTD) for their invaluable assistance, support and counsel in the design and execution of the methodology that was used in this study. I would like to thank Ralph Oliva, Ph.D., a key B-to-B Market Management SME and supporter of this study, and the Institute for the Study of Business Markets (ISBM) staff for providing the expertise and other resources that made this endeavor possible. I am grateful to William Rothwell, Ph.D., a world-class guru in Competency Modeling and everything HRD. Dr. Rothwell's past and current research on competency modeling provided the infrastructure on which the study was built. I would like to express my thanks Mrs. Elaine Harris of Allied Signal/Honeywell (at the time) for her great contributions from the project's inception through its completion and Mr. Ben Fisher of PPG Industries for sharing his insights in the early phases of the study. I thank Judith Kolb, Ph.D. for the precious counsel she provided on group dynamics.

I would also like to thank Monica Atkin, Frank Elliott, Gary Holler and Bob Donath for contributing their valuable time, expertise and support to this research effort. I also express my appreciation to Kenneth Gray, Ph.D. for his guidance in the genesis of this research effort, for making this possible even before the project was clearly defined. A special "thank you" goes to Peggy Stines-Munnings and Frances Racster; their support, wisdom and inspiration made this endeavor possible.

Allen Stines, NYC, 2003

Data Management/
Market Research

Harnessing Value

UNDERSTANDING VALUE

Market Planning

Marketing leadership

New Offering Development

PERSONAL COMPETENCIES

Market Segmentation

**CREATING &
HARVESTING VALUE**

Business acumen

Targeting

Channel Conflict Management

DESIGNING MARKET STRATEGY

Market Offerings Management

Positioning/
Market communications

Value and Pricing

Sales Integration

**B-to-B Market Management
Emergent Functional Competency Model (EFM)**

Chapter 1

Introduction

Fools make researches and wise men exploit them.
H. G. Wells (1866-1946)

<u>Introduction</u>

In 1980, Patricia McLagan, one of the best-known American practical theorists in Training and Development, predicted that "competence" would become an important trend; the past two decades have supported her prediction. She introduced competency models as a means of improving not only worker development, but also all facets of Human Resource Management systems (McLagan, 1980, p.22).

As one can imagine, an organization's success or failure can be directly related to the quality of its workforce.

> The most important elements in the quest for a competitive advantage in commerce, be it at the micro, or firm, level or at the macro, or national, level, are the skills and initiative of its workforce. Technology is only as good as the ingenuity of those who can both maintain and use it to the fullest potential (Gray & Herr, 1998, p. 44).

Over the past hundred years, industrialization and its machines have had a tremendous impact on the way goods were manufactured but Thurow (1996) tells us that the hallmark of the industrial revolution was the slow transition from an unskilled to a skilled workforce (p.76). As we enter a new millennium, advances in technology are again affecting the way business is conducted.

> In an era of man-made brainpower industries, individual, corporate, and national economic success will all require both new and much more extensive skill sets than have been required in the past. By themselves skills don't guarantee success. They have to be put together in successful organizations. But without skills there are no successful organizations (Thurow, 1996, p. 76).

Innovations in technology and the evolution of management-related strategic techniques have set off the creation of complex tools that facilitate communications across the board and allow workers to make better decisions in a fraction of the time it

would have taken otherwise. As technology continues to evolve, so will the tools; they will become more sophisticated and more efficient. It is therefore imperative that the worker of the future be able to effectively use them or businesses will suffer greatly.

Business-to-business market management (also known as business marketing and formerly, industrial marketing) is an area of business that has greatly benefited from such tools. The advent of data analysis software has allowed marketers to make better predictions while reducing analysis time. Computers have allowed for the creation of complex forecasting models and complicated schemes that help better understand the needs of customers. As the tools continue to evolve, business marketers will have to keep pace with these tools, techniques and underlying technologies; otherwise, their competitors will "outskill" thus, outperform them.

A business marketing competency model would allow companies to manage most aspects of their business marketing human resources needs including (but not limited to):

Recruitment and selection
Assessment
Individual development planning
Training curriculum design
Coaching, counseling, mentoring, sponsoring
Succession planning and high potential identification
Career pathing (McLagan, 1980, p. 23).

If done correctly, such a model will facilitate the inventory and tracking of business marketing competencies throughout a firm. It will help optimize the use of the marketers' skills and abilities; therefore increase efficiencies and impact the organization's bottom line.

"Worker competency", the topic of this study, should not be confused with "core competency", which Prahalad and Hamel (1990) define as "the collective learning in the organization, especially how to coordinate diverse production skills and integrate

multiple streams of technologies". In the confines of this study, the B-to-B market management competency model is described as a future-oriented descriptive paradigm which depicts the key capabilities (knowledge, skills, attitudes and other traits) that will define exemplary B-to-B market managers over the next five years. These capabilities are not necessarily expected to be mastered by one individual, they may be scattered throughout the market management function of a large corporation.

Statement of the problem

In 1986, Kastiel stated that the majority of graduate-level programs in marketing tended to focus mostly on consumer marketing and ignored business-to-business marketing. She claimed that many business-to-business marketers felt that the subject should be taught as a separate discipline and that the graduates of marketing programs did not have the skills needed to flourish in a business-to-business marketing environment. She also complained that there were very few good textbooks and limited research being done in business-to-business marketing. A recent review of the B-to-B marketing education literature supports that Kastiel's two-decade-old concerns may still hold true. Fourteen years later, Mohr (2000) suggests that curricular changes in the area of business-to-business marketing are recently occurring; unfortunately, he does not support his statement with detailed factual information.

Even though the fundamental tenets of the profession remain the same, the tools used by business-to-business marketers have evolved; consequently, the expected performance of a business marketer is higher than ever.

B. Charles Ames noted in 1970 that marketing in the industrial world is a total business philosophy, based on improving performance by identifying the needs of each key customer group. The same is just as true today, but performance requirements have substantially toughened. [...] Executives demand increasingly more accountability from their sales and marketing staff (Kay, 1999, p. 281).

Marketing has become a complex art where the winners are the artists who are able to properly scan the landscape and interpret all its intricacies onto a canvas. Like artists, successful marketers must be able to scan the market and develop its intricacies into a value-adding model. Just as artists must be able to account for environmental factors such as lighting variations, depth perception and color nuances, marketers must be able to discern variations in the market, account for the customer's perception of their offering and understand the nuances in the needs of their customers.

Just as in art, it takes more than just technical knowledge to become an exemplary marketer. A simple listing of tasks may not be able to depict an exemplary performer. In order to fully grasp the essence of an exemplar, one would need a competency inventory listing not only technical skills but also knowledge, traits, abilities, attitudes and soft skills common to successful business marketers. A review of the available, non-proprietary literature, suggests that such competency inventories have not been developed for business marketers. Due to the high cost of developing competency models, it is possible that if a corporation did invest in such a venture, the results of the study would be treated as strategic information thus, would not be published. Rothwell and Lindholm (1999) explained that

[...] rigorous competency models remain time-consuming and expensive to develop. It is not uncommon for a competency study of all upper management positions in a large U.S. company to cost between $1 million and $3 million. (p. 104)

<u>Purpose of the study</u>

This study attempts to contribute to the knowledge pool in two ways:

- It seeks to contribute from a methodological standpoint by redefining and adding rigor to a method that has been in use for over five decades.

- It uses the strengthened method to develop a competency model for a dynamic occupation that is still maturing.

This study sought to generate and critically analyze a concise and systematic approach to future-oriented competency modeling based on a Delphi-hybrid methodology. The next phase involved using the hybrid methodology and with the help of the top business marketing experts, develop a model that will define exceptional business-to-business marketers five years into the future. The data collected were examined to discover if a gap exists between what the expert practitioners and educators perceived to be the competencies that will define exceptional business marketers over the next lustrum.

This Delphi study provides educators and trainers with information on the skills, knowledge, attitudes and other attributes business marketers must possess in order to be among the best at their job. The Institute for the Study of Business Markets (ISBM) located at Penn State University, in University Park, Pennsylvania will use the outcomes of this research to adjust their training programs by anticipating the future training needs of their member firms.

This research provides business managers and human resource professionals with a competency model for the business-to-business marketing occupation that can be used to enhance all phases of human capital development: from recruitment and

selection to assessment and succession planning. Over the past two decades, competency models have been developed for various occupations:

- Rothwell and Sredl (1992) identified the competencies of Human Resource Development (HRD) professionals for the American Society for Training & Development (ASTD).

- Goldstein (1995) told us that healthcare providers were developing competency models to improve employee selection, development and succession planning.

- Rothwell (1996) conducted research on the competencies of Human Resource Management (HRM) professionals based on trends affecting the future of HRM (p. 293).

- Pfohl (1997) reported on research that was conducted on logistical competencies using surveys and interviews.

- The American College of Occupational and Environmental Medicine (ACOEM) developed an inventory of competencies in 12 categories of occupational medicine (Phillips, 1999).

- Rifkin and Fineman (1999) conducted a study to "better understand the characteristics of an effective technical manager". The outcome of the research was a competency model for technical managers.

- Rothwell, Sanders and Soper (1999) developed a competency model of Workplace Learning and Performance (WLP) professionals for the American Society for Training & Development (ASTD).

- The American Institute of Certified Public Accountants (AICPA) developed a Competency Assessment Tool (CAT) to help its members identify their competence

gaps based on their career objectives (Waller, 1999; The CPA Journal, January 1998; and Journal of Accountancy, February 1998).

<u>Need for the study</u>

A review of the literature did not discover any studies aimed at developing a competency model for business marketers. The few efforts that have been undertaken to develop a skills inventory for marketers focused on consumer marketing and they were conducted using a job analysis approach to develop marketing curriculum (these studies are discussed in chapter two). Since job analysis focuses on specific tasks, the results are only valid as long as the tasks do not change. In this era of technological marvels, change and innovation are continuously altering the way we do our jobs; therefore job duties change as new technologies and processes are developed.

By focusing on the competencies of the worker, companies are able to develop their plans and structure themselves so that they can change at the pace of innovation. Theoretically, since competency-based systems focus on each worker's abilities and skills, they offer a modular approach to the fulfillment of a holistic endeavor; the realization of organizational goals. Because of their modularity, these systems are more tolerant to change and innovation.

Traditional competency models have been built on the critical incident technique, which identified vital competencies based on past experiences of experts but Rothwell and Lindholm (1999) tell us that

> [...] competency models tend to be biased toward a past orientation. Examinations of exemplary performers have often focused on what they have done --with an emphasis on the past-- to address critical incidents

they face. But, as external environmental conditions change with increasing rapidity due to shifting customer preferences and a dynamic global marketplace, the need is intensified to move beyond examinations of exemplary performers under past conditions. A future orientation is needed. (p. 103)

This study strives to develop a competency model based on a heuristic, future-oriented approach.

Objectives

- To develop a systematic Delphi-hybrid methodology that can be used to develop rigorous competency models.

- To use quantitative measures to gauge the internal consistency of qualitative data collected from expert practitioners and expert educators.

- To develop a generic competency model for business marketers that can be used across the various industrial classifications.

- To identify and rate technical competencies and skills that will characterize the ideal business marketer over the next five years.

- To identify and rate attitudes, traits and other attributes that will characterize the ideal business marketer over the next lustrum.

- To analyze the level of consensus within the "practitioner" expert panelists regarding the competencies that will be important in a business-to-business marketer.

- To analyze the level of consensus within the "educator" expert panelists regarding the competencies that will be important in a business-to-business marketer.

▪ To identify possible gaps that may exist between the expert practitioners and expert educators on the perceived competencies that will define the ideal the business-to-business marketer over the next lustrum.

▪ To evaluate the use Delphi in building future-oriented competency models.

Delimitations and assumptions

The following factors established the parameters of this study:

▪ The two sets of subjects (educators and practitioners) who participated in the expert panels and the Delphi panel were selected with the assistance of at least one of the directors of the Institute for the Study of Business Markets (ISBM).

▪ None of the subjects involved in the study were remunerated.

▪ The initial survey used in the first iteration of the modified Delphi was based on future trends as determined by the literature and discussions with both researchers and practitioners in the business-to-business marketing field during three meetings of the Institute for the Study of Business Markets' (ISBM) Educators Consortium.

▪ The study used a triangulation approach composed of both quantitative and qualitative components. The qualitative portion of the study was based on an amalgam of a naturalistic inquiry methodology and a pragmatic inductive analysis methodology. The data collected during the quantitative portion of the study were treated at the ordinal level.

▪ An iterative three-round modified Delphi technique was used to draw up the final list of competencies. Interaction between the two participant groups was only

allowed during the first iteration. The Delphi panel members were allowed to add competencies to the first instrument as they saw fit. These suggestions were shared with both groups during the second iteration. Only the competencies for which consensus was not clearly reached during the second iteration were resubmitted to a group to be rated in the third iteration.

- Due to the size of the Delphi panel, it was not possible to stratify the sample to include all the industry classifications. The study was conducted on the premise that the competencies identified will be common to exemplary business market managers and transcend industrial classifications. In order to have a sample incorporating all the NAICS (North American Industry Classification System) industry classifications, the sample would have had to include more than a thousand subjects, making it beyond the scope of this endeavor.

- Because of the nature of the research, the study took place in the "real world", where all subjects were susceptible to stimulus from their environment (the latter could not be controlled).

- The final product of this study is not intended to be the elixir that will cure all the business marketing competency-related ills but will provide a glimpse of the next five years to come. The results of this research should be used as a basis for future research.

Limitations

This section provides an overview of the limitations of the study. These limitations are discussed in more detail throughout chapter 3, where they are broken down by category (methodological, sampling, etc).

This study attempts to predict 5 years into the future and limitations arise from this fact. Since many of the innovations in business marketing are being driven directly or indirectly by technology, any drastic changes in these technologies over the next five years may affect the competencies needed by the marketers at that time.

Although the Delphi panel was carefully selected, certain factors such as personal biases could not be controlled for. Unlike studies conducted in a laboratory with control groups, all the subjects who participated in this piece of research were susceptible to stimulus from a multitude of sources (business markets, work, and many other sources of bias that are very difficult to control for or measure).

As with any form of research, this study is bound by inherent limitations. The modified Delphi methodology used in this inquiry was experimental but thanks to the dynamic nature of the data collection process and the iterative instrument that was used, the methodology allowed for slight corrections as the study progressed. Many limitations stem from the fact that qualitative studies rely on the researchers as the main instrument and data processing tool. Even though researchers attempt to remain objective, due to the nature of qualitative research, it is possible that biases may permeate. In a typical qualitative study, data are collected from the subjects and analyzed by the researchers; thereby leaving most of the interpretation and analysis in the hands of the investigators. In the first iteration of this study, the data were collected, analyzed by the researcher and

the resulting analysis sent back to the subjects. During the second iteration, the participants were asked to comment on the analysis. The feedback process was repeated for a second time during the third iteration. The iterative consensus-building process involved the subjects in the analysis of the data, thus counteracting some of the biases that may have stemmed from the investigator's analysis.

This study was conducted with the assistance of the Institute for the Study of Business Markets (ISBM). Limitations arise from the fact that all the participants were directly or indirectly related to the ISBM: selection bias may have affected the results. On the other hand, the methodology does warrant selection bias. In order for the Delphi-hybrid method to work properly, the participants must be experts in their field (Czinkota & Ronkainen, 1997), among the best of the best; therefore, it was imperative that the sampling process be purposive and very selective. Furthermore, due to the size of the sample, it was not possible to stratify the Delphic panels such that they represented all the industry classifications. The study was conducted under the assumption that the competencies that define an exceptional business marketer transcend industry classifications, company size and geography.

Definitions of terms

- Business market management: "The process of understanding, creating, delivering and profitably harvesting value from targeted business markets and customers" (Adapted by Ralph Oliva from: Anderson & Narus, 1999, p.4). Furthermore, business marketing differs from consumer marketing in the sense

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that the targeted customers are businesses, organizations or governments as opposed to individual consumers.

- Business marketing: In the confines of this study, the term "business marketing" will be used interchangeably with "business market management".

- Business-to-business marketing: In the confines of this study, the term "business-to-business marketing" will be used interchangeably with "business market management".

- Business-to-Business market management competency model: a future-oriented descriptive paradigm which depicts the key capabilities (knowledge, skills, and attitude) that will define exemplary B-to-B market managers over the next five years.

- Business markets: "firms, institutions, or governments that acquire goods and services either for their own use, to incorporate into the products or services that they produce, or for resale along with other products or services to other firms, institutions, or governments". (Anderson & Narus, 1999, p.4).

- Business marketer: In the confines of this study, the term "business marketer" will be used interchangeably with "business market manager".

- Business process: sequence of operations that creates value to the customer (Oliva, 1999).

- Competencies: "characteristics of the people doing the work -knowledge, skills, and attitudes (also values, orientations, and commitments)" (McLagan, 1997).

- Competency assessment: the process of identifying the competencies of successful performers (Rothwell, 1996, p.263).

- Competency cluster: group of competencies organized around a main theme or the purpose (Mirabile, 1997, Spencer & Spencer, 1993).

- Competency model: "decision tool that describes the key capabilities for performing a specific job" (McLagan, 1996, p. 63), the results of a competency study (Spencer & Spencer, 1993).

- Delphi: "a group process which utilizes written responses as opposed to bringing individuals together" (Delbecq et al, 1975, p. 83).

- Delphic: relating to Delphi.

- Industrial marketing: (see business marketing).

- ISBM: Institute for the Study of Business Markets. The ISBM is a center of excellence in the Smeal College of Business Administration at Penn State University. Its mission is to improve the practice of business-to-business marketing in industry, and to expand research and teaching in business-to-business marketing in academia.

Conceptual framework overview

Infrastructure

The study was based on the works of many scholars in a variety of fields ranging from human resources and development (HRD) to communications. The works of Patricia McLagan (1980, 1996) in the areas of competency identification and competency modeling provided the foundation on which the study was built; the operational definitions of "competency" and "competency model" were taken from her more recent articles. The works of William Rothwell (1992, 1996, 1998, 1999) and Lyle Spencer

(1993) on competency identification and competency model design were used to select and design the study's methodological infrastructure. McLagan, Rothwell and Spencer's works provided the groundwork on which this piece of research was erected. Their work is discussed in more detail in the section on competence (chapter two).

<u>Framework</u>

The inductive methodology used in the study was based on a naturalistic inquiry approach. Triangulation was used to design a hybrid Delphi methodology. Created by Olaf Helmer and Norman Dalkey, the Delphi method was used in the 1950s as a forecasting tool. The original method and a few of its variants that had been designed over the past five decades were reviewed. In an effort to strengthen Delphi's reliability and increase academic rigor, the half-century-old method was coupled with systematic qualitative and quantitative methods borrowed from various disciplines. For example, the design of the Delphic instrument took into account empirical psychological research conducted on short-term memory and information processing. The competencies were clusters into manageable "chunks" (Dembo, 1991). The competency clusters were then grouped and ordered to optimize the logical flow of information. The ordering and grouping of the clusters was based on the ISBM's value framework. The latter is at the core of all the ISBM's research and educational endeavors. Even the selection of the font used in the Delphic instrument involved a bit of research. A more detailed look at the methodology and the survey design is offered in the methodology section (chapter three) and an overview of Delphi and its uses over the years is covered in the review of literature (chapter two).

Literature searches revealed that very little had been written on business-to-business marketing education or on business-to-business marketing competency models.

The very few models that were found had been created by large business-to-business firms and were considered strategic and proprietary information; therefore, very few of the ISBM member firms that had developed a "skills inventory" for their business marketers were willing to share the information.

Superstructure

The data collected were used to build the competency model. The process involved three iterations during which content analysis and self-administered survey techniques were used. The iterative consensus building method yielded a series of competency clusters organized around an adapted version of the ISBM's value framework, which was modified based on the expert participants' inputs at the end of the first iteration. Non-inferential non-parametric statistical approaches were used to analyze the data and generate the resulting competency model.

Summary

This study sought to strengthen the Delphi methodology and use the enhanced method to develop a competency model for business-to-business marketers, irrespective of industry classification. Literature reviews suggested that very few studies had been conducted to develop such a competency model. The latter can be used for a broad range of purposes ranging from human capital development to strategic planning. The next chapter will cover an overview of the literature in three main areas: marketing education, competence and the Delphi method.

Chapter 2

Literature review

Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.
Samuel Johnson (1709-84

<u>Introduction</u>

This chapter will cover a review of the literature on three main themes. First, marketing education will be examined from an industry perspective, then from academia's point of view. Secondly, the concept of competence will be reviewed. The history, the uses and applications of competency models and the various approaches that have been used to develop them will be investigated. Lastly, Delphi, the primary methodology used in this study will be scrutinized.

<u>Business-to-business marketing education</u>

Few articles have been written on business-to-business marketing education. The Journal of Marketing Education publishes articles that focus mostly on consumer marketing education issues. The American Marketing Association conducts studies and publishes various journals and magazines (Marketing News, Marketing Management, Marketing Research, Marketing Health Services, Journal of Marketing, Journal of Marketing Research, Journal of international Marketing, Journal of Public Policy & Marketing and Marketing Educator) but the publications and research efforts seldom focus on business-to-business marketing education.

From an industry perspective

In 1986, Kastiel complained that very little research was being conducted on business-to-business marketing issues. He contended very few business-to-business marketing textbooks were available and that companies had difficulties recruiting competent business-to-business marketing professionals from marketing programs at universities. A review of the literature published over the past five years showed that the situation may not have changed.

What skill set do employers look for?

O'Brien and Deans (1995) looked at the needs of employers who hire marketing professionals and concluded that although these companies seem to favor business graduates, "they also consider there to be a requirement for task-specific training" (p. 13). Although the article did not focus on business-to-business marketing, some of the issues identified and addressed in the article can be applied to business markets. For example, they stated that, more often than not, marketers must be familiar with the vernacular used in a specific industry; and it is not uncommon to find business-to-business marketers with an engineering or natural sciences background (i.e. chemistry, physics, biology).

Where do markers acquire marketing skills?

Many organizations have implemented corporate universities or offer internal business marketing training programs to supplement business marketing education services they receive from academic entities such as universities (e.g. Texas Instruments,

Honeywell, Agilent). Smart, Kelley and Conant (1999) claim that a Delphic study they conducted showed that the level of competition between marketing departments in academia and corporate universities would intensify in the future.

From an education perspective

Marketing education is still evolving. Hansen, Carlsson and Walden (1988) have identified three phases in its evolution:

1. In its early development, marketing education was focused on theories and rules of thumb based on past experiences.

2. Currently, marketing focuses on the use of algorithms and tools that allow for the optimization of problem solving.

3. In the future, marketing education will be based more on the use of "marketing management expert systems that can develop knowledge in a symbolic representation".

How practical should marketing education be?

In his 1997 article entitled "Marketing education is not marketing business"; Rotfelt states that marketing educators and marketing practitioners are not the same breed. He argues that marketing educators should have more in common with other academicians than with marketing practitioners. He claims that the role of the marketing educator is to think for a living and teach others how to think through their research and writing. They should focus their teaching on educating their students on how to reason and communicate instead of focusing on specific job training. On the other hand, O'Brien

and Deans (1995), who studied first-year marketing students, concluded that the pupils are more interested in a graduating with practical skills and a wide knowledge base. Contrary to Rotfelt's viewpoint, Smart, Kelley and Conant's 1999 study reported that some marketing educators feel that academia should encourage faculty members to interact more with industry. Institutions conferring doctoral degrees

> (...) should require industry experience in marketing as a criterion for admission. Too many business professors have absolutely no idea what life will be like for the students they're teaching once those students take jobs. For faculty with no experience, universities should provide time off for faculty to work for a semester-a sort of internship. This would redirect their teaching in ways that are relevant and rewarding to their students. (par. 29).

What should be taught?

Walker (1986) argued for an increase in marketing professionalism and contends that it must start in the classroom. He offers two hypotheses to explain the lack of professionalism in marketing. First, he suggests that the absence of a marketing body of knowledge may have prevented the field from being recognized as a legitimate profession. Secondly, he proposes that colleges are not preparing marketing professionals properly. In the 1980s, a good number of articles featured in European journals focused on marketing theory and the lack of its use in the education or training of marketers (Saunders, 1980; Piercy, Evans & Malcom, 1982; and Hansen, Carlsson & Walden, 1988). Saunders (1980) suggested that the over-adoption of American style management education and over-specialization of the marketing field by marketing educators were two of the four reasons explaining the "degeneration of marketing education" in the United Kingdom.

The marketing theory issue is not new. In the 1950s and early 1960, Alderson coauthored various books on marketing theory (Alexander, Surface, Elder & Alderson; 1940; Cox & Alderson, 1950; Alderson, 1957, Alderson, 1965; and Alderson & Halbert, 1968); he complained that the theory base of marketing was too thin and that economics should not be the sole basis for marketing theory. He offered "group behavioralism" as a new foundation of marking (Dixon, 1999).

Piercy, Evans and Martin (1982) surveyed 22 curriculum directors in the UK to look at the content of the courses that were being offered in marketing. Their research identified a lack of marketing theory in these curricula. Howard and Ryans (1993) conducted an international survey of 129 marketing educators to compare the use of marketing theory in marketing education at the undergraduate and graduate level. They found that European and Pacific Rim educators placed a higher level of importance on the use of marketing theories in the classroom than their American counterparts. The authors suggest that marketing theory can help students better understand marketing. Instead of simply teaching them how to market, they can be instilled with a better understanding of how and why markets function the way they do. The latter is in agreement with Rotfeld (1997) and Saunders (1980) who argue that the best way to teach is not to replicate the marketing world in the classroom by teaching students job skills, but to train them to think and seek solutions so that they are able to adapt to the ever-changing markets.

The past decade and the next 10 years

Smart, Kelley and Conant (1999) conducted a study to look into the past decade and the next ten years of marketing education. Three hundred and ten marketing department heads from American colleges and universities located through the "1996 American Marketing Association international member and marketing services guide" were contacted and asked to nominate their two most effective instructors. The department heads were asked to choose the instructors based on student evaluations, personal observations and other resources. Out of 620 potential responses, a total of 107 marketing faculty members returned valid surveys leading to a 17% response rate. A total of 90 schools were represented in the sample. The responses were analyzed using a multistep process involving two marketing educators. First, the investigators went over the responses separately and identified the main themes. Next, they met to discuss their categorization differences. The researchers compared the respondents and non-respondents in terms of geography and size of the marketing departments to ascertain whether or not non-respondent bias existed. They concluded that there were no significant differences between respondents and non-respondents. Overall, many of their findings correlated with a Delphic study they conducted a few years earlier. These findings are described in the next two sections.

The past 10 years of marketing education

The respondents who had been teaching for more than a decade were asked to describe the changes they had experienced over the past 10 years in marketing education. Interestingly, the number of respondents who suggested that marketing

education standards had been lowered equaled those who advocated that the standards had risen. The researchers clustered the responses into six main categories. Overall, the distribution of comments on changes in marketing education over the past decade was the following:

- 29% of the responses addressed issues related to changes in instructors and the professorial role. One of the respondents commented that the role of a marketing professor had evolved to become "part parent, part entertainer and part consultant".

- 26% of the responses collected focused on "class style" and the teaching methods used to disseminate marketing knowledge.

- 14% of the responses were related to the use of technology in the classroom and the impact of technology on teaching practices.

- 13% of the responses pertained to students and changes in the student population. One of the prevailing comments in that category was that marketing students were no longer interested in theory and that everything discussed in class must be directly applicable in a business setting.

- 10% of the responses involved skills development. Over the past 10 years, there seems to have been a shift in the skills being fostered in the classroom. The faculty members were putting a big emphasis on the development of the following skills: writing, speaking, presentation, decision-making, creative-thinking abilities and problem-solving.

- 8% of the responses centered on the magnitude of change itself.

Looking into the next 10 years

All the survey respondents were asked to answer the following open-ended question: "What are the greatest challenges that marketing education faces in the next 10 years?" A total of 167 comments were collected from 99 respondents. The responses were grouped into five broad categories. By and large, the distribution of responses on changes in marketing education that are expected to occur over the next decade was the following:

- 38% of the responses focused on the marketing discipline itself. Most of the respondents emphasized the need to portray the marketing discipline in a new light: as a profession with its own distinct set of skills that are crucial to the success of a business. They want to concentrate on strengthening marketing's academic standing while satisfying the needs of their customers, that is the students and their employers.

- 27% of the comments addressed technology and the challenges associated with keeping pace with the ever-shrinking life cycles. The comments also covered the increased use of technology to disseminate marketing knowledge. Many educators foresee a struggle to find balance between new teaching methods (i.e. web-based) and traditional delivery methods (i.e. person-to-person real-time in-class interaction).

- 17% of the responses pertained to the student population. Some respondents predicted an increase in the number of non-traditional students.

- 12% of the submissions involved administrative issues and the pressures facing marketing professors who seem to increasingly have less to work with while they are expected to do more.

▪   6% of the responses focused on the instructors who found it difficult to attain a

balance between their research, teaching and other responsibilities.

Overall, Smart et al. suggested that some main themes regarding the marketing

discipline surfaced in the study. They concluded that marketing faculty should listen

more to the needs of their stakeholders, namely their students and the companies that

hire them; and recommend that the following questions be asked of students and their

employers:

1. What subject areas are of increasing importance to you?

2. What skills and competencies must graduates possess to be successful?

3. How can we as marketing educators increase the relevancy and value of a

    marketing degree? (par. 42)

Smart et al. claim that one of the weaknesses of marketing education is its failure to

respond swiftly enough to changes in both the business and educational environments.

They reference Ferrel's 1990 article on improving marketing education. Ferrel predicted

a closer relation between marketing practice and marketing education in the future.

<u>Competence</u>

A review of the literature showed that there is not a universal definition for the

words: "competence", "competency", "competency model" and "skill". These words have

been widely used in various circles and their meaning has varied depending on the

context. While going over this segment of the literature review, it is important that the

reader keeps in mind that there are subtle differences in the meaning of these words to

the various authors who are cited. Many of the articles reviewed were written by

established experts in the field (both in the United States and abroad), but occasionally, "competency" and "skill" are used interchangeably even after the author had painstakingly established differences between the two words.

Krohe (1997) tells us that a poll of 1,700 human resources professionals by Aon Consulting and the Society for Human Resource Management reported that competency models were being used in one form or another by one out of four of the organizations. The most common use of these models was primarily staff development and secondarily employee selection at the management level.

A survey of 217 companies by the American Compensation Association, in cooperation with Hay Group, Hewitt Associates LLC, Towers Perrin, and William M. Mercer Inc. (Frazee, 1996; Levine, 1997; and Jones, 1997) found that:

- 88% of the companies using competencies for staffing also used competency-based interviews for hiring and selection purposes.

- 62% of the companies using competencies for Training and Development also used training programs specially designed around worker competencies.

- 90% of the companies using competencies for performance management also used competency-based performance appraisal data for employee development.

- 64% of the companies using competencies as a basis for compensation reported that pay increases were affected most by change/growth in competencies.

An historical synopsis

In the early 1970s, McClelland, worked with the US State Department to improve their selection process for junior Foreign Service Information Officers (McClelland,

1993). While working on the project, McClelland and his colleagues at McBer and Company devised the idea of the Behavioral Event Interview. In 1973, McClelland suggested that intelligence testing may not be an adequate indicator of one's ability to successfully perform one's job. He identified "competence" (a concept that had been popularized by White (1953) two decades earlier) as a better way of predicting job success on the basis that the assessment tools that were being used in research and academia were inappropriate predictors of job success and biased against minorities, women and underprivileged individuals. Working with the American Management Association, McClelland launched the first large competency identification effort in the late 1970s to pinpoint the characteristics that separate average performers from super performers.

Prior to McClelland's work, Flanagan (1954) had done some work for the United States military on isolating the characteristics that were critical to the successful completion of job duties and the attributes that seem to make a difference between success or failure. Sanchez (2000) noted that authors should recognize the contributions of Fine, Fleishman, McCormick and Primoff whose studies on the identification of work behaviors and attributes also preceded McClelland's.

In 1980, McLagan developed the concept of "competency models" and defined them as "decision tools which described the key capabilities required to perform a job" (p. 23). These tools were defined as a set of knowledge, skills, attitudes or intellectual strategies (p.24). She went on to write,

> At their best, competency models can be more reliable than *job descriptions* (which talk about job *not* skill and knowledge specifications), more succinct and valid than detailed *skill lists,* and more consistently on target than "*gut feel*" (p.23).

She foresaw the integration of competency models into organizational life as a major trend in the future of human resource development, but warns that in order to be effective, the implementation of competency-based strategies must be supported by upper-management (p.26).

In 1982, Boyatzis wrote "the first empirically-based and fully-researched book on competency model development" (Rothwell & Lindholm, 1999, p. 93) and identified Behavioral Event Interviews (BEI) as a key tool in competency model development. A BEI involves a thorough interview of an incumbent worker during which critical incidents are recalled and documented in detail. Boyatzis defined a competency as "an underlying characteristic of a person which results in effective and/or superior performance in a job" (p. 21). He went on to define that characteristic as a motive, a skill, knowledge, one's self image or social role.

In 1993, Lyle and Signe Spencer offered practitioners a systematic way of developing competency models through the use of Behavioral Event Interviews (BEI), expert panels, surveys, computer based "expert" systems, job task/function analysis and direct observation. The Spencer and Spencer book was based on the McClelland/McBer job competence assessment methodology and provided insights on multiple aspects of building and understanding competency models. According to the authors, the book summarized the findings from 286 studies and 20 years of research at McBer and Company (from the early 1970's until 1991).

In 1997, McLagan reviewed the concept of competence and defined six main types of competencies: task competencies, result competencies, output competencies, knowledge, skills, and attitude competencies and super-performer differentiators. She

also identified "attribute bundles", which she defined as combinations or hybrids of the five types of competencies.

In 1990, Prahalad and Hamel took the notion of a competency to a larger scale. They described the concept of an "organizational" competency labeled "core competency" as a process, technology or an organizational ability that is difficult to imitate, adds or creates customer value and allows access to a variety of markets.

Using competency models to prepare for the future

Nowadays, thanks to constant technological innovations, jobs functions are more prone to change than ever before. In her 1980 article, McLagan considered competency models to be "decision tools for use in a future time frame" (p. 24). She suggested finding successful performers and creating a model based on "what they do" (p. 24) but warns that the approach does not work well when the environment will undergo change. If change is expected, she recommends taking a "strategic and futuristic perspective on the job -looking at corporate and unit strategy, structure, future tasks and relationships, what experts are saying about the future, etc." (p. 24) but does not provide or recommend any particular methodology. Rothwell and Lindholm (1999) wrote that competency models tend to concentrate on the past. Since most competency models are built using tools such as Critical Event Interviews, they focus on difficulties exemplary workers had to face in an earlier period.

> But, as external environmental conditions change with increasing rapidity due to shifting customer preferences and a dynamic global marketplace, the need is intensified to move beyond examinations of exemplary performers under past conditions. A future orientation is needed. (p. 103)

Some experts do not see time as a threat to the validity of a well designed competency model. During an interview with Yeung (1996), Boyatzis stated that even though the relative importance of individual competencies may change in the future, an occupation's fundamental competence would not vary.

Applications of competency models

Antonacopoulou and FitzGerald (1996) warned

> The requirement for a rapid response to change, accompanied by increasing cost-consciousness and the realisation of the need to develop managers, has forced organisations to seek quick fixes to long term problems. As a result, many organisations rushed to subscribe to the 'new' catch phrase of 'competency' (...) The enthusiasm of organisations to adopt a competency framework, has led to its employment for a plethora of uses and purposes often without critically assessing the wider implications.

Back in 1980, McLagan identified a set of possible uses for competency models:

- Recruitment and selection
- Assessment
- Individual development planning
- Training curriculum design
- Individual career planning
- Coaching, counseling, mentoring, sponsoring
- Succession planning and high potential identification
- Career pathing

A review of the literature supports that the uses identified by McLagan have not changed very much over the past two decades. Recent literature identified only a few new uses of competency models, most of them fueled by technology.

Thirteen years after McLagan's article, Spencer and Spencer (1993) identified very similar uses for competency models: assessment and job-person matching for recruiting, placement, retention and promotion; succession planning; development and career pathing. In addition, the following uses were identified as applications of competency models:

- Performance management

- Competency-based pay

- Integrated human resource management information systems

- Competency-based workforce planning.

Six years after Spencer and Spencer's book, Rothwell and Lindholm (1999) suggested that competencies could also be used to deal with multicultural matters and various strategic issues. They predicted that competency-based Human Resource Management (HRM) systems will become "the keystone in the bridge between individual career development and organizational strategy" (p. 101). They described the concept of "portable competencies" which makes it possible for individual workers to move throughout the firm, to areas or projects where their competencies are most valuable. The following sections will cover the seven main applications of competency models identified in the literature.

Recruitment and selection

In the early 1990s, the U.S. Office of Personnel Management conducted a massive competency modeling effort involving 20,664 supervisors, managers and executives in the U.S. Federal government. This study, the largest of its kind to be undertaken, gave birth in 1997 to the Executive Core Qualifications (ECQs), a set of 22 competencies

spread across 4 main categories (United States Office of Personnel Management, 1999; U.S. Army, 1999). The ECQs are currently used to select candidates for the Senior Executive Service (SES). A synopsis of the ECQs is listed in <u>table 2.1</u>.

In the early 1970's, McClelland (1993) used competence identification to select junior Foreign Service Information Officers for the US State Department. Spencer and Spencer (1993) identify selection as one of the main uses of competency modeling at Hay/McBer.

Gap assessment

The American Institute of Certified Public Accountants (AICPA) uses a competency model to help its members assess their competencies (Waller, 1999). The institute developed a Competency Assessment Tool (CAT) based on 40 competencies distributed across 4 categories. After the user enters data, the software determines the gap between the competencies the user currently possesses and the ideal set of competencies for a professional in her or his area.

Succession management

According to Byham (1999), research completed by Development Dimensions International (DDI) shows that over the next five years, a considerable number of organizations especially large, older ones will loose about 40 percent of their executives. Byham suggests setting up competency model as the first step to succession management. He explains the difference between succession planning and succession management:

Basic Competencies Needed by All Professionals		
Decisiveness	Flexibility	Interpersonal Skills
Leadership	Oral Communication	Problem Solving
Self-Direction	Technical Competence	Written Communication
Additional First-Level Competencies Needed by Supervisors		
Conflict Management	Human Resources Management	Influencing/Negotiating
Managing Diverse Workforce	Team Building	
Additional Mid-Level Competencies Needed by Managers		
Creative Thinking	Customer Orientation	Financial Management
Management Controls/Integrity	Planning and Evaluating	Technology Management
Additional Higher-Level Competencies Needed by Executives		
External Awareness	Vision	

Table 2.1- Synopsis of the 1997 Executive Core Qualifications (ECQ) generated from the Leadership Effectiveness Framework study. Generated from U.S. Army (1999, December 17). CP-14 - Appendix M: Leadership effectiveness framework. [On-Line]. Available: http:\\www.cpol.army.mil/train/acteds/CP_14/appm.html.

> (...) succession planning focuses on identifying an individual for a specific job, succession management focuses on creating and stocking pools of candidates with high leadership potential.

Byham sees competencies as tools that could be used to single out and develop future leaders

Strategic planning

Strategic planning is a critical part of business and competency models can help align a company's workforce to its overall strategy. McDowell (1996) identified four steps to avoiding a misalignment between an organization's employees and its business strategy:

1. Encourage strategic business partnering with key players

2. Develop a strategic workforce competency model.

3. Develop a strategic curriculum.

4. Implement a strategic competency model and strategic curriculum to guide training and development efforts.

Rothwell and Lindholm (1999) also predict that competency models will be the nexus that ties individual career development and organizational strategy.

Portable competencies and career planning

Nowadays, companies are less stratified then they were a few decades ago. With the depletion of middle management, and under the pressures of early retirements, downsizing and reengineering, the traditional organizational hierarchy has flattened. Corporate hierarchies with loose boundaries, also called "boundaryless hierarchies" (Ashkenas, Ulrich, Jick & Kerr, 1995) have competencies spread out through the

organization (Rothwell & Lindholm, 1999). With these new organizational structures, workers are not only moving up the organizational ladder, but they are also experiencing lateral movements. Ashkenas et al. tell us "regardless of title or position, when an individual has the skill to do a job, he or she is encouraged to pitch in and do it" (p. 45). Competency modeling makes it possible to identify and keep track of the competencies of individual employees through a database (Spencer & Spencer, 1993).

By keeping track of worker competencies, it is then possible to put teams together on the fly based on the competencies that will be needed for a specific project. By using databases, it is also possible to keep track of workers' competencies has they move through the organization, jumping from one team to the next and acquiring new competencies.

Competency-based management (CBM)

According to Greengard (1999), competency-based management (CBM) can offer enormous organizational gains.

> CBM is a core strategy for understanding what's really going on within the enterprise. By condensing core competencies from a web of roles, goals, skills and knowledge that determine an employee's effectiveness, it's relatively easy to view a snapshot of where employees- and the organization- are in the ongoing quest for success.

CBM uses software to manage the competency inventories and keep track of each worker's accomplishments; and that makes the concept of "portable competencies" possible. Greengard suggests that CBM can also be used to support competency-based compensation plans.

Compensation

        In his article titled "Competencies: A poor foundation for the new pay", Lawler (1996) argues that not all organizational infrastructures are appropriate for person-based pay (also called skills-based pay). He observed that companies are gradually looking at competency models as a "foundation for determining pay in person-based pay systems". He forecasts that in the next decade, most organizations will phase out job-based compensation in favor of person-based pay systems simply because it makes more sense to pay more competent workers better than the less competent ones. The biggest challenge will be to devise a means to measure competence. Lawler admits: "I don't know about you, but I find all this very confusing -- perhaps an exercise in semantic obfuscation. At times, it sounds as if competencies are actually nothing more than skills or knowledge". He stated that past research has supported that person-based pay seems to work particularly well in team-based environments where individuals must acquire several skills and that most individuals prefer person-based pay to job-based pay because they are in control of their salary: their pay becomes a function of their competencies and performance on the job. When person-based pay systems are first put in place, they provide a good motivation for employees to improve their skills and these systems reach their apogee (in terms of performance improvement) during the first years of implementation. It has also been found that these systems tend to be more successful when coupled with pay-for-performance systems that reward team or group performance. Such systems are even more effective when they are designed with the input of the employees they will affect. On the other hand, Lawler acknowledges that person-based pay systems are not easy to implement. He warns that these systems are very complex and difficult to design without a thorough understanding of the

organization; and because of their complexity, they are expensive to maintain and manage. Furthermore, the organization must establish reliable and valid methods of measuring a worker's abilities and these abilities must be related directly or indirectly to the organization's strategic goals; otherwise, the effort will be fruitless.

Approaches to competency identification

Even though many books and articles have been written on the concept of "competency" and on competency modeling, few authors have provided a step-by-step approach to the identification of competencies and the design of competency models. Spencer and Spencer's (1993) "Competence at Work" is one of the foremost research-based books on competencies and it distinguishes six main avenues of identifying competencies:

1. Behavioral Event Interviews

2. Expert panels

3. Surveys

4. Computer based expert systems

5. Job/task function analysis

6. Direct observations

In "The Competency Toolkit", a how-to book for practitioners new to competency modeling, Dubois and Rothwell (2000) revisit three of the methods identified by Spencer and Spencer (Behavioral Event Interviews, surveys and job observation) and describe additional approaches that have been used to identify competencies:

7. Tailoring or adopting an outside expert model

8. Using a generic or existing competency list

9. Using a competency inventory

10. Focus group

11. Card sort

12. Guessing

Spencer and Spencer (1993) and Dubois and Rothwell (2000) cover most of the methods described in the literature. Although many of the methods have been called by different names, the twelve methods identified previously provide a holistic view of the competency identification methods in the literature. Furthermore, Rothwell and Lindholm (1999) and Rothwell and Kazanas (1998) classify competency identification and modeling methods into three general categories:

I. The borrowed approach

II. The borrowed-and-tailored approach

III. The tailored approach.

Rothwell further subdivides the tailored approach into the following methods: process-driven method, outputs-driven method, invented method, trends-driven method and work responsibilities-driven method. Rothwell's 3-tier classification provides an ideal means to catalog the different methods that could be or have been used in competency identification. The following sections covering the 3-tier classification will provide an overview of the various competency identification and competency modeling approaches identified by Spencer and Spencer (1993) and Dubois and Rothwell (2000).

I.- The borrowed approach

The borrowed approach is the least rigorous of the methodologies and also the least costly. It simply requires the identification of a competency model that was developed for a group of individuals that is somewhat similar to the group for whom a competency model is needed. Generic full-circle multi-rater assessment instruments that are purchased from training and assessment material clearinghouses and that are not custom-tailored to the needs of a specific organization fall under this approach. Competency lists found in books, articles and other media also fall into this category.

Main advantages of the borrowed approach

1) <u>Easy to implement</u>. There is no need to identify super performers, to develop a methodology or to identify the competencies. The only investigation that needs to be undertaken involves searching for and researching competency models that have been developed for a similar group of individuals.

2) <u>Least expensive method</u>. Building a competency model from scratch can be very expensive. A competency study of just the upper-level management positions in a large US company can cost anywhere between $1,000,000 and $3,000,000 (Rothwell & Lindholm, 1999) and take anywhere from a few months to years (McLagan, 1997). The borrowed approach allows the bypass of the costly competency identification process. The main cost involved with this method is usually the expense associated with the acquisition of the model.

3) <u>Rapid results</u>. Depending on the project and the number of people involved, competency studies can be very time consuming. Since there is no time used to identify or develop the model, once the latter has been identified, it can be put to use.

4) <u>Credibility</u>. If the competency model was developed for or has been used by a renowned or successful organization (even though it has not been tailored to the organization that has "borrowed" it) there will be a certain level of credibility associated to the model. Dubois and Rothwell (2000) label that phenomenon as "coat-tails credibility".

Main disadvantages of the borrowed approach

1. <u>Unknown suitability</u>. Since the competency model is generic and has not been tailored, there is no assurance that all or any of the competencies identified will describe an above average performer in the organization using the model. Even if the competencies are correct, the behavioral descriptors associated to the competencies may not fit a particular organization's vernacular or culture.

2. <u>Least rigorous approach</u>. If a competency model is borrowed from an external source, its quality may be questionable: there may be concerns associated to the validity or suitability of the model. Many off the shelf full-circle multi-rater assessment instruments do provide some information on the genesis of the model but it may be very difficult to ascertain the veracity of the information.

3. <u>Copyrights issues</u>. A competency model should never be "borrowed" without the owner's permission (whether the latter is an individual or an

organization). Since they can be very costly to design and develop, the owners of these models, whether they are entities or individuals, may be very reluctant to grant permission to use them.

4. <u>Low level of legal defensibility</u>. One should be very careful before using competency models derived from the borrowed approach for selection, promotion or termination. It will be very difficult to argue a case in court should an employee choose to litigate. These models are of limited use and should only be utilized for training and individual development.

II.- The tailored approach

The tailored approach is the most rigorous of the methodologies. It involves building a competency model from scratch and tailoring it to the needs of a specific group of people or organizational environment. Three different methods can be used or combined to create a tailored competency model: process-driven methodology, outputs-driven methodology and trends-driven methodology.

A.- Process-driven methodology

The process-driven methodology is the oldest means of identifying competencies and constructing competency models. Popularized by McBer and Company, this methodology puts a big emphasis on the work process of super performers (Spencer and Spencer, 1993). The work duties, tasks performed and responsibilities of exemplary performers are analyzed and compared to those of average performers. The traits unique to the super performer are isolated and the resulting set of competencies is validated. A

process-driven study can involve methods such as Behavioral Event Interviews, focus groups or job observations of incumbent workers.

B.- Outputs-driven methodology

  The outputs-driven methodology has been around since McLagan wrote her 1980 article on competency models. She identified competencies as knowledge, skills, attitudes or intellectual strategies. McLagan also focused on the above average performers and put a big emphasis on isolating the competencies that are crucial to getting the job done well. She warned that since competency models are to be used to prepare for the future, the outputs should be considered by making assumptions about the future. If the job requirements will change, she suggested that the model be adjusted to reflect the change by taking into consideration future duties, tasks and relationships while accounting for corporate and unit strategic plans. An outputs-driven study can involve methods such as: job analyses, focus groups or expert panels.

C.- Trends-driven methodology

  A trends-driven methodology puts a great focus on the trends that will impact a group of individuals, an occupation or an organization and can particularly be useful in times of turbulence. The methodology is future-oriented and requires a thorough look at the trends and issues before the beginning of a competency identification effort. A somewhat similar approach is mentioned in Rothwell, Prescott and Taylor's (1998) book on preparing Human Resources for future trends organizations.

  Although Rothwell and Lindholm (1999) call for such an approach, review of the literature revealed that not much has been published on this methodology with regards

to building competency models. In the American Society for Training and Development's (ASTD) book on models for workplace learning and performance, Rothwell, Sanders and Soper (1999) write:

> The challenge (...) is in assessing the skills and knowledge that (...) practitioners will need in an unpredictable future (....) Competency assessment methods must become more future focused and anticipate the characteristics necessary for high performance amid changing environmental conditions. (p. 21)

Competency modeling methods

The preceding methodologies involve the use of various approaches to identify competencies and develop competency models. Although some of these methods are more rigorous than others, in the end, the quality, validity and reliability of the model will depend strongly on how the study was conducted by the investigator. If properly conducted, the more rigorous methods (e.g. Behavioral Event Interviews) are defensible in court and can be used for a gamut of applications ranging anywhere from recruitment and selection, gap assessment, succession management, strategic planning, portable competencies, career planning and competency-based management (CBM). Compensation is the most perilous application because of the possibility of litigation; therefore, studies conducted for the purpose of developing competency-based compensation must be exceedingly rigorous and the methodology/methods used to develop such a model must be defensible in court.

Very few organizational competency studies have been published. Because of their cost and potential strategic value, companies are very reluctant to share their models with the rest of the world. Most of the competency models discovered through a

literature review conducted by the researcher in 2000 had been generated by academic institutions, governmental agencies or professional associations. Many doctoral dissertations have been written on studies to identify competency models for various occupations and data have been collected using various methods; the most common are:

A. Critical Incident-based methods

B. Expert panels/focus groups

C. Survey methods

D. Computer based methods

E. Card-sort generated model

F. Direct observations

G. Job/task analysis

H. The "invented" method

A.- Critical Incident-based methods

The most famous types of interview-based approaches for developing competency models are the Behavioral Event Interview (BEI) and the Critical Incident Technique-based (CIT) interview. BEIs have been around for more than three decades and involve interviewing exemplary and average performers using a technique developed by McClelland (1973) to identify the competencies that differentiate super performers from average workers. BEIs involve the "thematic apperception test" which theoretically provides the interviewer with a glimpse of the interviewee's personality and cognitive style. It should be mentioned that BEIs came out of the Critical Incident Technique, a term coined by Fanagan (1954) while working for the United States Army on projects aimed at improving worker performance through job analysis. In Critical Incident

interviews, the interviewee is asked to recall and describe critical occurrences associated with accomplishing a job task. The method is thoroughly described in Spencer and Spencer (1993, p. 114-134). BEIs and the CIT have been used extensively in competency identification and competency modeling studies.

Daniel (1990) used the Critical Incident technique to isolate the critical leadership competencies common to high performing manufacturing supervisors. A sample of 9 super performers and 9 randomly selected supervisors were interviewed using the Critical Incident Technique (CIT) and the competencies were identified through the thematic analysis of the interviews. The latter identified 13 competencies that differentiated the exemplars from the average workers. The results were validated using a survey instrument that was completed by 38 supervisors: 15 super performers and 23 randomly selected participants, the incumbents' immediate managers and 3 to 6 of the incumbents' direct reports. In a similar study, Brown (1987) looked at the differences between managers and leaders and attempted to isolate the competencies that define transformational leaders. Two groups of incumbent workers from a Fortune 500 company were interviewed: super performers and average workers. The results of the interviews were analyzed to identify the behaviors, skills and motives that differentiate super performers from average workers.

Smith (1990) used BEIs in a study to identify physician managerial competencies by researching: critical skills, current level of physician managerial skill development, gaps between job demand and skill level; and whether critical skills varied based on managerial level or the health care setting. The participants were physician managers holding mid- to upper-level executive positions in healthcare settings. Various methods were used in the study: a modified version of the BEI, the "Executive Skills Profile" and a

"Q-sort instrument". The "Executive Skills Profile" was used to rate 4 major skill areas: interpersonal, action, information management and analytical. The study identified 15 job priorities that differentiated Department Directors from Medical Director level physician executives. The health care setting was not found to have an important impact on job priorities.

Katz (1996) identified the competencies that define a medical illustrator using the McBer & Company's Behavioral Event Interview technique and their Job Competence Assessment (JCA) method. Focus groups composed of practitioners, employers and clients were used to establish the criteria for the identification of outstanding performers. BEIs were used to identify critical incidents using 10 freelancers, 10 institutional illustrators and 10 novices. The BEIs identified 15 critical competencies and the results of the interviews were compiled into a competencies dictionary. The latter was rated and validated by two expert panels using a questionnaire instrument.

Advantages of Critical Incident-based methods:

1)   High face validity.

2)   High predictive ability.

3)   Identification of algorithms involved in accomplishing a particular task. BEIs allow the interviewer to identify not only the competencies but also the different steps taken and the order in which they are accomplished.

4)   Free from racial, gender and cultural bias. McClelland (1973; 1993) claims that BEIs are not biased against minorities.

Disadvantages of Critical Incident-based methods:

1)   Very time consuming. BEIs require the extensive interviewing of workers and

        typical projects usually require a minimum of 6 months to complete (Dubois &

        Rothwell, 2000).

2)   Expertise requirement. Since the method is complex, interviewers must be

        trained to use the method, conduct the interviews and analyze the data. If more

        than one interviewer is being used, they must be "calibrated" to make sure that

        they are working in unison.

3)   Very expensive. Studies using BEIs are very expensive to conduct. The

        interviewers must thoroughly interview the incumbent workers. One must

        therefore take into account not only the time of the interviewer but also lost

        wages, lost productivity from the exemplary workers, transcriptions costs and

        other expenses.

4)   Unidentified job tasks. Since the method focuses on critical incidents, it may

        miss the less important aspects of a job.

5)   Past-oriented. Since BEIs use critical incidents to generate the competencies,

        they should not be used when an organization, a business unit or an occupation

        is undergoing change. McLagan (1993) warns that "there's a danger that what

        worked in the past will be insufficient and maybe detrimental – in the future" (p.

        44).

B.- Expert panels/ focus groups

        The distinction between expert panels and focus groups is blurry in the

competency modeling literature. Spencer and Spencer's (1993, p. 99) description of an

expert panel and Dubois and Rothwell's (2000, p. 2-42) description of the use of focus groups to identify competencies seem very similar. Dubois and Rothwell suggest the use of a structured approach such as a modified DACUM to identify the competencies. Spencer and Spencer suggest a brainstorming session where characteristics of an average incumbent worker and a super performer are identified. They warn that it is critical that all the panelists be exemplary performers.

Kelley (1998) used 3 panels of experts to generate and validate the competencies that will describe a successful superstore manager over the next 5-10 years. The first panel, composed of 8 managers produced the first list of competencies. The second panel, made up of 10 "well-known" industry experts rated the list of competencies generated by the first group. The third panel, composed of 29 senior leaders from "the most innovative supermarkets in the United States" rated the results from the second panel. In the end, the study generated 46 competencies grouped around 4 competency clusters. Lee (1994) looked into the competencies, work outputs and roles of HRD professionals in Taiwan using a 16 expert panel that met twice and generated 34 competencies. Lee claimed that expert panels were used because of their efficiency and low associated expenses.

Advantages in using expert panels/focus groups:

1) Efficient. Expert panels can be very efficient when properly organized and administered.

2) Buy-in. If the expert panel was composed of individuals within the company, the outcomes may be more readily accepted and supported.

3)   Increased communication. One of the residual or side effects of this approach is that it may increase the flow of communication between the participants or create new work alliances between a firm's super performers.

Disadvantages in using expert panels/focus groups:

1)   Identification of phantom or mythical competencies. Competencies that are unrelated to or have no predictive value in terms of competent performance may be identified simply because they reflect the traditions of an organization.

2)   Lack of technical vernacular to develop the behavioral descriptors associated to the competencies can result in inaccurately expressed competencies.

3)   If the process is not well structured and managed the outcome may be erroneous and the resulting model useless. Dubois and Rothwell (2000) do tell us that if the process is highly structured, the results can be very accurate, "depending on the motivation of the project manager" (p. 2-43).

4)   Participants must be committed to the successful completion of the process.

5)   The process is subject to all the pros and cons of group-based approaches.

6)   If a heterogeneous group is used, dissentience may prevent the different factions from reaching consensus.

C.- Survey methods

        Surveys can be used to collect data from experts or job incumbents and can serve two main purposes: the identification of competencies or the rating of competencies that were identified using another method. Spencer and Spencer (1993) suggest that the focus of the survey be the jobholder and not the job tasks; furthermore, the respondents

should be superior performers in the job, their managers and outside experts. Montgomery (1983) used an expert panel composed of leaders from three transportation safety organizations to identify 41 competencies for safety professionals. The list was then reviewed and edited by a panel composed of five members of the Texas Transportation Institute. The resulting list of competencies was used to draft a survey-questionnaire that was validated and reliability was assessed using a Crombach Alpha test. The survey instrument was distributed to a random sample of 800 of the 1600 members of the American Trucking association. Approximately 39% (312) of the sample returned their survey questionnaire to validate the model.

A panel of 4 experts put together a 43-item competency model based on the Data Processing Management Association's "Computer Information Systems: Curriculum 1981" (Clamon, 1986). The model was then validated with representatives from 27 organizations using an interview-questionnaire method. The survey was mailed to a random sample of 200 manufacturing organizations with a total of 200 or more employees. A total of 43 returns were usable and analyzed using a t-test.

The main types of survey methods (Fowler, 1993, p. 64) that can be used in competency modeling are:

Personal interview surveys. In this case, the interview is conducted face to face and may be recorded (video or audio) and transcribed at a later time. This method allows the interviewer to fully interact with the interviewee and witness all the non-verbal cues. During the interview process, it is possible for the interviewer to create a rapport with the interviewee thus increase the comfort level; the latter may be very difficult or even impossible to accomplish using other survey methods. On the downside, personal

interviews require a trained interviewer and can be very costly (i.e. interviewer's time, transportation expenses, possible lodging costs, transcription costs, etc).

<u>Telephone interview surveys</u>. The telephone interview is conducted at a distance and may be recorded (audio only). This method is usually less expensive than the personal interview and allows for better access to people scattered over a large geographic area. The data collection process is typically simpler and shorter than with personal interviews. The interaction between the interviewer and interviewee is very limited: the interviewer can only monitor verbal cues and visuals cannot be used.

<u>Self-administered data collection methods</u>. Self-administered surveys can be conducted via mail, e-mail, fax or another means of communication. They are convenient for the respondents who are able to answer questions at their leisure and, able to consult their records, thus verifying the veracity of their answers. Administering surveys through electronic media or the mail is relatively inexpensive. The biggest drawback of self-administered surveys lies on the instrument's design; the latter is critical and requires that the questions be drawn up correctly. The language and technical vernacular used in the instrument must be appropriate to the target respondent group; and confusion and ambiguity must be reduced to a minimum.

Advantages of survey methods:

1)   Efficient. With the exception of the personal interview, survey methods are usually less expensive than other methods; they provide a quick way to gather data.

2)   Access. Survey methods allow investigators to access a large pool of experts.

3)   Buy-in. When many people are involved in the competency modeling process, buy-in is increased and the participants are more likely to accept and abide by the results.

4)   Survey methods can allow for the systematic "distillation" of very large set of competencies to a manageable, parsimonious competency model.

Disadvantages of survey methods

1)   When survey methods are used, respondents usually rely on their perception, beliefs or preferences instead of facts to answer the questions.

2)   As with any other method the sampling process used to identify the participants is critical and will reflect the results.

D.- Computer-based methods

Computers are playing an increased role in competency modeling. Some retailers amass competency statements from successful organizations, sort them and place them in large databases containing not only the competency statements but also the demographics and cultural/environmental data on the organizations that provided them. The database is then used to generate competency models based on the inputs entered: companies are asked questions pertaining to their demographics and organizational structure and the computer uses an algorithm to "custom design" a competency model.

Main advantages of computer-based methods:

1) Most of the work is outsourced. With computer-based methods, the vendors who provide the services do most of the work.

2) Execution time is reduced.

3) "Implied validity". Dubois and Rothwell (2000) suggest that since the competencies entered in the database are obtained from successful organizations that share the same characteristics as the client, the resulting model has "implied generalizability", thus "implied credibility" (p. 2-41).

Main disadvantages of computer-based methods:

1) Validity. The old computer science adage "GIGO" (Garbage In Garbage Out) applies here. With computer-based methods, the organization must trust that the vendor properly sorted and selected the competencies that were entered into the database. It is also critical that the algorithm used to generate the competency model is based on a sound process.

2) Outdated data. Since the database is usually built on competencies that were identified through a best practices approach, the competencies in the database may be outdated. The latter is even more critical for competencies that have a direct link to technology.

3) Generic model. The model generated by such a process tends to be generic. The language used to describe the competencies may not reflect the organization's vernacular.

4) Cost. The competency modeling effort may end up being very costly relative to the questionable quality or reliability of the resulting model.

E.- Card sort

The card-sort method is described by Dubois and Rothwell (2000) as a process in which an observer or participant is asked to "sort a set of competency statements according to a set of instructions" (p. 2-44). The competencies are usually printed on cards. This approach is very similar to the computer-based method described earlier with the main difference being that the sorting process is not outsourced.

Main advantages of the card-sort method:

1)   The method works well if a large set of competencies identified through another method needs to be streamlined.

2)   Competencies are ranked based on their perceived importance to the group.

3)   The process can be conducted remotely.

Main disadvantages of the card-sort method

1)   The generation of the original pool of competencies to be sorted is a very critical step in the process. The "GIGO" concept also applies here. The quality of the competencies to be sorted will determine the quality of the final product.

2)   The sorting algorithm must be well formulated and reflect the desired outcomes.

3)   The sorting directions must be clear so that the participants understand exactly what they are doing.

F.- Direct observations

Direct observation involves two steps: first, scrutinizing all critical job tasks as incumbent workers complete them; and second, coding the behaviors.

Advantages of direct observations:

1)   Good verification tool. Direct observations can be great tools to substantiate competencies that were identified by an expert panel, BEIs or surveys.

2)   Effective technical competencies identification tool. Observation is appropriate when the competencies being identified are technical or not very abstract. Such a method works well with low skilled or semi-skilled occupations.

Disadvantages of direct observations:

1)   Inefficient. The approach is very expensive and less efficient than most of the other methods.

2)   Does not work well when an occupation involves very abstract competencies (e.g. managerial or supervisory positions). McLagan (1993) also points out that not all KSAs (knowledge, skills and attitude competencies) can be observed directly.

G.- Job task/function analysis

Job task and function analyses entail having employees or observers itemize all the details involved in performing a task or duty over a certain timeframe. If observers are used, the analysis becomes very similar to a job observation. Input can also be collected from the incumbent workers through the use of surveys. Job task/function analyses are not recommended for competency modeling because the focus is on the job and not the individual (Spencer & Spencer, 1993).

Advantages in using job task or function analyses:

1)   The approach works well if the purpose of the effort is to create job descriptions or design a new position.

2)   It can be used to validate competencies that were identified though another method.

3)   The approach meets the 1978 Uniform guidelines on employee selection procedures, which makes it easier to defend in court.

Disadvantages in using job task or function analyses:

1)   The approach focuses on the job and not the exemplars (the individuals who excel at their job)

2)   Task lists are usually very bulky. Spencer and Spencer (1993) tell us that it takes 3,002 motions to drive a car.

H.- The "invented" method

        The "invented" method simply involves guessing what the competencies should be. Dubois and Rothwell (2000) and Rothwell and Lindholm (1999) recognize that the method offers a very low level of reliability and that the resulting model may not be valid. This method is not recommended but since some practitioners do use it, it is worth mentioning. This method involves identifying a group of decision makers and asking them to simply speculate on what the competencies identifying super performers should be. This method perhaps may be useful when a group of workers or an organization is going through a period of change and the incumbent workers have no control over what the future will look like.

Advantages of the "invented" method:

1) Inexpensive

2) Competency model is generated very quickly. It is very difficult to ascertain the quality of the model generated but it is the quickest and easiest means of generating a somewhat tailored model.

Disadvantages of the "invented" method:

1) Very low level of reliability.

2) The outcome may not be valid.

3) The results may not be acceptable to the project sponsor and the incumbent workers who perform the job.

III.- The borrowed-and-tailored approach

The borrowed-and-tailored approach is a hybrid between the borrowed and the tailored approach. It involves using a model that was developed outside of the group, the unit or the organization; and customizing it to fit the group or organizational culture. A good example of the latter is the customization and use of occupation-based models developed by professional organizations.

Occupation-based model

Many professional organizations sponsor competency modeling efforts for the benefit of their members. As mentioned earlier in this chapter, the American Institute of

Certified Public Accountants (AICPA) sponsored a study (Waller, 1999) to identify the competencies that were critical to its members. The model deriving from that effort was used for gap assessment.

Occupation-based models can also be implemented to generate information that will be reported to governmental agencies such as the department of labor or to develop certification programs. Data are usually collected from well-known field experts. Dubois and Rothwell (2000) state that such models are generally of high quality; and go over the advantages and disadvantages associated with these models (p. 2-39).

Main advantages of using an Occupation-based model:

1)   The competencies are defined in the occupation's vernacular.

2)   The competency model describes the entire occupation, not just a niche or a specialty.

3)   Various experts in the field have identified the competencies.

4)   The results are easier to defend in court and are usually "recognized by government persons at all levels of practice" (Dubois & Rothwell, 2000, p. 2-39).

5)   They can be used as strong basis to develop a customized model.

Main disadvantages of using Occupation-based model:

1)   They are not designed to fit any particular organization and, thus may not fit a particular organization's culture.

2)   They usually focus on technical competencies and may overlook personal competencies.

Delphi

The study's methodological framework was based on a modified Delphi methodology; hence it was deemed necessary to research the literature on the history and uses of Delphi. This section will begin by looking at the uses of Delphi across various disciplines before providing an overview of the application of Delphi as a competency modeling tool. The method will also be covered later in the methods chapter (chapter 3).

Looking into the future with Delphi

The Delphi methodology has been in use for about half a century. Over the years, the method has been utilized in a variety of environments and for a multitude of applications. Taylor and Meinhardt (1985) suggested using Delphi to plan for present and future computer information needs of small businesses. Experiences Inc. sponsored a Delphic study to forecast the future of the beverage industry and explain contemporary trends (Dull, 1988). Morley (1990) wrote about a Delphic study to forecast the future of the automation market and identify possible strategies and implementation concerns. Lunsford and Bradley (1993) wrote about a Delphic study to develop strategies to deal with the promising growth of "marketing business services" in the emerging economies of Hungary, the former Czechoslovakia, Poland, the former East Germany and Russia. Young, Keng and Leng (1989) used 2 different Delphi panels to project the future of Singapore's tourism industry. Pesch (1996) talked about a 2-iteration study involving 15 experts to define Skinner's (1974) "focused factory" and clarify issues affecting "focused manufacturing". Wright (1998) reported on a study that was conducted to forecast the

market for broadband telecommunications. The study was based on a Delphic methodology involving 7 different viewpoints and built on a previous quantitative analysis of subscriber demand. Jarish (1998) won an "Idea of the Year" award for developing a technique to facilitate purchasing practices while predicting the cost of materials. The technique based on a Delphic approach incorporated macroeconomic forecasts to "produce minimum and maximum predictions and a reliable mean".

The Life Office Management Association and Arthur Andersen conducted a Delphic study to examine the future of the insurance industry (Askew, 1984; Razza, 1984). The study involved over 150 life insurance executives and covered multiple aspects of the insurance industry. The participants were asked to share their views on four main categories of issues. Iverson and Jorgensen (1986) used Delphi to determine the technology needs of small and medium size manufacturers in Washington State and indicate policy directions for the Washington Technology Center. The latter study involved 70 diverse firms and the use of 3 different instruments. The Colorado chapter of the Society of Chartered Property and Casualty Underwriters (CPCU) used the Delphi technique and 282 members of their Chicago chapter to predict the future of the industry based on an instrument covering 50 property and casualty insurance issues (Dye, Best, Cole, Essman, & Williams, 1989). Mettler and Baumgartner (1998) reported on a German research project titled "Socially oriented shaping of technology in the state of NorthRhine-Westphalia". The latter was a Delphic study aiming at devising new decisions, decision-structures and decision-procedures relating to the social and environmental impacts to contemporary and future technological advances. The research focused especially on microelectronics and specifically their relation to labor.

Couger (1988) described a study that was conducted to single out the 10 most important issues in the management of human resources in the field of Information Systems. A three-iteration Delphic approach was used and data were collected from HR executives of Fortune 500 companies. The survey was modeled after a similar Delphic study that was carried out with Information Systems executives; and the outcomes of the two studies were compared. Interestingly, six of the 10 most important issues appeared in both studies but were ranked differently.

Doke and Swanson (1995) reported on a Delphic study that was undertaken to identify decision variables for selecting prototyping in information systems development. The process involved a Delphic panel composed of managers from Computerworld's Premier 100 firms that were using prototyping. A literature review was used to identify 19 recurring variables. The expert panel was then asked to isolate and rank the variables they deemed important when deciding to add prototyping in their systems development projects. The panel went through 3 iterations, where 9 of the 19 the original variables and one of the variables that surfaced from the Delphic process were identified as important. In the end, seven of the most popular items in the literature were ranked unimportant.

Czinkota and Ronkainen (1997) used a 3-round Delphi approach to forecast changes in the international business and trade industry over the next decade. The study started with the selection of a pool of eligible participants chosen by a research council made up of one leader in each of the following areas: international policy, business and academia. The leaders were identified as each (1) having more than twenty years of experience and (2) being well connected in their areas of expertise. The leaders identified 54 experts meeting the following criteria:

- active career in international business for at least 10 years

- leader in their professional setting

- visionary

- accessibility and willingness to participate in the study.

The sample was stratified into three groups (policy, business and research) of 18 experts. The policy group was composed of current or former members of the legislative and executive branches of government. The business group was made up mostly of corporate presidents and vice-presidents of international operations. The research group was constituted of university professors and program directors with expertise in international business. Thirty-four of the 54 experts completed all three rounds of the study. The first Delphic round provided the participants with an open-ended questionnaire asking for the "identification of international business dimensions subject to change in the new millennium" and to "highlight the corporate responses to these changes". The first round generated 18 pages of issues and trends, which were categorized by the research council to (1) eliminate redundancies and (2) make the second instrument more manageable. In the second iteration, the panelists were asked to review the categorized data collected from the first iteration and classified by the research council. The experts were asked to elaborate on the statements, indicate their agreement or disagreement, assess the likelihood that a particular change would occur within the next decade using a ten-point Likert scale; and rate the extent of the impact such a change would have on corporations, using another ten-point Likert scale. The third and final round concentrated on the statements that generated divergent opinions from the expert panel (a similar approach was used in the B-to-B market management competency study).

The International Association of Corporate Real Estate Executives (NACORE International) sponsored a study of the future of the Corporate Real Estate (CRE) function (Carn, Black & Ribiansky, 1999). The study surveyed 18 corporate real estate experts from a variety of backgrounds and organizations who went through a "three-stage information gathering process". The first step involved telephone interviews to identify the issues that would makeup the instrument. In the next phase, the experts were asked to rate the 81-item instrument. The instrument was finally sent to the experts one last time to rank the competencies using a 5-level scale.

Large Delphic studies

The originators of Delphi (Delbec, Van de Ven & Gustafson, 1975) recommended panels of 10-15 experts, if the experts represented a homogeneous group, and a maximum of 30 panelists for the sake of feasibility, manageability and completeness. It should be mentioned that studies involving more than a hundred participants have been completed successfully. The Japanese have been conducting large scale quinquennial Delphic studies of some of their industries since 1971. The Germans, the British and the French have been doing the same (Coates, 1997, Ushio, 1993, Breiner, Cuhls, & Grupp, 1994). The Securities Industry Association contracted Arthur Andersen & Co. to identify "the forces that would shape the industry in the next few years" (Piontek, 1985). A Delphic approach was used to survey 600 executives from securities firms, competitor organizations, regulators and customers.

An Indian study of 286 participants representing a variety of engineering disciplines was undertaken to study "major breakthroughs that could conceivably be

achieved within the next 3-4 decades" (Garde & Patel, 1985). The results of the 1981-1982 study sponsored by Bharat Heavy Electrics Ltd. were compared to two other Delphic studies completed a decade prior. The studies yielded similar results.

Bogart and Moran (1986) reported on a study that was conducted to discover the forces that will affect the future of advertising research. This Delphic study involved 12 key decision makers and 250 marketing and advertising agency executives. Zelauskas, Howes and Chrismyer (1988) wrote about a study that aimed at identifying nursing research priorities within a community-teaching, medical center setting. The study, designed around a 2 iteration Delphic approach involved 423 nurses. Contrary to the classic Delphi, each of the 423 participants took part in only one of the two rounds; they were asked to rate the importance of 11 clinical and non-clinical items to the nursing practice.

The Council of Logistics Management sponsored a two-phase Delphic study to identify trends in distribution. The first stage of the study involved a 1983 Delphic panel to identify trends that will impact the field of logistics in the 1983-1990 time frame. In the second phase, the original 1983 Delphic panel was replicated in 1987 to look at the 1987-1995 time frame. The second panel, composed of 176 leaders in the logistics field, completed a three-iteration Delphi (Robeson, 1988). The return rates fluctuated significantly during the three rounds. At the end of the third round, 76 (43%) of the 176 original panelists returned their survey. The trends identified by the expert panel were grouped into four main categories:

- Computer/Information Processing related trends
- International trends
- Domestic economic trends

- Trends in management, strategies & tactics.

The outcomes of the 1983 and 1987 studies were very similar.

The Japanese National Institute of Science and Technology Policy and the German Fraunhofer Institute for Systems Research conducted a study whose purpose was to identify technological developments that would take place over the next 20 to 30 years (Ushio, 1993, and Breiner, Cuhls, & Grupp, 1994). The study involved 3,000 Japanese experts who were asked to respond to over 1,000 questions pertaining to the future of high technology development through the year 2010. The instrument covered over a dozen different high technology areas (16 areas according to Breiner, Cuhls, & Grupp and 15 areas according to Ushio) and included:

- Products and services
- Scientific discoveries
- Technological advances.

The study was then translated and replicated in Germany where 1,000 German experts participated. Overall, the study involved more than 4,000 expert participants and is the largest Delphic study found in the literature.

The UK Technology Foresight Programme sponsored a Delphic study to look into potential future developments in Science and technology (Croates, 1997). The study involved 15 expert panels that identified 1,200 issues. Two thousand five hundred eighty five surveys were sent out in the first round with a 31% response rate.

Using Delphi in competency studies

A modified version of Delphi was used in the business market management competency study. Delbecq, Van de Ven and Gustafson (1975, p. 106) suggest, that "Delphi is a decision making tool and should be modified to respond to the needs of the individual decision makers". Delphic studies to identify competencies in an occupation have been conducted in the past. Hein and Glazer-Waldman (1988) reported on the use of Delphi to distinguish and rank strategic planning skills at the administrative and middle management level in hospitals. Amunson (1993) conducted a three-iteration Delphi to identify the competencies needed by community college and continuing education directors. Cope (1995) used a modified Delphi to uncover the trends affecting industrial teacher education in the United States. Toh (1997) used a six-member Delphic panel to validate the content of a competency model that was developed from a review of the literature on sports management. Keech (1998) identified industry-based competencies for entry-level retail management positions using a 25-member expert panel.

Everett (1988) identified the competencies needed by information systems workers. The study began with a review of the literature followed by interviews with incumbent workers and state directors. A sixteen-member DACUM (Developing A CurriculUM) panel was then used to identify and describe broad skill areas. The data from the DACUM were used to draft a survey instrument with a 4-point Likert scale where 1= non-essential, 2= somewhat important, 3= very important and 4= essential. An unusual Delphic panel rated the instrument: instead of super-performers or field experts, the panelists in this piece of research were identified as 1,047 nationwide

members of the Association of Information Systems Professionals (AISP). The first

round of the 2-iteration Delphi was used to rank the list generated from the DACUM;

furthermore, the panelists were asked to add new competencies or comments as they saw

fit. The first round generated 657 responses for a return rate of approximately 64%. The

second and final round produced 475 responses (47% of the initial pool of participants).

The data generated from the Delphic procedure was processed by the inmates working in

the Records Conversion Facility at the Wynn Unit of the Texas Department of

Corrections in Huntsville, Texas. The data were analyzed using medians, interquartile

ranges and an Analysis of Distinction, which was described by the researcher as "rank

ordering of the means". Using the latter, the researcher labeled the competencies as:

- Essential (mean rating of 3.51 or more in iteration 2)

- Very important (mean rating of 2.51-3.50 in iteration 2)

- Somewhat important (mean rating of 2.50 or less in iteration 2).

Eighteen percent (58) of the task items were rated "essential", 72% (232) were rated

"very important" and about 10% (30) were rated "somewhat important". Three skill

groups accounted for more than half (56%) of the essential competencies: "interpersonal

skills", "communications skills" and "technological skills".

Polanin (1990) used a modified Delphi to identify future technical competencies

for Computer Integrated Manufacturing (CIM) technicians. An initial list of fourteen

competencies was drafted by a focus group composed of 18 educators and industrial

specialists from the Peoria, Illinois Tri-county area. Eleven out of the 41 professionals

who were asked to nominate experts in their field submitted their recommendations.

Twenty-five experts were identified and contacted by telephone and 23 agreed to

participate in the study. The list of competencies was then used to draft an instrument

that was reviewed by the panel of 12 educators and 11 industry experts. The panelists rated the competencies using a 7-point Likert scale and a Mann-Whitney U test was used to identify differences between the two groups.

Ewing (1991) utilized a modified Delphi to list the competencies that will be needed in the future by secretaries in the State of Illinois. An initial list of competencies was developed from a literature review of previous research studies, articles, textbooks, and Competency-based Vocational Education (CBVE). A focus group composed of six educators and six individuals from business, was asked to refine the list of competencies before it was used to draft the survey instrument. Eighty-five personnel managers of service businesses and 37 personnel managers representing all universities and colleges in the state of Illinois that offered degrees in secretarial science, were asked to nominate experts for the Delphic panel based on the following criteria:

- Nominees must be innovative and knowledgeable of the field.
- Individuals nominated must be incumbents who actively hire secretaries or teach secretarial classes.
- Nominees must be visionaries and be able to look into the future and anticipate the competencies that will be needed in a 5 to 10 year time frame.

Twenty-five business experts and 25 educators were randomly selected from the list of nominees to form the Delphic expert panel. The experts were asked to review the list of competencies and add to it as they saw fit. In the second iteration, the panel that was reduced to 17 business experts and 15 education experts was provided with the updated list from the first iteration and asked to agree or disagree with the items. If experts disagreed about having a particular competency on the list, they were asked to provide

an explanation. During round 3, the experts were asked to rate the competencies using a seven-point Likert scale. In round 4, the panelists were provided with the results from round 3 and were asked to rate each competency as: "very important", "somewhat important" or "not important". Various tools were used to analyze the data. The competencies' median scores were compared to identify convergence; if opinions on the importance of a competency converged around the upper quartile, it was labeled: "REQUIRED". The Mann-Whitney U-test was used to identify if significant differences existed between educators and employers regarding the entry-level skill requirements for secretarial jobs. The results indicated that "personal characteristics" competencies, "communications skills" competencies and "basic skills" competencies were identified respectively as the first, second and third highest rated clusters.

Birdir (1998) used a modified Delphi to identify the competencies of successful research chefs. The expert educators were chosen with the help of past presidents of the Council on Hotel, Restaurant & Institutional Education (CHRIE). The industry experts were selected with the help of a 3-member panel, two of which represented the American Hotel and Motel Association, and the third, the National Restaurant Association. A Delphi panel composed of 25 expert educators and 25 industry experts was formed. In the first iteration, the panelists were asked to answer the following open-ended question: "What do you perceive as being the desirable competencies resulting from a hospitality student's four-year education (excluding travel and tourism) who graduates in the year 2007?" (p. 76). Twenty-two educators and eighteen industry experts responded to the first iteration and submitted a total of 685 competencies. The researcher collapsed the latter into 107 more general competencies that were sent back to the panel in iteration 2 to be ranked using a 6-point Likert scale. The panelists were asked to rate the

competencies by importance (1= "not important" ...6="very important") and were asked to consider ratings 4, 5 and 6 as meaning "core competence" and ratings 1, 2 and 3 as meaning "supplemental competence" or not essential. By the end of the third round, the Delphic panel had been reduced to 19 educators and 16 industry experts. The instrument reported the means of the ratings collected from the second round. Histograms were used to visually depict convergence and show movement in the ratings. Single factor ANOVA scores were used to indicate agreement between the educators and industry experts.

Jagodka (1998) conducted a Delphic study to identify the skills needed by successful international marketers. Two Delphic panels composed respectively of educators and industry experts were formed. The experts on the industry panel were required to be members of the United States Southern California District Export Council (DEC) and have a minimum of 10 years of experience in international marketing. The members of the educators' panel were required to have at least 10 years teaching international marketing at the post-secondary level and have published at least one article on international marketing in "scholarly literature". The instrument used in the first iteration was derived from a review of the literature on international marketing. The panelists were asked to review the list and add the skills they felt were missing. Contrary to all the other Delphic studies that have been reviewed, some of the first iteration questionnaires in this study were administered in person. The panelists met at a quarterly District Export Council (DEC) meeting and filled their questionnaires in the same room, at the same time. The other questionnaires were administered through electronic mail. The competencies that were added during the first iteration were inserted into the second round instrument and were sent out three months after the first

iteration. The researcher does not provide any information as to how the redundancies were eliminated. In the second and third instruments, the participants were asked to rate the competencies using an 8-point Likert scale. The following measures were added in the third iteration of the instrument: the mean rating from all the panelists, each panelist's individual rating and the interquartile range of the ratings. The third iteration took place a month after the second. Unlike all the other studies reviewed, the practitioner instrument was administered through the phone. Interquartile range differences were used to ascertain consensus through a "priority matrix structuring device". Using the latter, the investigator affixed each competency on a cell in a matrix and the competencies were compared.

Rudolf (1999) used Delphi to determine the desirable competencies of hospitality graduates in the year 2007. The "Research Chefs Association" sponsored the study and provided the researcher with two board members who nominated the twelve research chefs who were invited to participate in the pilot study. Ten of the pilot instruments were returned and a total of 320 knowledge, skills, ability and behavioral statements collected. Thirty-three research chefs representing 10% of the research chef population were nominated to participate in the Delphi, but 28 of the nominees accepted the invitation. Twenty-five of the instruments were returned and new knowledge, skills, ability and behavioral statements identified through the first iteration were added to the first instrument. In addition, some of the previous statements were restated based on comments from the panelists. A total of 22 instruments were returned during the second round. The results of the Delphic study were analyzed using the frequencies, means, variances and standard deviations.

<u>Summary</u>

Business marketing education is still evolving and very little has been written on the topic. Marketing educators must adapt their curriculum to satisfy the needs of both their customers: the students and the companies that employ them. In order to accomplish the latter, they must find the right balance between teaching a curriculum that is theory-based and at the same time teaches the students practical skills that can be directly applied on the job.

Since the publication of McLagan's 1980 article on competencies, many competency models have been developed for various occupations to serve an assortment of purposes, among which: recruitment and selection, assessment, individual development planning, training curriculum design, individual career planning, coaching, counseling, mentoring, sponsoring, succession planning and high potential identification, career pathing, performance management, competency-based pay, integrated human resources, management information systems and competency-based workforce planning. Experts predict that in the future, competency models will be used as a tool to deal with various issues pertaining to multiculturalism, careers and organizational strategy. These models will be the link between individual career development and organizational strategy. All the competency modeling approaches identified in the literature can be pigeonholed into one of three methodologies: the borrowed approach, the tailored approach and the borrowed and tailored approach.

The Delphi method has been in use for about fifty years; and over that time, it has been modified by researchers to fit the needs of their studies. Over the past decade, the method has been used to develop competency models for a variety of occupations

ranging from culinary arts to information technology. The next chapter will cover the modified Delphic approach that was used to develop the business-to-business market management competency model.

Chapter 3

Methodology

There are three principal means of acquiring knowledge available to us: observation of nature, reflection, and experimentation. Observation collects facts; reflection combines them; experimentation verifies the result of that combination. Our observation of nature must be diligent, our reflection profound, and our experiments exact. Denis Diderot (1713-84).

<u>Introduction</u>

Traditionally, competency models have been built using retrospective studies focused on past critical events, but due to the dynamic nature of the world we live in, a future orientation is warranted (Rothwell & Lindholm, 1999). Two decades earlier, McLagan (1980) warned that a "strategic and futuristic perspective" should be used in situations where change is imminent; unfortunately, she did not suggest a specific approach.

The purpose of this study was two-fold. First, it sought to develop and analyze a systematic approach to building future-oriented competency models by refining and adding rigor to a modified hybrid-Delphic methodology. The latter was then used to identify the competencies that will define an exceptional business-to-business market manager over the next five years; and synthesize a model based on these traits. Even though the business-to-business market management occupation is present in various types of industries, it is assumed that there exists a core set of competencies that is common to all exemplary performers in that occupation.

Despite the fact that the Delphi forecasting technique had been in use for over three decades, in 1984 Preble warned

> the proliferation of Delphi applications has not been paralleled by an increase in the level of methodological rigor or sophistication in its use. In fact, the popularization of Delphi may have in some cases even contributed to a decline in the quality of the Delphi studies being conducted.

A review of the literature did not support that the latter had changed over the past 15 years, but sporadic interest in the method triggered the publication of a few empirically-based articles on the technique. In essence, Delphi is a qualitative method (Rowe &

Wright, 1999) that allows for the quantification of concepts identified and refined through an iterative process; it is a qualitative technique with quantitative overtones. In this study, Delphi was coupled with various methods and data collection techniques such as content analysis, interviews, expert panels, self-administered surveys and statistical methods. Although some of the aforementioned techniques are implicit parts of the classical Delphi method, it was deemed prudent to break apart the various components that made up this flavor of Delphi; and analyze them by looking at their strengths and weaknesses. A synopsis of the research model highlighting the key phases of the study is depicted in **figure 3.1**. This piece of research involved a multi-method approach but triangulation was not limited to the methodology: data triangulation and investigator triangulation were used to strengthen various aspects of the study (Patton, 1990, p187). This chapter will begin with a conspectus of descriptive and exploratory research approaches, followed by an overview of the methodological framework used in this study. The individual methods will then be described and their methodological limitations discussed. The chapter will conclude with a description of the evolution of the survey instrument followed by a summary of the three Delphic iterations.

Environmental scanning:
- Understanding the incumbent worker
- Interviews with Researchers/ Educators/Faculty Members

Purpose of environmental scan:
Identify and understand the target population, the current state of the field and current research/trends

Literature Review
- Competency modeling
- Assessment of Methods
- B-to-B marketing (content analysis)

Literature review:
The literature was consulted at various phases of the study to clarify terms and concepts

Review panels
- Preliminary skills inventory
- Distillation of functional skills inventory
- Refinement of clusters

Presentations
Study is co-presented at (4) ISBM educator's consortium meetings with the ISBM Executive Director

Straw man (prelusive model)
- Final layout review
- Pilot
- Final modifications

Delphi Panel preparations
- Study website design
- Nomination process
- Delphi Panel synthesis

Delphi
- Content analysis (1rst round comments)
- Functional competency model
- Preliminary data analysis

Pre-Delphi processes
- Design of informative website
- Nomination process
- Delphi Panel synthesis

Analysis
- Kernel
- Final functional competency model
- Emergent model

Time

Process

Figure 3.1- Research model. Simplified diagram highlighting the main steps of the research process

<u>Naturalistic inquiry and inductive methods</u>

Descriptive research is used to document characteristics of individuals or groups; since it uses data that are collected as they naturally exist (rather than through experiments), descriptive studies are also considered observational or nonexperimental (Portney and Watkins, 2000, p.265). Because of the exploratory nature of this study, a prospective naturalistic inquiry methodology coupled with a pragmatic inductive analysis approach was used.

In prospective studies the variables are measured as the research evolves, the data are measured real time, as opposed to retrospective studies where the data were collected in the past. Prospective studies are more reliable than retrospective studies simply because the researcher has better control of the data collection process; conversely, these types of studies tend to be time consuming and costly (Portney et al.). The naturalistic inquiry approach is defined by Patton (1990) as the study of "real-world situations as they unfold naturally; non-manipulative, unobtrusive, and non controlling; openness to whatever emerges – lack of predetermined constraints on outcomes" (p. 40). Naturalistic inquiry is usually combined with an inductive analysis methodology. In the latter, "patterns, themes and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis" (Patton, 1990, p.197). The concept is very similar to grounded theory research, an inductive approach where the investigator collects, codes and analyzes data at the same time while

> (...) identifying relevant variables which may lead to the development of
> theoretical concepts that are "grounded" in the observations. These
> concepts are not based on preconceived hypotheses, but instead grow out
> of an ongoing, dynamic analysis (....) As the process progresses,

> interrelationships emerge that lead to the development of theoretical
> concepts (Portney at al, 1990, p 266).

Babbie (1993) describes inductive methods as "the development of generalizations from specific observations". Such an approach allows for a tremendous amount of flexibility and tolerates slight adjustments of the study design based on the data: the researcher can look into new directions that were not anticipated in the initial design of the study. The various steps of the study's design are tuned based on the findings from the preceding steps.

> Qualitative inquiry designs cannot be completely specified in advance of
> fieldwork. While the design will specify an initial focus (...) and primary
> questions to be explored, the naturalistic and inductive nature of the
> inquiry makes it both impossible and inappropriate to specify operational
> variables, state hypotheses, and finalize either instrument or sampling
> schemes (Patton, p.61).

The methodology used in this study is structured around pragmatism therefore it is centered primarily on real-world practical knowledge and applications. Pragmatism, an American philosophical doctrine developed in the 19th century by Charles Sanders Peirce, a physicist and William James, a psychologist, contends that the practical applications and results of and idea or theory are more important than the idea or theory itself. The focus is on the outcome rather than the origin. Unlike studies based on grounded theory, the investigator will not generate new theory but will synthesize an emergent model based on theoretical concepts that surfaced from the analysis. Furthermore, the goal of the study was to identify the competencies that will define exceptional B-to-B marketers without focusing on "why" these particular competencies were selected. **Figure 3.2** depicts a simplified view of the inductive approach that was used to generate the competency model.

Synthesis of emergent
model (theoretical)

Identification of
theoretical concepts

Functional
competency model

Prefactory
competency model

Identification of
competency areas

Environmental
scanning
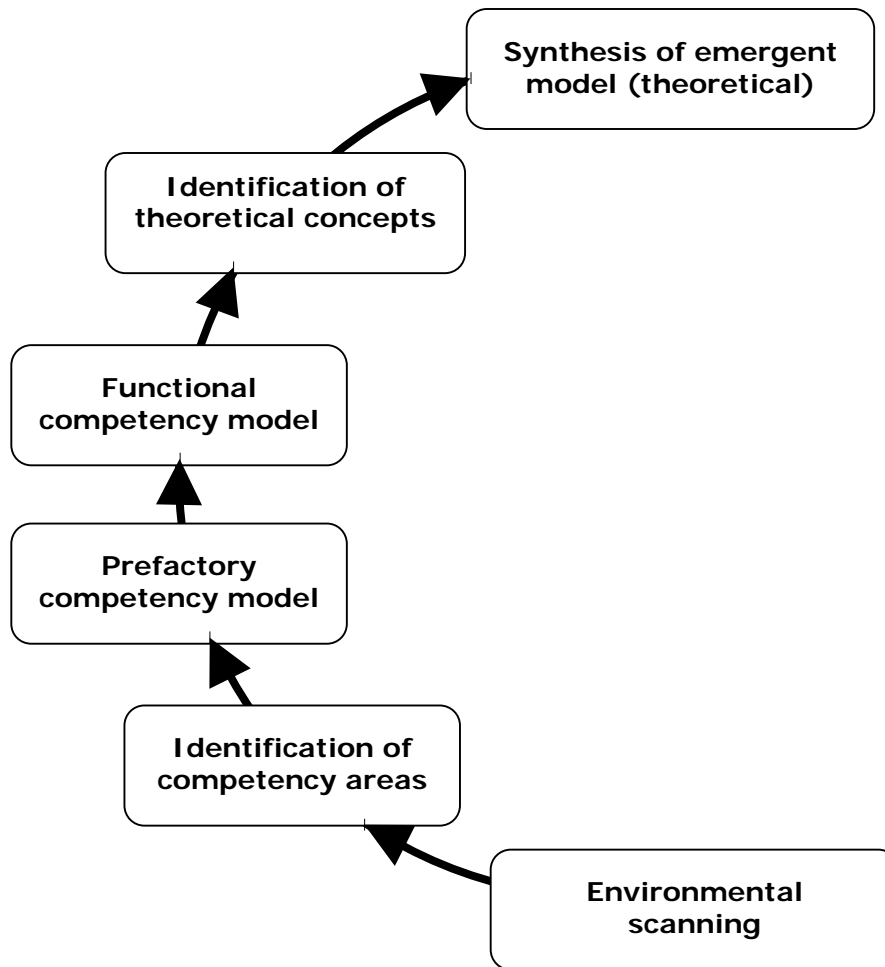
Figure 3.2. Illustration of inductive process leading to the synthesis of the
emergent competency model.

Delphi methodology

       The Delphi technique is described by Helmer (1966, P-3499, p.1) as "a method for the systematic solicitation and collation of expert opinions". Delphi allows for the refinement of group judgments by way of an iterative questionnaire (Dalkey, 1969, RM-5888-PR). The technique was invented in the early 1950s by Helmer and his colleagues at the Rand Corporation for the Department of Defense; and has been labeled "the cornerstone of futures research". The technique was subsequently utilized in the mid 1960s for technological forecasting (Linstone and Turoff, 1975). Over the past three decades, many variations of the Delphi method have been created. In the original Delphi, the first instrument was used to collect initial data by asking the panel open-ended questions. In this study, the investigator used a literature review, interviews with researchers and a series of expert panels to draft the first questionnaire. The instrument was then reviewed by a panel composed of business-to-business practitioners and educators, workforce development researchers and research methodologists before being sent to the Delphic panel.

       In order to better understand Delphi, a gamut of studies based on the technique was reviewed and described in the previous chapter (literature review-chapter 2).

Characteristics of the Delphi technique

       The Delphi technique has been used mostly as a forecasting tool. It allows for the collection of expert opinions without having to assemble the panelists in the same room.

The opinions are collected through a series of iterative questionnaires (distributed through the mail, e-mail or fax) and consensus is measured through quantitative methods. Given that the experts never meet face-to-face and are not aware of one another's identities, it is assumed that bias and groupthink are reduced; and the anonymity allows the participants to be as honest as possible. In addition, "Delphi method results can serve to guide the design of forward-looking program curricula in education as well as help to seek a wealth of predicted best solutions to problems in other areas where consensus among experts can be attained through interaction" (Rudolph, 1999, p. 8).

Delbecq, Van de Ven and Gustafson (1977) identify 7 main characteristics of the Delphic process that facilitate decision making (p. 34); some of these characteristics are also reflected in Hammond and Murry (1995):

1) The isolated generation of ideas allows for the origination of a large number of perspectives.

2) The writing and submission process allows for the generation of high quality ideas: the respondents can take their time and think about the questions before they submit their answers.

3) The ideas generated by panelists tend to be their own: they cannot piggyback on another panelist's idea (at least during the first iteration).

4) The anonymous nature of the Delphic process eliminated some of the conformity pressures that may exist in other methods that involve face-to-face interaction.

5) The Delphic process has a tendency to end with the panelists having a sense of closure.

6)   The technique is useful when the experts being polled are scattered in a large geographic location.

Delbecq, Van de Ven and Gustafson also identify 3 characteristics of Delphi that may hinder the decision making process. First, the process does not allow for "social-emotional rewards". Secondly, Delphi does not usually provide the verbal clarification of ambiguous feedback from the panelists. In this study, a process was put in place to deal with this issue: the researcher would simply contact the panelists who submitted an unclear or ambiguous comment via e-mail or telephone; and ask them to reword or explain their comment. Lastly, the majority tends to rule and conflicts may never be resolved. This study adopted a systematic process to (1) isolate the controversial competencies, (2) share the results with the participants and (3) provide them with a means of addressing their differences or attempt to explain them (the latter was done both during and after the Delphi). Delbecq at al. also identify three additional criteria that are critical to the success of a Delphic study: adequate time, motivated participants and participants with good written communication skills.

Consensus and Delphi method

One of the inherent traits of the Delphic process is the ability to measure the level of consensus among the panelists. The purpose of the iterative process is not to induce unanimity but to identify the areas where there is consensus and pinpoint matters on which expert opinions differ. Some critics have argued that the increase in consensus between rounds is a byproduct of conformance,

> "that the 'consensus' is often only 'apparent', and that the convergence of
> responses is mainly attributable to other socio-psychological factors
> leading to conformity (e.g. Sackman, 1975; Bardeki, 1984; Stewart, 1987)"
> (Rowe & Wright, 1999, p. 363).

Conversely, Rowe and Wright contend that Delphi panelists who are right on the first iteration are less likely to change their estimates over subsequent rounds (p.372) and that less-knowledgeable experts are more likely to move toward the group average, in accordance with the "Theory of Errors".

Reliability and the Delphi technique

Ono and Wedemeyer (1994) wrote that the accuracy of the Delphi technique in short-range forecasting is supported empirically but few studies have focused on the reliability of the technique for long-range forecasts. The authors assessed the accuracy of a three-round Delphic study that was conducted in 1976. In the latter, 60 communication experts were asked to forecast trends and events thirty years into the future, with 1991 established as the midpoint. At the end of the study, the third iteration quantitative data were analyzed using medians and semi-interquartile ranges.

In 1992, fifteen of the original sixty experts and fourteen "new" experts agreed to participate in a one-time inquiry to assess the outcomes of the Delphi. In the end, the 1976 trend forecasts were significantly correlated with the 1992 trend assessments. The results supported that Delphi is a valid technique for long range forecasting; although, the authors warned that the accuracy of the forecasts may have been attributed not only to the Delphi technique, but also to the selection of the expert panelists, the implementation of the method and the nature of the field in which the study was being

conducted. The researchers explained that the communication and medical fields have had an excellent track record for living up the expectations of forecasters.

Robeson (1988) reported on the "repetition" of a 1983 Delphic study to forecast future trends in business logistics. The first study was aimed at predicting trends in distribution from 1983 to 1990 (details on the methodology were not provided). The second Delphi took place five years later and was conducted using three iterations and 76 panelists. The researcher concluded that "based on a broad interpretation of the trends, there were surprisingly few differences in the findings of the 1983 and 1987 studies" (p.13).

In their 1984 article examining the factors contributing to Delphi accuracy, Parenté, Anderson, Myers and O'Brian wrote:

> Several authors have indicated that the group prediction of a panel generally will be superior to those obtained from individual participants (Hogarth, 1978; Loye, 1978; Boje and Maurnighan, 1982; Hill, 1982). These findings are consistent with Helmer's statements (1981, p.83) that, at a purely statistical level, 'N heads are better than one'. This is simply to say that when the judgments of a large number of people are combined (even if they are not experts in a given field (Welty, 1974), the accuracy of the majority of the vote is as good and often superior to the average panel member's. (p. 174)

Different flavors of Delphi

Over the past four decades, Delphi has been mixed with various other methods (both qualitative and quantitative) to create hybrid methodologies. Also known as methodological triangulation, the latter allows researchers to strengthen their study's design and increase the rigor of the findings (Denzin, 1978 and Patton, 1990).

Khorramshahgol and Gousty (1986) suggested using Delphic Goal Programming, a combination of the Delphi method and goal programming, to deal with the problems pertaining to the allocation of resources. Khorramshahgol and Moustakis (1988) proposed the Delphic Hierarchy Process, a hybrid of Delphi and the analytic hierarchy process, to identify and prioritize organizational objectives. A few years later, McCarthy (1992) criticized Khorramshahgol's approach and wrote about what he perceived to be a flaw in the analytic hierarchy process segment of the method, but conceded that the Delphic Hierarchy Process was "potentially useful". Nimgade and Sonk (1991) combined multiple regression analysis and the Delphi method to quantify technological improvement in non-monetary terms. The study involved a two-iteration Delphi using 18 panelists who were selected based on their depth of specialized knowledge, the likelihood that they would appreciate disciplines other than their own and the likelihood they would complete both iterations of the study.

Vickers (1992) proposed a hybrid between Delphi and cross impact analysis called Group Decision Support System (GDSS) to provide an interactive approach to decision making and forecasting. The method was used to identify 34 events and trends that would impact the European automobile industry. Taylor (1994) used Delphi to define potential marketing problems. Working on the premise that willingness to participate in the Delphic process is positively correlated with (1) a participant's motivation to complete the project and (2) a reduction of completion time; he preceded the Delphi session with the Optimal Satisficing Consensus Building approach to "deal with the issue of willingness to participate in group processes". Passig (1997) offered the Imen-Delphi method as an alternative to the classical Delphic approach to conducting

futures research. He claimed that the Imen-Delphi method improves the efficiency of the Delphic panel when the main goal is to invent change.

Delphi vs. alternatives

Various methods can be used to attempt to anticipate the future or draw comparisons between how things are and how they will be. Many researchers use quantitative methods such as regression models and time series to predict the future. Interviews of innovative and visionary experts can help researchers identify future trends but the validity of the outcome relies heavily on the subjects' perception of the future. Naisbitt (1982, 1990) has used content analysis with both qualitative and quantitative components to forecast future trends.

In all the previously described tactics, the accuracy of the forecasts is dependent on external variables that are impossible to control. A period of "punctuated equilibrium" (Thurrow, 1996, p. 7), of unexpected and abrupt change in evolution of the system being studied can drastically impact the future therefore render the predictions erroneous. Thurrow tells us that social and economic systems

> emerge from periods of punctuated equilibrium with radically different structures that once again begin slowly evolving (....) During periods of punctuated equilibrium everything is in flux, disequilibrium becomes the norm, and uncertainty reigns! (p. 8)

i)   Delphi vs. statistical measures

According to Rowe and Wright (1999)

> Delphi is not a procedure intended to challenge statistical or model-based procedures, against which human judgment is generally shown to be inferior: it is intended for use in judgment and forecasting situations in which pure model-based statistical methods are not practical or possible because of the lack of appropriate historical/economic/technical data, and thus where some form of human judgmental input is necessary (e.g. Wright, Lawrance & Calloopy, 1996). (p.354)

They go on to tell us that a dozen out of fourteen studies support that under the appropriate conditions, Delphi can outperform statistical approaches (p. 364). Calantone and Di Benedetto (1987) suggest that speculative methods such as Delphi forecasting and scenario writing are able to provide longer-term projections than exploratory studies that are based on regression models, time series and gravity approaches. They argue that regression models and time series which are efficient and less costly work well in short term forecasting but can be erroneous if "unforeseen occurrences happen". They contend that speculative approaches like Delphi allow for more leeway and are more likely to account for changes in the environment that would not be identified through the use of speculative approaches.

Delphi has also been used instead of quantitative correlation techniques to investigate and explain relationships. Hatush and Skitmore (1997) reported on a Delphic study exploring "the perceived relationship between 20 contractor selection criteria (CSC) (...) and project success factors (PSF) in terms of time, cost and quality". Eight experienced construction personnel generated a list of the 10 most and 10 least important CSCs, which led to an investigation, and comparison of the associated PSFs.

ii) Delphi vs. content analysis

Czinkota and Ronkainen (1997) considered the use of a broad-based content analysis to examine trends as suggested by Wheeler (1988) and Naisbitt (1990). Wheeler argues that content analysis is an important tool because it can provide a worldwide perspective on the status quo and what is to come. Even though broad-based content analysis can be very valuable in examining future trends, Czinkota and Ronkainen maintain that the process is very resource intensive and bias can immerge from the perceptions and interpretations of the researcher; and possibly from language limitations. Furthermore, using content analysis as the sole methodology in a study does not allow for any interaction between various stakeholders such as policy makers, business leaders and academics.

Primary data collection methodologies

This study was conducted using a modified Delphi technique where the initial Delphic instrument was created using a literature review, interviews and expert review panels. A synopsis of the research model was depicted in **figure 3.1** and the data collection process is described in **figure 3.4**. Overall, the study took place over a period of three years punctuated by the ups and downs of the American economy. Three main data collection methods were used throughout this piece of research. Even though Data triangulation can be time consuming and costly (Patton, 1990), it allows the researcher to look at the information collected from different perspectives; thereby increasing the validity of the data. The three data collection methods are depicted in **figure 3.3**. It should also be mentioned that each of these three collection methodologies involved the use of various techniques or methods.
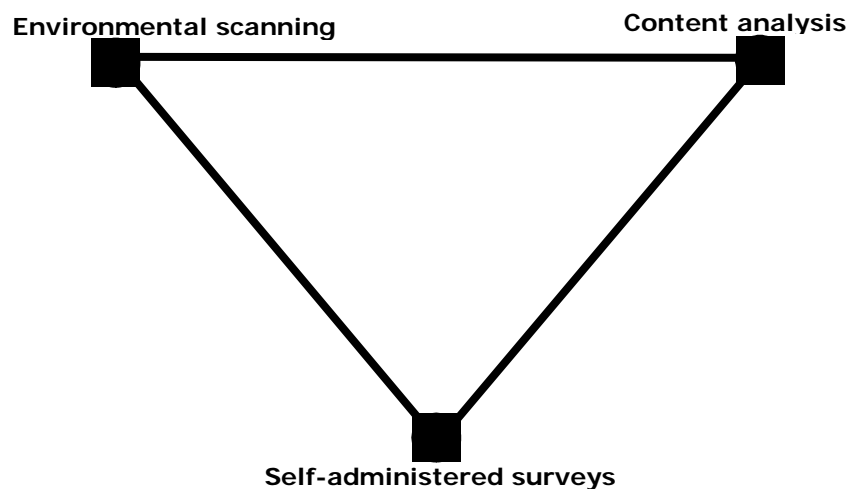
Figure 3.3. Three main data collection methods.

Literature review

| Competence |
| Delphi |
| B-2-B marketing |

Content analysis

Informal interviews

Competencies inventory v.1 → Review panel #1

Review panel #2 ← Competencies inventory v.2

Competencies inventory v.3 → Review panel #3

Design of instrument ← Final Instrument Review ← Modifications ← Iteration #1 Instrument

Delphi

Iteration #1 → Qualitative analysis → Iteration #2 instrument

Iteration #2 → Quantitative analysis → Iteration #3 instrument

Iteration #3 → Quantitative analysis

Analysis

Identification of Kernel → Perspectives → Functional & emergent models

Figure 3.4. Data Collection Process. Modified Delphi (w/ methodological triangulation and stratified sampling) using a naturalistic inquiry methodology coupled with pragmatic inductive analysis.)

Environmental scanning

The first step of the study involved a tripartite environmental scan. The latter was deemed necessary to provide the researcher with the background needed to plan and carryout the study. The environmental scan's purpose was to firstly understand the target population, its intricacies and the various strata within the business-to-business occupation. That knowledge was used to establish a starting point for the literature review and ultimately select the methodology that was used to carryout the study. Secondly, the environmental scan was used to give the researcher a holistic view of business marketing as a field. Thirdly, the scan allowed the researcher to identify and better understand the leading trends and research areas in B-to-B marketing.

Environmental scanning is the process of monitoring an environment in order to obtain information that can guide decision-making and planning processes (Aguilar, 1967). The approach can be proactive and exploratory when used to anticipate problems or discover opportunities (Choudhury & Sampler, 1997). Additionally, environmental scanning can be used to identify events and trends in an environment; to identify and explain relationships between them and to enhance decision making and planning (Costa 1995; Costa & Teare, 2000).

In its early stages, the environmental scan was guided with information gathered from meetings with four researchers affiliated with the Institute for the study of Business Markets. The individuals were active university professors and researchers with strong consulting practices: they served as trainers/coaches/consultants to business-to-business firms in various industries. These four individuals were selected and contacted with the help of the Executive Director of the ISBM. The purpose of the meetings was to

help the researcher identify future trends that may impact business marketing and better understand business marketers (educators and practitioners). These meetings provided direction for the early phases of the literature review. During the scanning process, the researcher attended and presented the study at professional meetings in order to get a general sense of the business marketers' needs and the possible use of a competency model. The practitioners were asked to submit ideas that could improve the study. Other topics covered, ranged from finding the least intrusive means of collecting data to generating a model that would be most useful to B-to-B firms. Later into the scanning process, over a dozen companies were polled and asked whether they were using some form of skills inventory or a competency model and more than a third responded that they were using some form of a skills inventory. When asked if they were willing to share it, only one company agreed to do so but the majority of the companies said they would support and participate in an effort to build an occupation-wide competency model.

The environmental scan directed the early phases of the literature review. The latter covered three general areas:

      a. Competency models and Competence.

      b. Business-to-business marketing and business marketing trends.

      c. The Delphi technique, variations of Delphi and the applications of Delphi.

The literature review is summarized in chapter two. By the end of the environmental scanning and literature review processes, a rudimentary skills inventory was developed based on the data collected and organized around the ISBM Value framework and the Business Market Processes Model (Anderson & Narus, 1999). The ISBM value framework is at the center of the institute's research and education endeavors; **figure 3.5** depicts a simplified diagram highlighting the main components of the framework.

A more advanced model is described by Anderson and Narus in a 1999 textbook funded by the ISBM. The comprehensive book featured value as the cornerstone of business marketing and identified nine constituent processes that makeup business market management. The authors clustered the processes around three main concepts: understanding value, creating value and delivering value (**figure 3.6**).

Content analysis

Both qualitative and quantitative content analysis methods were used in various aspects of this study. Berelson (1952) defines content analysis as "a research technique for the objective, systematic, and quantitative description of the manifest content of communications" (p. 18). Over the past century, content analysis has been used for various purposes among which, trend analysis. Holsti (1969) and Krippendorff (1980) tell us that in 1893, Speed analyzed four New York newspapers (the Tribune, World, Times and Sun) from 1881-1893 to observe changes in subject matter categories. Speed's analysis was based on the number of column inches devoted to various subjects. Holsti (1969) describes similar studies that have been conducted since the beginning of the 20th century; among which, Tenney (1912) who looked into the amount of space devoted by ethnic newspapers to certain subjects; Matthews (1910) who pigeonholed 10,000 items of a single newspaper into one of 4 categories (trivial, demoralizing, unwholesome and worthwhile); and Ash (1948) who studied the media representation of the Taft-Hartley Labor Act. Content analysis was used primarily in two phases of B-to-B market management study.

```
┌─────────────────────────────────────┐
│   1. Build Value Understanding      │
└─────────────────────────────────────┘

        ┌─────────────────────────────────────┐
        │      2. Strategy Formulation        │
        └─────────────────────────────────────┘

              ┌─────────────────────────────────────┐
              │      3. Design Customer Value       │
              └─────────────────────────────────────┘

                    ┌─────────────────────────────────────┐
                    │   4. Communicate and Deliver Value  │
                    └─────────────────────────────────────┘

                          ┌─────────────────────────────────────┐
                          │      5. Life-Cycle Management       │
                          └─────────────────────────────────────┘
```
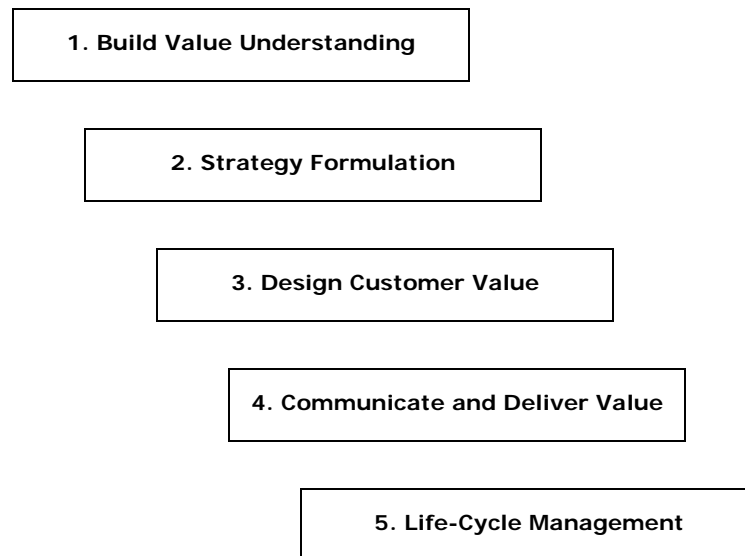
Figure 3.5. ISBM Value-Delivery Framework. Simplified diagram highlighting the main elements of the Value Framework.

```
┌─────────────────────────────────────────┐
│        Understanding Value:             │
│                                         │
│      ▪  Crafting market strategy        │
│      ▪  Understanding firms as customers│
│      ▪  Market sensing                  │
├─────────────────────────────────────────┤
│           Creating Value                │
│                                         │
│      ▪  Managing market offerings       │
│      ▪  New offering realization        │
│      ▪  Business channel management     │
├─────────────────────────────────────────┤
│          Delivering Value               │
│                                         │
│      ▪  Gaining customers               │
│      ▪  Sustaining reseller partnerships│
│      ▪  Sustaining customer relationships│
└─────────────────────────────────────────┘
```

Figure 3.6. Simplified depiction of Business Market Processes (Anderson and Narus, 1999).

Business-to-business marketing content analysis. In the early stages of this study, content analysis was used to scan the business-to-business/industrial marketing literature and general management periodicals, journals and magazines to identify:

1)   the trends that have affected business to business marketing over the past 5 years

2)   the trends that are currently affecting business-to-business marketing

3)   the trends that will affect business-to-business marketing over the next 5-10 years.

Delphic content analysis. In the Delphi portion of this study, content analysis was used to group competencies into clusters and collapse redundant items submitted by the Delphic panel.

Sampling in content analysis

The first step in content analysis should be to identify all the sources that may contain information on the subject being studied. In most cases, it is impossible to do so. In this study, it would have been unreasonable to cover all the literature that has been written on business-to-business marketing, but it was possible to analyze all the survey instruments generated by the Delphic panel. When the population of documents is too extensive to allow for a full analysis of documents, stratified sampling is usually the next best approach. Holsti (1969) warns that the "initial impetus for sampling may be the very practical requirement of reducing the volume of data to manageable proportions, but sampling is not merely a process of data reduction" (p.128).

Sampling and the business-to-business marketing content analysis. In this study, the initial content analysis covered 132 periodicals, journals and magazines from 1995-2000, from all over the world (list provided in appendix A). Various databases with a special focus on marketing, business marketing, business management, and other business-related issues and topics were searched. The goal of this very broad search was to identify issues that were impacting business marketing.

Sampling and the Delphic content analysis. All the inputs from the first Delphic iteration were analyzed using qualitative and quantitative content analysis.

Reliability issues related to content analysis

In content analysis, reliability is directly linked to the researcher's objectivity, the reliability of the measures and procedures used and the degree of "ambiguity in the data" (Holsti, 1969). The results of the study are also affected by:

- **Individual reliability**. Krippendorff (1980) talks about a similar concept but calls it "stability". If more than one coder is used, individual reliability impacts the synchronicity between the approaches the analysts employ to sort their data.
- **Category reliability**. The latter reflects the way by which categories are formulated and identified.

Reliability and the business-to-business marketing content analysis. It would have been close to impossible for the investigator to go through tens of thousands of articles and analyze their content without the help of databases and search engines. Reliability in the

marketing trends content analysis was directly linked to the reliability of the database

search engines used and their ability to pull and sort the appropriate articles. Since

search engines function based on a pre-programmed algorithm, the results will be very

similar every time (until new articles are added to the database). Since qualitative

methods were used to identify themes and organize the data, individual reliability and

category reliability were also a factor. After the articles had been identified, the

researcher read the abstract or the full article and assigned it to a theme. The researcher

put similar articles in the same "virtual" pile. As the themes or pigeonholes were being

identified, the researcher kept track of the frequency of their reoccurrence. The

researcher met regularly with a subject matter expert, the executive director of the ISBM,

to discuss his findings.

Reliability and the Delphic content analysis. The content analysis of the inputs from the

first Delphic iteration was undertaken using a systematic process that involved

identifying similar themes and collapsing similar competencies and comparable

behavioral anchors into one comprehensive item. The task was conducted by the

researcher and reviewed with the Executive Director of the ISBM. In order to reduce

individual reliability issues, both coders worked in unison during the review process.

Category reliability was also a concern. In the inception of the instrument,

comprehensive categories covering the business-to-business marketing spectrum had

been identified. During the Delphic content analysis, the biggest burden revolved around

the proper categorization of the new competencies that were identified. When the

competency was unclearly stated, the panelist who submitted it was contacted for

clarification.

Validity issues related to content analysis

Face validity is the most common measure of validity in the content analysis literature. Babbie (1998) describes face validity as "particular empirical measures [that] may or may not jibe with our common agreements and our individual mental images concerning a particular concept". Holsti (1969) suggests that if a study is purely descriptive, face validity is generally sufficient and it is by and large "established through the informed judgment of the investigator" (p. 143). Krippendorff (1980) identifies various nuances of validity in content analysis:

- *Semantical validity* is related to the sensitivity of a method with regards to symbolic meanings of words or expressions in a specific context.

- *Sampling validity* is associated with the extent by which data are unbiased or similar to another sample from the same universe.

- *Pragmatical or product-oriented validity* measures how well a method works under various conditions.

- *Correlational validity* is the extent to which the results from one method correlate with the results attained from another method. Correlational validity "means both, high correlations between the inferences from a content analysis and other measures of the same contextual characteristics (convergent validity) and low correlations between such inferences and measures of different characteristics (discriminant validity)" (p. 157).

- *Predictive validity.* "In content analysis, predictive validity requires that the obtained inferences show high agreement with the states, attributes,

events, or properties in the context of data to which these inferences refer
(regardless of whether these are past, concurrent, or future phenomena)
and high disagreement with the contextual characteristic that these
inferences logically exclude" (p. 157).

- *Process oriented validity* relates to the extent by which an analytical
process accounts for relations in the context of data. The concept is
similar to construct validity.

Validity and the business-to-business marketing content analysis. In the trends content
analysis semantical validity was not deemed to be an issue. Most of the articles reviewed
were marketing-related; therefore the vernacular was appropriate and geared toward
marketing professionals. In order to increase sampling validity and process-oriented
validity, a gamut of national and international journals, magazines and periodicals
geared toward marketing (and general business) professionals (both educators and
practitioners) were searched. Since the conditions were not changing dramatically
during the period covered by the literature review, pragmatical validity was not deemed
to be a worrisome issue (the recent DotCom bubble burst occurred after the content
analysis process). Correlational validity was simply measured by looking at the overlaps
between the results of the content analysis and the four initial meetings with the faculty
members. Because of the heuristic nature of this study, predictive validity was very
difficult to measure. Since the study does not examine the business-to-business
marketing environment in detail, it was therefore not feasible to measure the predictive
validity of the constructs that stemmed from the content analysis of the trends. It was
assumed that to a certain extent, predictive validity could be measured simply by looking

at the frequencies with which certain trends and concepts were identified from the literature. The researcher acknowledges that the main flaw of this approach is that a trend or concept may keep recurring simply because it is a fad that may not have any substantial predictive value.

Validity and the Delphic content analysis. Since all the panelists were experts in the subject area or well-seasoned researchers and practitioners, it is assumed that they have a good grasp of their field's jargon therefore, semantical validity was not deemed to be a problematic issue. Furthermore, the researcher conducted the data clustering with the assistance of the Executive Director of the ISBM who has extensive experience as a practitioner, a researcher, an educator and a coach in the business-to-business marketing arena. Since all the data collected from the panel were eviewed, sampling validity was not regarded as a problem. Understanding the pragmatical validity of this modified Delphi approach was one of the primary purposes of this study. Pragmatical validity was assessed after the completion of the Delphic process and the results are scattered in various sections of chapters 3, 4 and 5. Correlational validity was difficult to measure simply because there were no studies identified in the literature review that looked into the future of business-to-business marketing competencies. A possible alternative is to look at how much of the initial list of competencies (generated by the content analysis of trends and the informational interviews) changed through the Delphic process; the section labeled "evolution of the survey instruments", in the next chapter, addresses that issue. Since the study was future-oriented and heuristic in nature, the outcome of the study rested heavily on the "expertise" of the panel; thus predictive validity is difficult to quantify or explain qualitatively. A possible alternative

could be to see how many of the trends and concepts from the initial content analysis are reflected in the final list of competencies. In order to increase process-oriented validity, the analysis of the data was thorough: it was analyzed from various perspectives.

Self-administered surveys

Survey research is one of the oldest forms of data gathering methods. Babbie (1989) tells us that censuses are mentioned in the Old Testament and they have been used by Egyptian rulers who desired the information in order to better manage their domain. Self-administered surveys were used as far back as 1880 to gather information: Karl Marx sent out 25,000 self-administered surveys in an attempt to measure the degree of exploitation of workers by their employers. Self-administered surveys were used in many of the competency identification studies described in chapter two. Babbie recommends that the researchers set up a systematic process to monitor returns and code the data so that they track the number of non-respondents. He also recommends an organized system to follow up on non-respondents and recommends waiting 2 to 3 weeks before the follow-up. The latter should contain not only a reminder letter but also a new copy of the instrument in case the instrument from the initial mailing was lost or misplaced. Self-administered surveys were used throughout the Delphic process. Instead of mailing the surveys as suggested by Babbie, the instruments were transmitted electronically via e-mail or facsimile.

Strengths of Self-administered surveys

The self-administered survey is one of the least expensive means of acquiring information from a group of individuals that is dispersed over a large geographic area. The method can be very efficient and is less time consuming than interviewing. It allows for a high degree of standardization; therefore it can facilitate the analysis of data and makes it easier to draw comparisons. Since the researcher has limited contact with the subjects, the possibility of researcher bias is reduced during the data collection phase: survey research can be very reliable (Babbie, 1989, p. 254).

Weaknesses of Self-administered surveys

While standardization is one of the advantages of using self-administered surveys, it is also a weakness: the instruments are usually designed to fit the majority. Unlike observation-based methods that can allow for direct contact with the subjects and accommodate design modifications based on changes in the environment, self-administered survey methods offer very little flexibility. Surveys can be limiting in the sense that they rely on the subjects' perception; the quality of the data is therefore dependent on the subject's recollection of the information. Validity is determined not only by the accuracy of the instrument (is it measuring what it is meant to measure?) but also by the accuracy with which the subject fills out the survey. Triangulation of answers can be a good measure of validity: the survey can be designed so that various items measure the same concept.

<u>Subjects and subject selection</u>

Pre-Delphi

Many business marketing practitioners, educators and researchers were consulted in the pre-Delphic stages of the study. All these individuals were selected based on variants of purposeful sampling approaches (Patton, 1990, p. 169).

During the early phases of the study, the researcher met with 4 university professors who were chosen because of their close ties to both academia and the business world. These individuals were all key members of the ISBM who taught graduate classes in business marketing, actively consulted for B-to-B firms in a various industries and served as coaches in various areas of the field. All four faculty members were selected based on a purposeful opportunistic criterion-based sampling technique. In an opportunistic sampling scenario, the researcher "follows" the data; and the sample emerges during fieldwork. "Opportunistic sampling takes advantage of whatever unfolds as it unfolds" (Patton, 1990, p.179).

Later in the environmental scanning process, various individuals were contacted via telephone, e-mail and fax to help clarify fuzzy issues that were discovered in the scanning process. Most of the individuals contacted in that stage of the study were also selected based on an opportunistic sampling approach.

Prior to the Delphi, the instrument was reviewed and refined by three panels composed of business marketing educators and researchers. All the members of these panels were attendees of ISBM educator consortium meetings that took place in Atlanta, Georgia; Pittsburgh, Pennsylvania; and State College, Pennsylvania. The educator's

consortium is a special interest group composed of individuals who have an interest in B-to-B market management education. The meetings were attended on average by a dozen practitioners and educators. Most of the attending practitioners were in charge of marketing training in their firm or business unit and used the consortium as a forum to share their experiences and learn from their peers. The heterogeneous group of attendees (who represented firms or business units of different sizes and from different industries) gathered around a homogeneous goal: to learn, share and improve marketing training and development. That forum provided an ideal medium to discuss the study and fine-tune the research strategy. The meetings were also used to review and polish the prelusive model that was used to generate the first iteration of the Delphic instrument.

Prior to being sent to the Delphic panelists, the first iteration instrument was reviewed by a class of 27 graduate students (mostly doctoral candidates) at the Pennsylvania State University who had just completed a class on survey research methods (WFED 597). During the last week of classes, the students were asked to review the first iteration instrument and critique the clarity of the instructions, the functionality of the layout and to identify flaws such as loaded questions, double barrel statements and so forth. Even though the review was conducted in an open forum, the reviewers were also asked to write their comments on their copy of the instrument and return it to the researcher.

Delphi

Sample size

Various Delphic studies were examined in the literature review (Chapter 2). These studies involved anywhere from a few experts to a few hundred. In their meta-analysis of all the Delphic studies published in peer-reviewed journals, Rowe and Right (1999) identified studies ranging from 3 to 80 experts with most of the studies involving less than a dozen experts. According to Delbec, Van de Ven and Gustafson (1975), the size of the Delphi panel is flexible. "With a homogeneous group of people, ten to fifteen participants might be enough" (Delbec, Van de Ven and Gustafson, 1975, p. 89). Czinkota and Ronkainen (1997) commented that studies conducted prior to theirs, support that panels of more than 30 experts do not increase the generation of new ideas, but hinder the process by limiting the amount of time available for the in-depth analysis of the ideas generated. Cegles (1998) tells us that

> There appears to be little or no agreement that exists concerning the
> optimum size of the Delphi panel of experts (Brockhaus & Mickelsen,
> 1977; Brooks, 1979; Helmer, 1983; Nash, 1978; Weaver 1970 & 1972).
> Delphi investigations have involved participant groups of fewer than 20
> up to as many as several hundred participants (....) Brooks (1979) has
> shown that it is unlikely that improved results are achieved with groups of
> more than 25." (p. 63)

Dalkey (1969) stated that group reliability was maximized and group error was reduced if the panel was composed of at least 10 members. Furthermore, Patton (1990) suggests that carefully conducted case studies can be more revealing and insightful than large-scale probabilistic sampling approaches. He points out that such small studies have been extensively conducted by the U. S. AID, the World Bank and General Accounting Office.

The composition of the Delphic panel varied from one iteration to the next. The characteristics the panel that participated in the B-to-B competency study are described in the next chapter.

Selection of panelists

Czinkota and Ronkainen (1997) state that the selection of the experts is critical to the success of a Delphic study. They claim that it is important that the experts selected be visionaries, have a clear understanding of the issues, and represent as many different viewpoints as possible. Conversely, inundating the panel with ideas will not only hinder the creative process but may decrease the experts' participation in the Delphi. One of the goals should be to reduce the dropout rate and complete the Delphic process with as many experts as possible.

The panelists who participated in the B-to-B market management study were selected using a purposive non-probabilistic dual-stage stratified sampling technique (Fowler, 1993; Huck, 2000; Babbie, 1989) mixed with a snowball approach (Patton, 1990). Initially, 25 experts from each group (educators and practitioners) with expertise in over a dozen areas within B-to-B market management (**figure 3.7**) were identified and nominated with the help of the three directors of the ISBM and a few members of the ISBM advisory committee. The various strata used for sampling were identified earlier through the environmental scan and the literature review.

Sampling strata
Researcher and practitioner groups: ▪ **Brand management**   ▪ **Customer relationship management**   ▪ **Data collection and analysis**   ▪ **Distribution channels**   ▪ **E-business**   ▪ **Market research**   ▪ **Marketing communications**   ▪ **New product development**   ▪ **Positioning**   ▪ **Sales management**   ▪ **Segmentation**   ▪ **Strategic market management planning**   ▪ **Targeting**   ▪ **Value and pricing**
Additional strata in Researcher group: ▪ **Purchasing**   ▪ **Dean of marketing program in university setting**   ▪ **International marketing**
Additional strata in Researcher group: ▪ **Purchasing**   ▪ **VP marketing**   ▪ **International marketing**

Figure 3.7. Delphi process expert sampling strata. At least one of the experts nominated for the Delphi had an expertise in the following areas.

The stratified sampling approach allowed for a diverse panel of B-to-B experts. The second step of the sampling process involved asking the 50 experts who had previously been nominated to nominate additional possible members for the Delphi panel. The second step generated some redundancies: a few of the panelists suggested experts who had already been selected in the first stage of the sampling process. Overall, the selection of the sample was spread over a period of three months at the end of which, 77 experts had accepted to participate. The Delphic panelists were divided into two distinct groups: educators and practitioners. It should be noted that one of the expert practitioners entered the study during the second iteration; therefore the subject did not satisfy all of the requirements.

<u>Educators</u>. The educators were faculty members/researchers and satisfied the following set of characteristics:

- Nominated based on their "reputations", commitment and contributions to their field
- Identified as visionary and willing to share views and ideas with peers
- Published in their area of specialty
- Currently conducting research in an area related to or impacting business-to-business market management
- Serving a significant consulting practice
- Teaching in an area related to business-to-business market management and identified as one of the specialties in figure 3.7
- Willing to participate in all three iteration of the study
- Holding a doctoral degree.

Practitioners. The practitioners were industry experts. These practitioners satisfied the following characteristics:

- Well respected by their peers and known to be exemplars in their field.

- Nominated based on their "reputations" and success in the field.

- Holding a leadership role inside a Business-to-Business firm at the SBU level or higher

- Engaged in some aspect of their firm's or SBU's business strategy

- Participated in at least five large marketing interventions in a management role

- Holding a marketing title

- Willing to participate in all three iteration of the study.

The Delphic iterations

The majority of the Delphi studies reviewed in chapter two used a two- or three-iteration Delphi. A three-iteration modified Delphic approach was used in this study. The first Delphic iteration was primarily qualitative in nature, whereas the last two were mostly quantitatively based.

Rowe and Right (1999) conducted a meta-analysis of all the Delphic studies of "significant quality" published in peer-reviewed journals and books based on queries from nine databases (ABI inform global, Applied Science and Technology Index, ERIC, Transport, Econlit, General Science Index, INSPEC, Sociofile and Psychlit). The authors excluded unpublished Ph.D. theses, technical reports and conference papers from the

analysis, claiming that it was difficult to ascertain the quality of such studies. In total, 27 research papers were examined with studies ranging from 2 rounds up to 7 rounds, with some of the studies involving multiple Delphi panels:

- 9 of the articles involved a two-round Delphi
- 9 of the articles involved a three-round Delphi
- 4 of the articles involved a five-round Delphi
- 3 of the articles involved a four-round Delphi
- 2 of the articles involved a six-round Delphi
- 1 of the articles involved a seven-round Delphi.

A total of 28 Delphic panels were identified and about two thirds of the studies used either a two- or a three-round Delphi. Overall, the median number of rounds was three. The latter is consistent with Delbecq, Van de Ven and Gustafson (1977) who layout the design for a three-iteration Delphic approach (p. 86-105). They cover the various aspects of Delphi but only describe the process for a 3-iteration Delphic approach.

Only one research paper was found on the number of rounds to be used in a Delphi. Erffmeyer, Erffmeyer and Lane (1986) used 72 undergraduate students to conduct a study on the optimal number of times a Delphic instrument should be iterated; and determined that stability was reached after the 4th iteration. Erffmeyer et al. warn that "several variables could affect the appropriate number of iterations, including composition of the participant group, the nature of the problem, and the type of feedback provided to the participants" (p. 120). Given that the study was based on non-experts reaching consensus, the usefulness of the 4th round can be questioned. In the B-to-B competency study, it was assumed that in a Delphic panel consisting of experts from a particular field, stability is more than likely to be reached before the 4th round; the fact

that this three-round Delphic approach was preceded by a series of data gathering efforts (interviews, expert panels and literature reviews), may moreover make the fourth iteration impractical and perhaps, superfluous. Furthermore, time and resource constraints would have made it difficult to conduct a 4th round. It can be argued that the Delphi-hybrid approach used in this study is comparable, if not more thorough than a 4-round Delphi composed of a homogeneous panel:

- instead of one major source of data (the Delphic panel), data were collected through multiple sources (the Delphic panel, review panels, the literature review and the environmental scan)
- instead of a homogeneous group of panelists, the panel was stratified to include two main groups (practitioners, educators) and over 14 sub-specialties within each group.

Delphi preparations

Delphi was used in conjunction with other methodologies. Some of these methods were used prior to the first iteration and they were discussed earlier in this chapter. **Figure 3.8** depicts a detailed diagram of the inductive hybrid Delphi process.

Final Analysis
- Identification of controversial competencies based on Mann-Whitney U test (inter-group consensus)
- Measurement of intra group consensus based on dispersion (i.e. interquartile range) and central tendency (i.e. median and mode)
- Identification of competency kernel
- Identification of lowest rated competencies
- Stratification of competencies into emergent levels
- Tuning of final functional competency model
- Synthesis of emergent model

Post-Delphi processes

- **Final report**
  - controversial competencies
  - Functional model
  - Emergent Model

- **Request for comments on the report**
  (especially on the controversial competencies)

Third iteration (highlights)
- Experts re-rated competencies (1-6 Likert) with lower consensus taking into account their group's statistics
- Experts given the opportunity to submit additional comments on competencies
- Various measures of internal consistency were assessed using a coefficient of reliability* (i.e. Cronbach's Alpha)

*Done with caution

Pre-Delphi processes

- **Administrative requirements**
  (human subjects issues, letters of support etc)

- **Design of supporting materials**
  (handouts, study's Website etc)

- **Selection of expert panelists**

- **Synthesis of Prelusive Model**

- **Prelusive model compared to 6 marketing skills inventories**
  (shared confidentially by B-to-B firms)

- **Design and assessment of 1rst iteration instrument**
  (content, layout, directions etc)

Second iteration (highlights)
- Experts rated competencies (1-6 Likert)
- Experts submitted additional comments on competencies
- Quantitative data are collected and analyzed separately for each expert group (practitioners and researchers) using: medians, modes and interquartile ranges
- Various measures of internal consistency were assessed using a coefficient of reliability (i.e. Cronbach's Alpha)
- Two separate instruments drafted one for each expert group (based on quantitative data: level of consensus within a group)

First iteration (highlights)
- Prelusive Model reviewed by entire Delphi panel
- All input analyzed using thematic content analysis
- Analysis reviewed by subject matter expert
- Preliminary functional Delphic model synthesized
- Second iteration instrument drafted
- Instrument reviewed by seasoned professional business marketing editor
- Second iteration instrument assessed and tested

Figure 3.8. Modified 3-iteration Delphi method. Detailed diagram highlighting the main steps of the inductive modified Delphi process.

In preparation for the Delphi process, a proposal was reviewed by the Pennsylvania State University's Office of Regulatory Compliance. The study was first approved for a period of one year; and 11 months later, an extension was granted for another year. The approval and extension letters are located in appendix B. Prior to initiating the Delphi, all expert participants were provided with an informed consent statement (also included in appendix B). In order to increase participation and in an effort to reduce inquiries for clarification from the Delphi nominees, the researcher constructed an informative website that provided basic information about the study. The site covered various aspects of the research and was built based on questions that recurred during the environmental scan and the multiple presentations at the ISBM consortium meetings. A printout of the website is provided in Appendix C.

The Delphi panel nominees were contacted primarily via e-mail and provided with the website's URL for additional information about the study. The researcher's contact information (e-mail, telephone numbers, fax numbers and addresses) was also provided. In addition, a dedicated telephone line with voicemail and a dedicated fax line were made available for any questions regarding the study. **Figure 3.9** provides a timeline of the main components of the Delphi process.

November 01	Final round of nominations of Delphi panelists
December 01	**Iteration #1** survey instruments are e-mailed - Reminders are mailed 2 weeks later - Thank you/confirmation messages are e-mailed once a week
January 02	
February 02	Last iteration #1 instrument is received ▪ *Iteration #1 is closed* ▪
March 02	**Iteration #2** survey instruments are e-mailed - Reminders are mailed 2 weeks later - Thank you/confirmation messages are e-mailed once a week
April 02	Last iteration #2 instrument is received ▪ *Iteration 2 is closed* ▪
May 02	
June 02	**Iteration #3** survey instruments are e-mailed - Reminders are mailed 2 weeks later ▪ Thank you/confirmation messages are e-mailed once a Week - Last iteration #3 instrument is received ▪ *Iteration 3 is closed* ▪
July 02	
August 02	
September 02	Preliminary report is e-mailed to Delphi panelists

Figure 3.9. Timeline of the Delphic process from the final nomination process to the generation of the preliminary report.

Iteration (round) one

An email was sent to the nominees who had agreed to participate in the study. They were provided with a World Wide Web link that would allow them to access the first iteration of the Delphi process. Prior to downloading the first iteration instrument, the panelists were required to read an informed consent form; and only after acknowledging that they had done so, were they allowed to download the survey. The informed consent was integrated into the website that had been created for the study. At anytime during the process, the panelists could link to other sections of the site explaining the various aspects of the study. The contents of the website were printed out and are located in appendix C.

While going over the first iteration instrument (available in appendix D), the panelists were asked to envision a star performer, the best of the best, an exceptionally talented and outstandingly competent B-to-B market manager; and the skills, abilities, attitudes or knowledge such an individual would exhibit. They were asked to base their comments on trends, and draw from their professional experience or their current practice. Rather than asking them to react to a blank sheet, they were provided with the prelusive model, a basic and preliminary set of competencies that was generated from the environmental scanning process and the review panels. The panelists were warned that the prelusive model was deliberately not comprehensive: their help and expertise were needed to develop an inclusive yet concise set of competencies. As a first step, they were asked to browse through the entire list of skills in order to gain a general sense of

the material. Secondly, they were requested to focus on the future and while considering each competency set, they were asked to type their comments in the suggestion box:

1. to indicate if any of the competencies were improperly stated or inadequately grouped, to reword the competency statements they felt had been worded incorrectly or that should be defined more specifically, and to specify if certain competencies should be collapsed into one.

2. to suggest any other skills, abilities, attitudes or knowledge they felt should be included

3. to indicate if any of the competencies should be eliminated (with a very brief explanation). They were reminded that the study's goal was to come up with a list that is inclusive but as streamlined as possible.

The panelists were asked to return the survey via facsimile or e-mail or to contact the researcher if they needed special assistance. Four of the panelists needed special accommodations and did contact the investigator.

The researcher analyzed the qualitative data collected using thematic content analysis. The process involved a redundant, iterative and sometimes recursive algorithm. The data were divided into three categories: (1) general procedural comments, (2) new competency statements and (3) reformulated competency statements. Each datum within the categories was coded to identify (1) its original location in the instrument, (2) the cluster where the comment was inserted and (3) the panelist who generated it. Initially, the data were analyzed regardless of the original clustering scheme to identify emergent themes and concepts; which were then compared to the original clusters and new clusters were created when needed. Multiple textbooks were consulted and online databases were searched to clarify confusing or complex concepts. A few cases of

semantic obfuscation made the task complicated and time consuming: a few practitioners used terms that are trademarked by consulting firms and the researcher had to conduct searches to find the definition of these terms. In the advent of confusion, a panelist who submitted an obscure comment was contacted via telephone or e-mail and asked to elaborate on her/his statement.

Once all the new themes and concepts were identified, they were compared with the original clusters. The researcher then tentatively devised new clusters and with the assistance of a subject matter expert (the Executive Director of the ISBM), the tentative clustering scheme was reviewed and a new clustering scheme was formulated. The new clusters were presented to a group of faculty members and practitioners attending an ISBM Educator's Consortium meeting in Atlanta, Georgia. Some of the attendees opted to verbally share their comments whereas others wrote them down on their handouts. A few of the attendees contacted the researcher via e-mail a few days after the meeting to submit additional comments. All the inputs were used to improve the model and once they were incorporated into the new model, the final product was reviewed with the Executive Director of the ISBM. The new model was used to generate the second iteration instrument, which was field-tested and reviewed by 4 subjects; and then edited by a seasoned business-to-business marketing editor.

Iteration (round) two

The second iteration instrument (available in appendix D) was distributed through e-mail (none of the panelists opted to receive the instrument via facsimile). The purpose of this iteration was to rate the competencies by their essentiality to superior market management performance. The panelists were asked to rate 153 competencies using a 6-point Likert-type scale (Babbie, 1989) ranging from "low importance" to "critical". Furthermore, the dichotomous scale (Rudolf, 1999, p. 84) divided the rankings into two categories to identify (1) core competencies and (2) supplemental competencies.

The panelists were asked to: firstly, browse through the entire list of competencies in order to gain a general sense of the material; secondly, to envision a star performer, the best of the best, an exceptionally talented and outstandingly competent B-to-B market manager; and the skills, abilities, attitudes or knowledge such an individual would exhibit. It was clarified that depending on the size of the firm, these competencies may be spread over multiple job functions (e.g. marketing manager, marketing research manager, marketing communications manager). While considering each competency, they were asked to:

1. Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale (where 1= least important and 6= most important). In addition, ratings 1, 2 or 3 identified the competency as being "supplemental" whereas ratings 4, 5 or 6 classified the competency as "core".

2. Mark the box labeled "NR" (No Rating) and provide a very brief explanation in the comments box if they chose not to rate a competency.

3. Return the completed surveys via e-mail or facsimile.

The responses were treated as ordinal level data and analyzed using the quantitative methods described later in this chapter. The median, the mode and the interquartile scores were calculated for each of the competencies and for each expert group. The median and the mode were both used to measure central tendency and the interquartile scores described the level of dispersion within the ratings of a competency by a specific group. For practical purposes and in an effort to shrink the 8-page, 153-item instrument, only the competencies for which consensus had not been reached were sent to be re-rated in the third iteration. Consensus was measured through central tendency and dispersion. The third iteration competencies were selected based on a very simple algorithm:

Step 1. The median and the mode were compared. If the absolute difference between the two was less than or equal to 0.5, the researcher moved to step 2; otherwise, the competency was labeled to be part of the third iteration (please note that the mode values are integers: a difference of 0.5 only occurs when the number of data points are even and the median is calculated by averaging the two middle points). All cases that involved multimodal distributions were labeled for the third iteration.

Step 2. The interquartile range (IQR) was measured (Q3-Q1). If the IQR was larger than 1, the competency was sent to the third iteration.

Two new instruments were generated: one for the practitioners and the other for the educators.

Iteration (round) three

The third iteration instrument was also disseminated through e-mail. The results from the second iteration were used to design two separate surveys: one for the expert practitioners and the other for the academics (available in appendix D). The analysis of the data showed that within each group, consensus was reached for about a third of the competencies rated during the second iteration. This round only covered the competencies for which consensus was not clearly reached. The panelists were asked to rate these competencies once more, this time taking into consideration the central tendency and the dispersion of the scores reported by their group. They were requested to rate the competencies again using the same 6-point Likert-type scale that was used in the previous round. Next to each competency, in the ratings area, they were provided with the following information (see **figure 3.10**):

- Shaded boxes highlighting the interquartile range (dispersion). The latter was labeled "consensus range" in the survey instrument.
- Underlined box(es) indicating the mode and the median (central tendency) within the "consensus range".

In the example in figure 3.10, the measure of dispersion (IQR) for the competency is [4,6] with central tendency (median and mode) at 5 and 6.

While re-rating each competency, the panelists were asked to:

1. Note the "consensus range" (shaded) and the central tendency (underlined) for the competency while keeping in mind that these 2 measures were provided as a guide and that they may choose to agree or disagree with them.

2. Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale (where 1= least important and 6= most important). Furthermore, ratings 1, 2 or 3 identified the competency as being "supplemental" (nice to have but not critical) and ratings 4, 5 or 6 classified the competency as "core".

Figure 3.10. Example of the layout used in the third iteration to depict the Interquartile Range (shaded) and the median and the mode (underlined boxes).

The panelists were asked to return the instruments one last time via e-mail or facsimile. Many of the panelists chose to return their surveys via fax. The data were analyzed using quantitative methods described later in this chapter. After the results were analyzed, the panelists were e-mailed a copy of the preliminary results from the analysis.

Survey design

Four different surveys were used during the Delphic process: iteration 1, iteration 2, iteration 3 (educators) and iteration 3 (practitioners) and they are all available in appendix D. In an effort to improve the surveys' design and facilitate the data gathering process, the instruments were devised while taking the following into account:

Short-term processing capacity of an adult. According to Dembo (1991, p.270) the short-term information processing capacity of an adult is limited: an adult can process five to nine pieces of information at a time but chunking or grouping the pieces increases the amount of information that can be handled. Since the panelists had to handle a

multitude of competencies (over 150 during the second iteration), it was deemed necessary to break the competencies in a way that was functional. With the exception of three clusters (K, H, and D) in the second iteration, all the data were broken down into groups of less than nine items (see iteration 2 instrument in appendix D). It would have been impractical to breakdown the aforementioned three clusters without disrupting the "flow" of information.

Readability of the typeface. The survey instruments were distributed electronically. It was assumed that many of the participants would complete them in front of their monitors. In order to facilitate the reading process, the "Verdana" typeface was used. Designed for Microsoft, specifically to be used with computer screens, Verdana is a true-type font that can be read at 4-point in the Microsoft Windows environment (Will-Harris, 2000). Verdana was used in all four surveys.

Clarity of the directions. In order to ensure that the surveys were completed properly, it was pivotal that the panelists clearly understand the directions. All three iterations required that the experts complete tasks that were somewhat complex. During the design of each of the instruments, the directions were drafted by the researcher and tested on a variety of non-business professionals to ensure that the instructions were clear and concise. Once the directions were deemed acceptable, they were reviewed with a subject matter expert. Additionally, the directions for the first survey instrument were reviewed by a group of survey researchers at the Pennsylvania University and by a group of faculty members and practitioners attending a meeting of the ISBM's educators' consortium. The directions for the second iteration were reviewed by a seasoned business-to-business marketing editor.

Compatibility of the media and the format. All the surveys were transmitted as Microsoft Word documents. Since the documents were meant to be opened by panelists in various corners of the world, the instruments were tested on various versions of Word running on various platforms MSWindows (Word 95, 97, 2000 and XP) and MacOS (Word 98 and 2001). The only slight glitch noted was with the third iteration instrument: when opened in MSWord 95, the shaded areas were darker but still legible when printed. Furthermore, the researcher faxed a copy of each instrument to ensure that it would be readable after being transmitted through the fax machine.

Quantitative analysis

The panelists' ratings from the last two Delphic iterations were analyzed using SPSS 10.7 and the data were examined from various perspectives. Due to the nature of the study, the researcher deemed it prudent to treat the quantitative data at the ordinal level. Furthermore, the data are inherently qualitative and subjective, and they measure concepts that are heuristic in nature.

All the data collected was treated at the ordinal level using non-inferential and non-parametric approaches. Agreement within the groups was measured for each competency at the second and third iterations to assess the level of consensus. Differences within groups were measured to identify controversial competencies. Competencies were clustered in order of importance and a competency "kernel" was identified. Furthermore, Interrater reliability was measured to assess the consistency of the ratings. **Figure 3.11** provides an overview of the quantitative methods of analysis. These analyses will be reviewed in detail in the next chapter.

Variable	# of variables	Type	States	Level
Expert group	1	Independent	2 states: practitioner or educator	nominal
Competency rating	153	Dependent	a) 6 states: 1, 2, 3, 4, 5 or 6 (Likert-type scale) 1=least important and 6= most important b) 2 states: supplemental (1-3) or core (4-6)	ordinal

What was measured?	How was it measured?
Descriptives	Frequencies, bar graphs, clustered bar graphs
Central tendency	Median and Mode
Dispersion	Interquartile Range (IQR), Percentiles, semi-interquartile range, box-and-whisker
Consensus (level of agreement WITHIN groups)	2 ways: (1) Interquartile Range AND Median AND Mode (2) Kendall coefficient of concordance (also alternative to interrater consistency rating)
Controversy (differences BETWEEN groups)	Mann-Whitney U test
Competency rankings	(1) The location of the IQR (based on the values of Q1 and Q3) (2) Mean ranks (Kendall's W Ranks were used -SPSS 10.7)
Interrater reliability	Intraclass correlation (Cronbach alpha)

What tools were used?
SPSS 10.7 and MS Excel 2000

Figure 3.11. Description of primary post Delphi quantitative methods

Summary

This chapter provided an overview of the prospective naturalistic inquiry methodology that was used to build the business-to-business market management future-oriented competency model. The modified hybrid three-iteration Delphi methodology was described and its various components analyzed. The study began with an environmental scan that allowed the researcher to establish parameters and strategically plan for the various aspects of the study. The environmental scan was followed by a variety of review panels that generated the first iteration instrument, which was refined through the Delphic process.

Chapter 4

Findings

The whole of science is nothing more than a refinement of everyday thinking.
Albert Einstein (1879-1955)

Introduction

The design of the competency model entailed three main steps: construction, deconstruction and reconstruction. The construction phase involved all the stages from the project's inception until the end of the last iteration of the Delphi. During the process, over one hundred and fifty competencies were identified then rated, and the preliminary competency model drafted. Over the next pages, the model will be deconstructed and its various parts analyzed. In the next chapter, it will be reconstructed based on the results of that analysis.

Chapter four will go over the findings from the last two Delphic iterations where 153 competencies were identified, arranged into 17 functional clusters and rated by a Delphic panel composed of educators/researchers and practitioners (the basics of the modified hybrid-Delphi are listed in **figure 4.1**). Since a large number of competencies were identified, the data will be analyzed and broken down into a series of "perspectives" with more manageable chunks of data. Two of the definitions of the word "perspective" (from The American Heritage® Dictionary of the English Language, third edition) will apply:

- "the ability to perceive things in their actual interrelations or comparative importance"

- "the relationship of aspects of a subject to each other and to a whole"

Perspective 1.The first perspective will look at the instruments that were utilized to collect the data. A coefficient of reliability will be used to measure inter-item reliability.

Perspective 2. The second perspective will look at the experts who generated the competencies. Descriptive data on all the participants will be organized and examined; inter-rater reliability will be measured. In a preliminary attempt to estimate consensus

building, inter-rater reliability for the second and third iterations will be tabulated for the third iteration (please note that the latter is done with caution).

Perspective 3. The third perspective will look at all 153 items to identify the controversial competencies. The differences between the two groups will be examined and the competencies on which the two groups diverged will be isolated.

Perspective 4. Once the controversial components are isolated from the rest of the original pool of competencies, the remaining items will be analyzed. The fourth perspective will identify and analyze the highest rated competencies in the model: the "kernel" competencies.

Perspective 5. After the kernel and controversial competencies are identified, the remaining competencies will be analyzed to isolate the rest of the core competencies. The latter will be further subdivided into categories that emerge from the data.

Perspective 6. Perspective six will look at the residual competencies. These lowest rated cases will be analyzed and clustered into categories.

Perspective 7.The final part of the analysis will look at this modified Delphi process as a consensus-building tool: the evolution of consensus within the two groups and between the last two iterations will be examined. While perspective 2 examined the data in the early phases of the quantitative process, this analysis will take a holistic approach and provide snapshots of the consensus building process.

Purpose of the Delphi	To identify and forecast the competencies that will define exceptional business-to-business market managers over the next five years
Research model	Three-iteration modified Delphi where the contents of the first iteration instrument were generated prior to the Delphic process (more information is available in chapter 3)
Population under study	The Delphi panel
Panelists selection	Purposive non-probabilistic dual-stage stratified sampling technique mixed with a snowball approach
Sample size	Dynamic (iteration#1= 45 panelists, it#2= 36 and it#3= 31)
Data collection	4 survey instruments (available in Appendix D)
Concepts and variables	Iteration #1: 18 clusters Iteration #2: 17 clusters, 153 competencies Iteration #3: 17 clusters, one third of the it#2 competencies (each group)
Measurement	Iterations #2 and #3: 6-level dichotomous Likert-type scale
Unit of analysis	Competency
Survey administration	Surveys distributed and collected electronically

Figure 4.1. Basics of the modified hybrid-Delphi process.

Perspective one

In order to better appreciate the data and the approach used to analyze them, it is important to understand the means that was used to collect these data. The first perspective focuses on the survey instruments. The instrument used in the first Delphic iteration was developed over a period of more than a year. The pre-Delphi phase was described in more detail in the previous chapter.

Evolution of the survey instruments

Various surveys were used in this study to collect both qualitative and quantitative data. The information was utilized to create and then refine the competency model. Three climactic points can be identified in the data collection process:

1. <u>The environmental scan</u>. During the last phases of the environmental scan, prior to the review panels, 37 concepts were identified and grouped into four main segments: Market management (13 concepts), Management acumen (11 concepts), Analytical competencies (6 concepts) and Leadership (7 concepts).

2. <u>First iteration</u>. By the end of a series of instrument review panels conducted mostly through the ISBM educator consortium meetings, 13 of the original 37 concepts had been developed into competency clusters. Many of the remaining concepts were reworded and integrated as competency statements into one of the 18 clusters that comprised the first iteration instrument.

3. <u>Second iteration</u>. The second iteration instrument listed 153 competency statements classified into 17 clusters: 3 new clusters had been added; 5 of the clusters from the first instrument had been restructured; and 4 of the original groupings had been broken down and their constituent competency statements redistributed into the other clusters or eliminated from the model (the changes are depicted in **figure 4.2**). All the clusters were fundamentally refined; competency statements were reorganized and reformulated to become more concise.

Fundamentally restructured clusters	
Label in iteration 1 survey	Label in iteration 2 survey
Data collection and analysis	Data management
Strategic market management planning	Market planning
New product development	New offering development
Personal attributes	Marketing leadership
Sales management	Sales integration
New clusters	
Managing market offerings	
Marketing leadership	
Business acumen	
Redistributed clusters	
Brand and identity management	
Communication skills	
Technical savvy	
Personal attributes	

Figure 4.2. Second iteration instrument competency cluster changes.

Internal consistency of scale

In order to validate the survey instruments, the second iteration ratings were used to calculate the internal consistency of the scale. Cronbach's Alpha (Portney and Watkins, 2000; Huck, 2000) was computed for each the 17 clusters and the findings are listed in **table 4.1**. Almost all the clusters had alpha values well over the .70 acceptable

minimum suggested by Klimczak & Wedman (1997) and Nunally & Bernstein (1994); and the .75 measure recommended by McMillan (1996).

Cluster	N of items	N of cases	Alpha
A	5	35	.7843
B	8	34	.7235
C	10	33	.8115
D	12	34	.9047
E	14	22	.8777
F	8	36	.8623
G	8	33	.9029
H	13	30	.8774
I	11	34	.8661
J	8	34	.8716
K	12	30	.8778
L	8	32	.7706
M	9	34	.9294
N	8	29	.8007
O	6	32	.8774
P	8	35	.8855
Q	5	34	.5362

Table 4.1. Cronbach Alpha values for each cluster of the second iteration instrument

Cluster Q reported a low Alpha; the latter is in all probability due to the fact that unlike the other clusters, it is made up of a heteroclite set of competencies. The components of cluster Q are listed in **figure 4.3**.

Q. Business Acumen	
1	**Justify** marketing decisions in financial terms
2	**Understand** global market dynamics
3	**Ensure** that all functions within the organization understand the strategic role of marketing
4	**Address** not only customer but also investor communications
5	**Recognize** how technology impacts B-to-B marketing processes (i.e. markets, sales, channels, CRM)

Figure 4.3. Cluster Q components.

Perspective Two

The second perspective examined the population from which the quantitative data were obtained. This analysis begins with a description of the two groups of panelists followed by an investigation of the panelists' rating patterns.

Delphi panel description

Seventy-seven nominees were invited to participate in the study. A few of the subjects who had previously consented to be part of the Delphi panel rescinded their offer to participate for a variety of reasons, the most popular being time constraints. Forty-five subjects completed and returned the first iteration survey, thirty-six returned

the second iteration instrument and thirty-one completed the third iteration. Overall, attrition was low, during the transition from the first round to the second, the panel was reduced to 80% of its original size (20% attrition rate) and 86% of the second round participants returned their third iteration instruments (14% attrition rate). A more detailed description of the composition of the panel at each of the three iterations is depicted in **figure 4.4**.

The subjects represented three continents and a wide range of expertise. **Figures 4.5** and **4.6** provide a listing of the titles held by the expert panelists who participated in the Delphi. Most of the educators/researchers also worked as consultants and a few of them opted to submit their consulting titles. It should also be noted that the participants' titles changed during the course of the study, some of the panelists changed employment while a few others moved into consulting. The panelists' number of years of experience in their field was collected during the second iteration and the information is charted in **table 4.2**.

		Panelists' # years of experience						
		Mean	Median	Mode	Percentiles		Max	Min
					75	25		
Expert Group	All	24.1	25	30	30	16.5	40	7
	Practitioners	22.1	26	30*	30	11.5	35	7
	Educators/ Researchers	26.6	25	24	32	20	40	15

* multi-modal

Table 4.2. Delphi panelists' years of experience in their field as recorded on the second iteration survey instrument.

Fig. 4.4. Delphi panel composition at each of the three iterations

	Iteration 1	Iteration 2	Iteration 3
■ *Practitioners*	*27*	*22*	*18*
□ *Educators*	*18*	*14*	*13*
□ *Attrition*		*9*	*5*
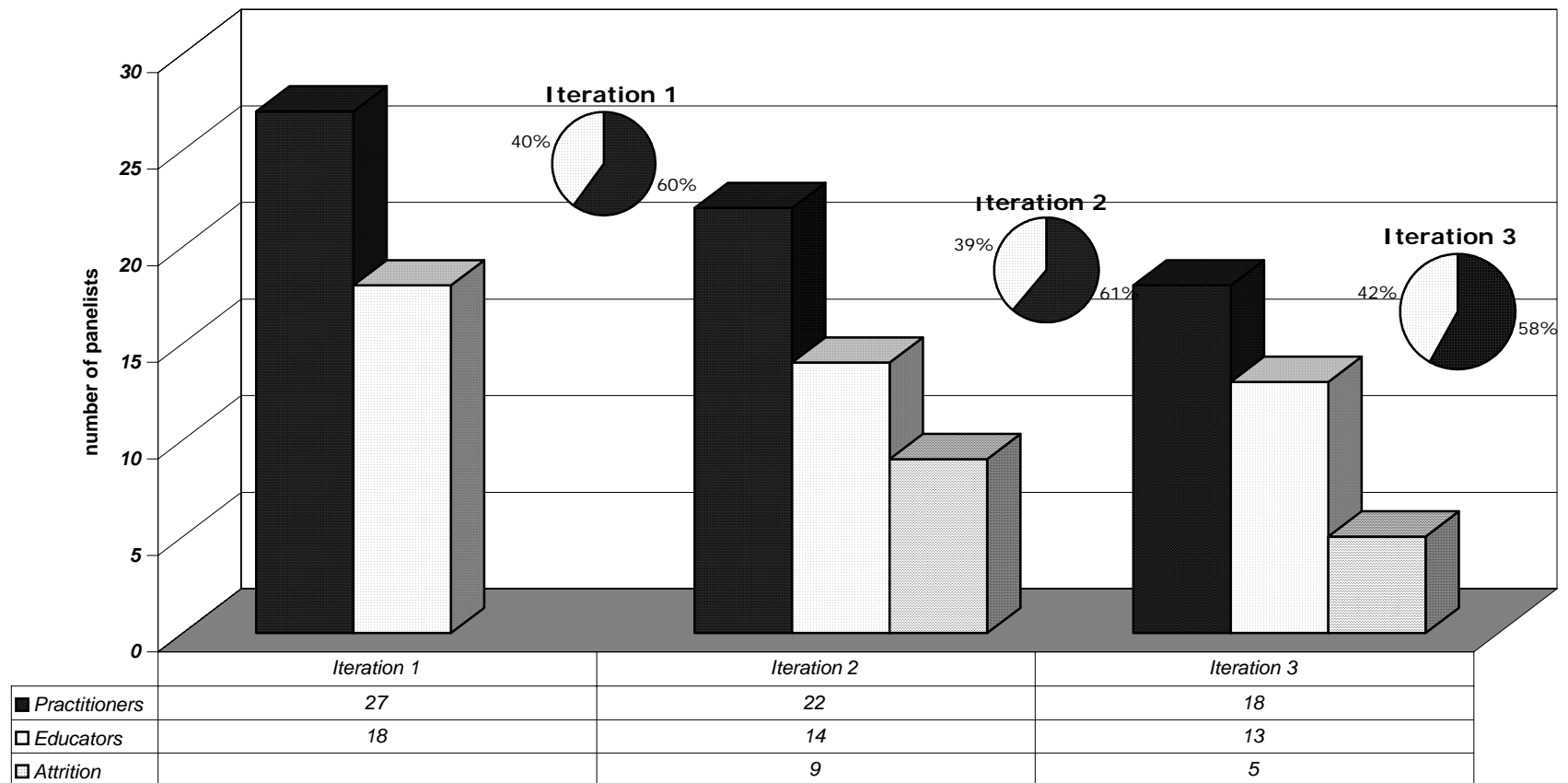
Delphi panelists' professional titles
(practitioners)

CEO The INSIGHT Group	Senior Executive Officer SDR Consulting
Chairman National Analysts	Senior Market Manager Dow Chemical
Consultant Forerunner Consulting	Senior Marketing Manager Dow Chemical
Director Marketing & Communications Diagnostics	Senior Pricer and Director Strategic Pricing Group, Inc.
Industrial Marketing Consulting Lead National Institute of Standards and Technology/Manufacturing Extension Partnership	Senior VP Corp and Investor Communications Infineon Technologies AG, Munich
Manager, Market Development - Liquid Coatings PPG Industries, Inc.	Vice Chairman Ridgewood Development Corporation
Manager, Customer Strategy and Business Research Eastman Chemical Company	Vice President Global Marketing Research Unisys Corporation
Managing Partner Marketing Andersen	Vice President- Administration Elrick & Lavidge
Marketing competency manager Dupont	Vice President Corp. Marketing and Communications PPG Industries
Partner Breakthrough Marketing Technology	Vice President Sales & Marketing -Alloy Steel The Timken Corp.
President Robert Lamons & Associates	VP Corporate Marketing Corning, Inc
Principal Informed Decisions Group, Ltd.	VP Online Marketing & Communications Electronic Data Systems - EDS
Product Sales Manager - Benzene, Toluene, Cyclohexane ExxonMobil Chemical Company	VP-Vertical Markets Corporate Express
Sales Director Shell Chemical Company	(N/A) Bellack Consulting

** The participation of the aforementioned individuals does not constitute their agreement with all the results of this study **

Figure 4.5. Delphi panelists' professional titles (practitioners).

Delphi panelists' professional titles
(educators/researchers)

- President
  Agora, Inc.

- Alvin H. Celmens Professor of Entrepreneurial Studies
  Pennsylvania State University

- Associate Professor of Marketing
  Pennsylvania State University

- CEO
  Product Development Inst. Inc.

- Consultant
  Monitor

- Dean of the faculty
  ESSEC, France

- Distinguished Research Professor of Management Science
  Pennsylvania State University

- Ford Professor of Marketing
  Arizona State University

- Jack R. Crosby Regent's Chair in Business
  Professor of Marketing and Management Science & Information Systems (MSIS)
  The University of Texas at Austin

- James L. Knight Professor of Advertising
  University of North Carolina at Chapel Hill

- Jonas H. Anchel Professor of Marketing
  Research Director, eBusiness Research Center
  Penn State University

- National Australia Bank Professor of Marketing
  Australian Graduate School of Management

- Professor of Business Marketing
  Wake Forest University

- Professor
  Harold E. Fearon Chair of Purchasing
  Arizona State University

- Professor
  University of Auckland

- Professor, Marketing
  Australian Graduate School of Management

- Van Leer Professor of Industrial Marketing
  INSEAD (France)

- William L. Ford Distinguished Professor of Marketing
  Northwestern University

** The participation of the aforementioned individuals does not constitute their agreement withal the results of this study **

Figure 4.6. Delphi panelists' professional titles (educators/researchers).

Panelists' rating patterns

Overall, the entire panel rated the competencies highly, this could be due to the extensive process that was used to generate then refine the competencies. By the end of the second iteration, the model had been in development for about two years. **Figure 4.7a** depicts a clustered bar graph of over 5,500 ratings that were collected at the end of the second iteration (36 experts x 153 competencies) and over 4,500 valid data points gathered through the third iteration (31 experts x 153 competencies). During both rounds, the percentage of competencies for which there were no responses remained the same (1.5%). The most remarkable aspect of the distribution is the fact that it was negatively skewed for both iterations, but the third iteration is leptokurtic due to an increase in the number of competencies that were rated "5". Aside from the latter, the shape of the distribution did not change much from the second to the third iteration. Another interesting detail that was mentioned earlier is the fact that in both iterations, approximately 80% of the ratings were located in the upper half of the scale (4, 5 and 6), as a whole, dispersion was very low. In both iterations, the median and the mode were five.

The same type of clustered bar graph was generated for the practitioners (**figure 4.7b**) and the educators/researchers (**figure 4.7c**). As one can notice, the overall distribution of the ratings did not change much from the second to the third iteration for the educators/ researchers. On the other hand, the distribution of the ratings did change for the practitioners: in the second iteration, the distribution of the scores was somewhat mesokurtic while in the third iteration, it was very much leptokurtic with a pronounced peek at the rating five. It can be concluded that the practitioners accounted for the

Figure 4.7a. Distribution of the ratings from all the competencies by the by all panelists

@ end of Iteration 2: 5,508 ratings (36 experts x 153 competencies)
@ end of Iteration 3: 4,745 ratings (31 experts x 153 competencies)

	1	2	3	4	5	6	NR
Iteration 2	0.9%	3.4%	14.6%	22.0%	30.8%	26.7%	1.5%
Iteration 3	0.3%	2.2%	10.8%	21.6%	39.4%	24.3%	1.5%
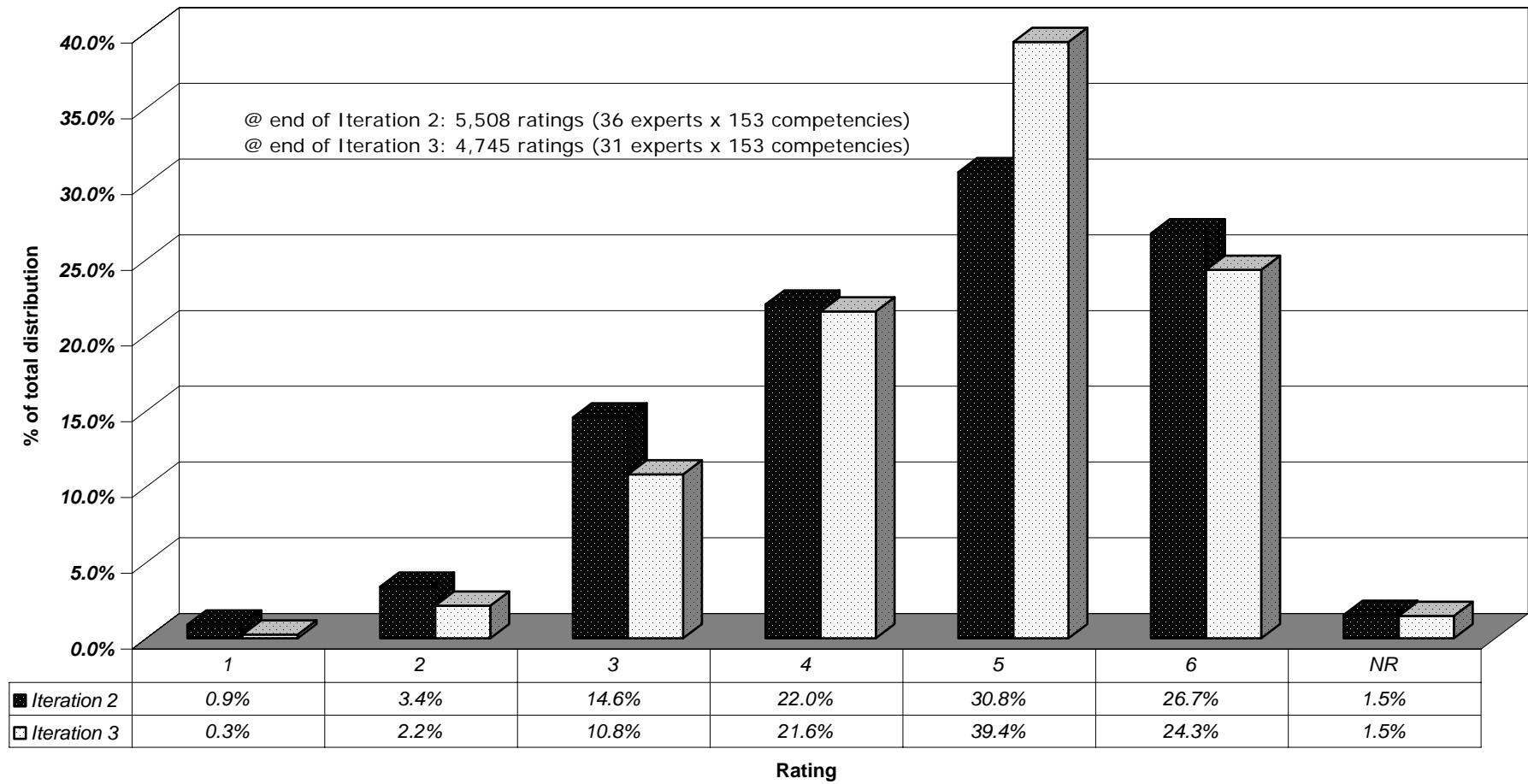
Rating

Figure 4.7b. Distribution of the ratings from all the competencies by the Educators/Researchers

	1	2	3	4	5	6	NR
Iteration 2	0.48%	2.05%	13.25%	22.66%	34.12%	26.32%	1.13%
Iteration 3	0.22%	2.80%	12.56%	22.62%	37.69%	23.67%	0.44%
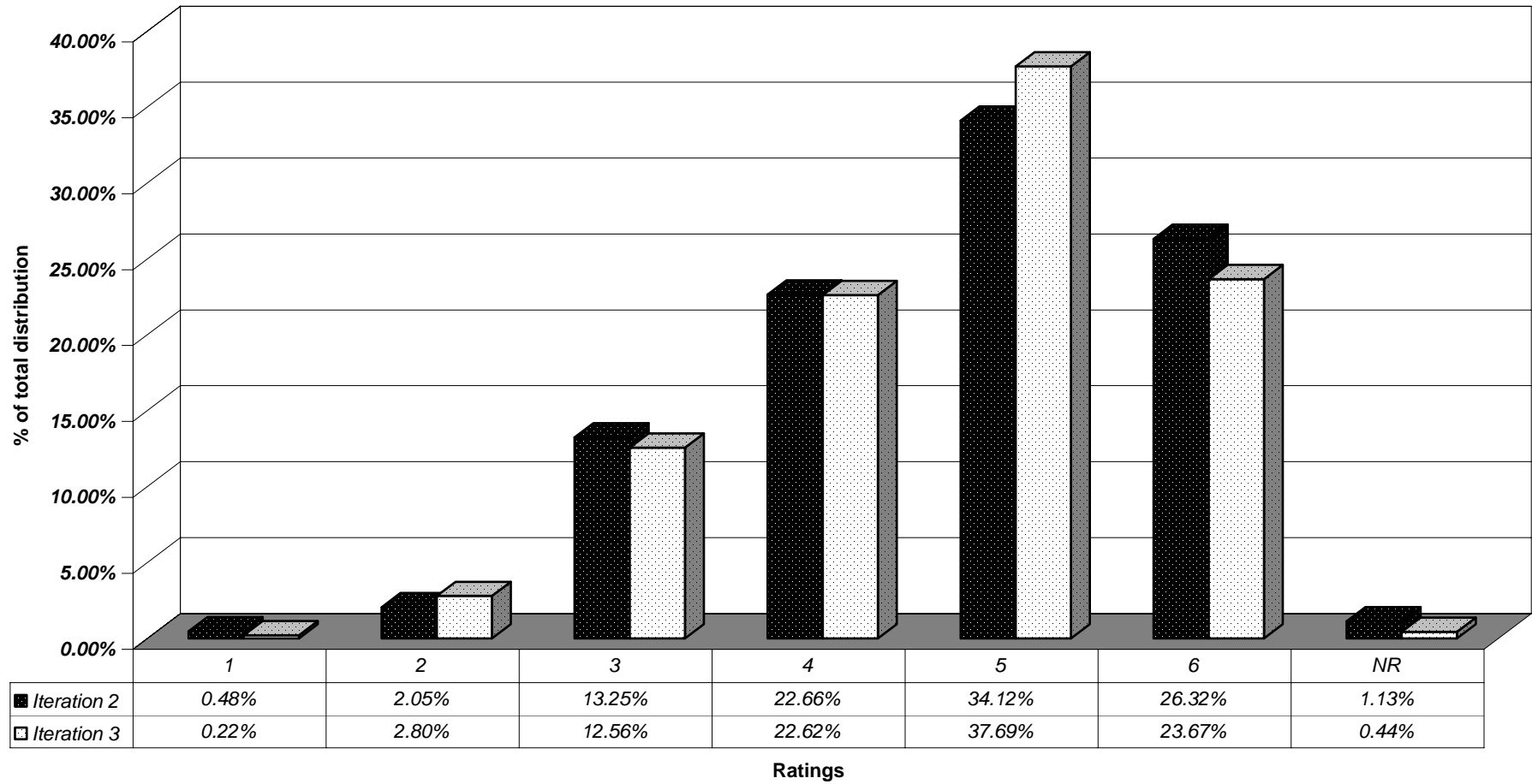
Ratings

Figure 4.7c. Distribution of the ratings from all the competencies by the Practitioners

	1	2	3	4	5	6	NR
▣ Iteration 2	1.21%	4.39%	15.53%	21.60%	28.38%	27.05%	1.84%
▢ Iteration 3	0.30%	1.26%	8.40%	20.16%	41.73%	25.24%	2.92%
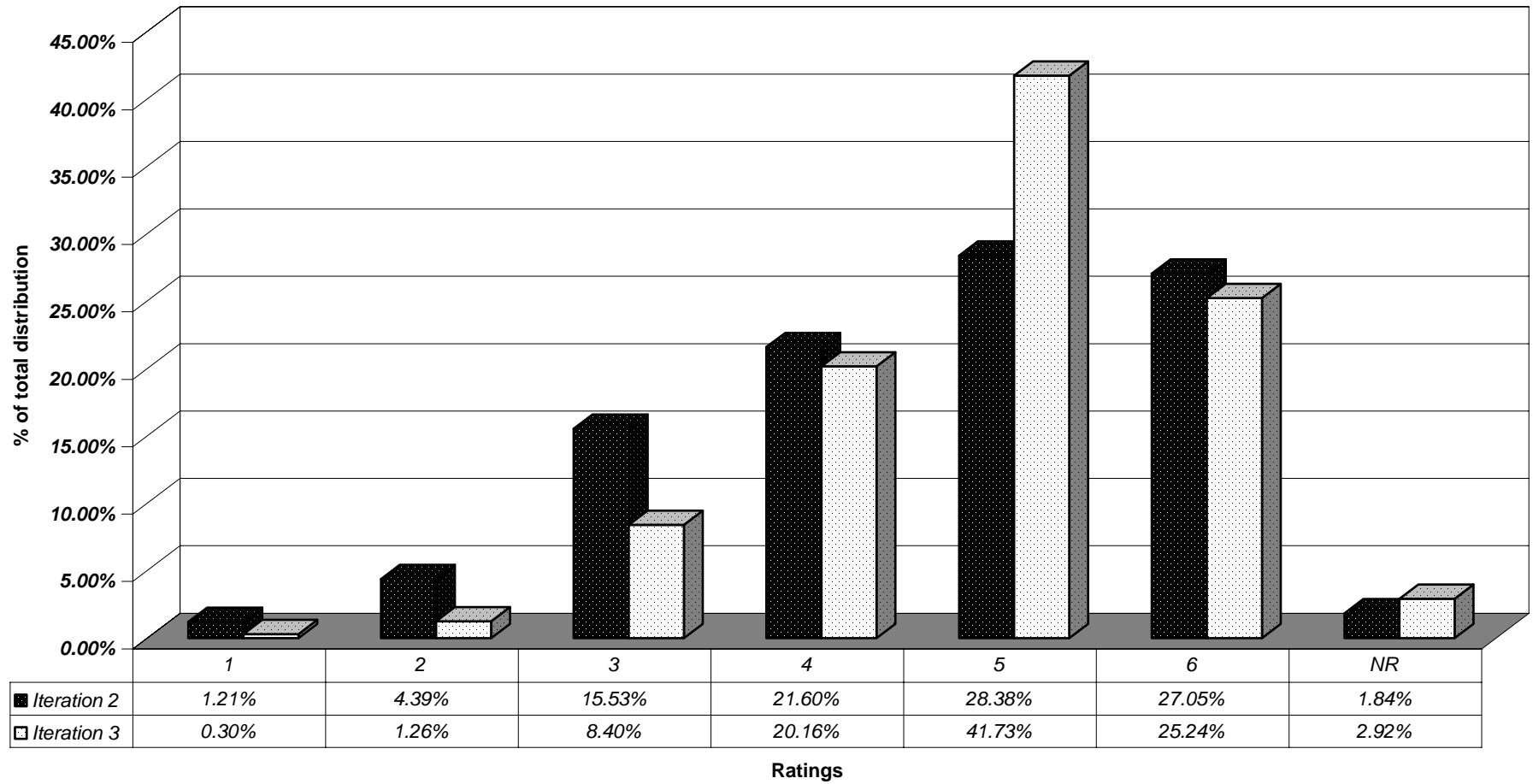
Ratings

leptokurtic distribution of the overall scores mentioned earlier. During the third iteration, the practitioners tended to sway toward the middle point of the "core" competency range: the rating "5".

Interrater reliability

This section of perspective two will focus on Interrater Reliability measured using the Intraclass Correlation reliability Coefficient (ICC). The intraclass correlation was measured using the ICC(3,k) two-way mixed model average measure reliability (Yaffee, 1998; Nichols, 1998; Huck, 2000). In all the cases, the Delphi panelists were a fixed effect and the only judges of interest. ICC was estimated at the end of iterations two and three for all the competencies. ICC (3,36), ICC(3,14) and ICC (3,22) were calculated respectively in the second iteration for all the experts, for the educators/researchers and for the practitioners. ICC (3,31), ICC(3,13) and ICC (3,18) were calculated respectively in the third iteration for all the experts, for the educators/researchers and for the practitioners. The intraclass correlation model was used with the third iteration data with caution: since the raters were provided with the measures of central tendency and dispersion for their group, the ratings collected in the third iteration were no longer independent observations. The measure was used to simply provide a direction and estimate the relative intensity of interrater reliability from one quantitative Delphic iteration to the next. **Table 4.3** provides a summary of the ICC.

	Both groups		Educators		Practitioners	
	Model	ICC estimate	Model	ICC estimate	Model	ICC estimate
Iteration #2	ICC (3,36)	.8409	ICC (3,14)	.6500	ICC (3,22)	.7610
Iteration #3*	ICC (3,31)	.9326	ICC (3,13)	.8901	ICC (3,18)	.8898

* done with caution

Table 4.3. Interrater Correlations for the Delphi panel. The interrater correlations were higher for the practitioners in the second iteration but turned out to be about the same at the end of the third iteration.

Measuring consensus

The remaining perspectives will analyze the competencies based on the ratings by the two expert groups. The Delphi panelists were asked to rate the competencies on a 1-6 Likert-type scale with the rating "1" identifying the competency as less important and rating "6" identifying the competency as most important. Furthermore, ratings 4-6 labeled the competency as "core".

In order to analyze the level of consensus in each group, the researcher opted to use the Interquartile Range (IQR). The IQR is an ordinal-level measure of variability that "indicates how much spread exists among the middle 50 percent of the scores" (Huck, 2000, p.40). The IQR is measured as Q3-Q1 and given that the scale has six levels, the maximum possible value of the IQR is 5 (6-1). Since the data are being treated at the ordinal level, the majority of the values used in this analysis will tend to be integers. For the rest of the analysis, IRQ≤1 will be labeled as "high consensus", 1<IRQ≤2 as "moderate consensus" and IQR>2 as "low consensus".

Box-and-whisker-plots were be used in most of the analyses to describe the IQR and the level of consensus. The box-plots were created using SPSS 10.7 and they identified both outlier and extreme ratings:

- the box depicted the IQR

- Outliers ("o") were identified as cases with values between 1.5 and 3 box lengths from the upper or lower edge of the box.

- Extremes ("*") were identified as cases with more than 3 box lengths from the upper or lower edge of the box.

All values in the box-plot were rounded to the nearest 0.5.

Perspective three

The third perspective examined the ratings for all 153 competencies in order to identify the competencies on which the two groups diverged. In this analysis, the location of the IQR range (described in the third iteration as the "consensus range") was used to measure the importance of a competency within a group of experts; with the median score and the mode used as indicators of central tendency. Using a range [Q1,Q3] instead of a single measure (median or mode) was preferred because it took into account not only a single measure of central tendency but the middle 50% of all the ratings. The Mann-Whitney U test was used to compare the ratings between the two groups and identify the competencies for which consensus was not achieved (inter-group consensus). The results of the test are listed in **table 4.4**.

Competency	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)
N5	20	191	-4.019	.000
H8	25	196	-3.805	.000
H6	43	274	-3.520	.000
N1	29	200	-3.273	.001
A3	40	211	-3.067	.002
D4	59	312	-2.990	.003
C3	63	316	-2.871	.004
L6	54	225	-2.840	.005
M6B	52.5	143.5	-2.743	.006
L4	51.5	222.5	-2.740	.006
F6	58	163	-2.720	.007
H10	55	226	-2.562	.010
E1A	58	229	-2.557	.011
K11	67	298	-2.541	.011
B4	69.5	300.5	-2.506	.012
N2	55	226	-2.422	.015
E9B	68.5	239.5	-2.275	.023
L7	66	237	-2.211	.027
P1	69	160	-2.188	.029
D2	84	337	-2.132	.033
L5	67.5	238.5	-2.104	.035
H5C	69.5	160.5	-2.069	.039
P6	62.5	140.5	-2.044	.041
G2	77.5	248.5	-2.032	.042
D12	79	184	-1.990	.047
K10	72.5	243.5	-1.979	.048

Table 4.4. Mann-Whitney U test comparing the ratings between the two groups and identifying the competencies for which inter-group consensus was not achieved.

Controversial competencies

A total of 26 divergent or "controversial" competencies (p<.05, 2-tailed) were identified and listed in **table 4.4**. Huck (2000) warns that even though it is easy for a researcher to calculate U and estimate a p-value, the interpretation of the results can be complicated for two reasons:

> First, the null hypothesis being tested deals not with the ranks used to compute the calculated value but rather with the continuous variable that "lies behind" or "beneath" the ranks (....) The second reason (...), rejection of H_o could come about because the populations differ in terms of their central tendencies, their variabilities, and/or their distributional shapes. In practice, however, the Mann-Whitney test is far more sensitive to differences in central tendency (....) But even here, an element of ambiguity remains because the Mann-Whitney U test could cause H_o to be rejected because two populations differ in terms of their means, or in terms of their medians, or in terms of their modes. (p. 660)

Taking into consideration Huck's suggestions, the researcher analyzed (1) the data's distributional shape for each group, (2) the central tendency of each of the 26 controversial competencies for each group (using both the median and the mode) and (3) the dispersion of the scores using the Interquartile Range (IQR). The analysis supported that Huck's concerns are genuine: the Mann-Whitney U test is very sensitive and a good example of this sensitivity is competency "G2". The distributions of the ratings by the two groups for "G2" were somewhat similar: Q1 and Q3 were the same for both groups, dispersion was low (IQR=1 for both groups) but due to a difference in central tendency (median=mode=6 for educators and median=mode=5 for practitioners), the Mann-Whitney U test yielded a p-value of .042 thereby rejecting H_o. A similar situation arose with competency "P1": although the practitioners reached high consensus (Q1=5; Q2=Q3=Mode=6, IQR=1) and the educators reached close to perfect consensus at 5 with

extremes at 4 and 6 (Q1=Q2=Q3=Mode=5; IQR=0); P1 yielded a p-value of .029. Similarly, competency "K10" showed high consensus <u>within</u> both groups but the distribution of the ratings <u>between</u> the two groups was different enough to warrant leaving that competency in the controversial group (Q1=4; Q2=Q3=5; Bimodal at 4 and 5; IQR=1 for the educators and Q1=Q2=Q3=Mode=4, IQR=0 for the practitioners). Further more, about a fifth of the ratings in the practitioners group were identified as "extremes". Competencies "G2" and "P1" were taken out of the "controversial" competencies grouping, which was now composed of 24 cases. These competencies were further analyzed and broken down into 4 categories: truly divergent competencies, controversial "core" competencies with high intra-group agreement, controversial "supplemental" competencies with high intra-group agreement and additional controversial competencies.

Truly divergent competencies.

This grouping encompasses competencies that were rated as "core" by one group and "supplemental" by the other. Since ratings 4, 5, and 6 identified a competency as "core" and a rating of less than 4 identified the competency as "supplemental", the competencies in this group were expected to have $1 \leq Q1 \geq 4$, $1 \leq Q3 \geq 4$ for one group and $4 \leq Q1 \geq 6$, $4 \leq Q3 \geq 6$ for the other (the middle 50% of the ratings was expected to be in the [1,4] range for one expert group and [4,6] for the other). Ten such competencies were identified and are depicted in **figure 4.8**. These competencies identify the biggest divergence of opinion between the two expert groups. They should be further
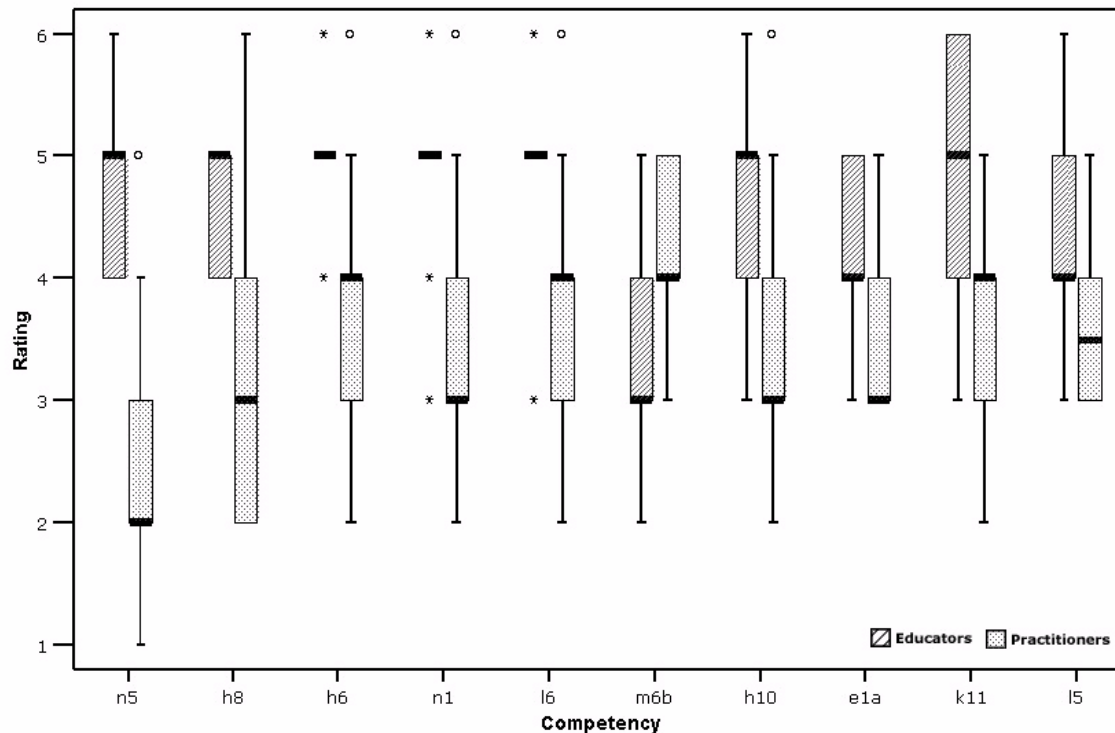
Competency	Description
N5	**Integrate** CRM and supply chain management
H8	**Distinguish** products/services that can be outsourced while still preserving positioning
H6	**Collaborate** with other market players in the positioning of offerings (e.g. via co-op advertising, co-branding, service contracts)
N1	Establish processes to **manage** company wide relationships
L6	Optimize distribution by **combining** online (e.g. e-channels) and offline distribution channels
M6B	**Select** communications media to best deliver messages to targeted audience
H10	**Tie** brand equity to marketing ROI metrics
E1A	**Analyze** "value webs"
K11	Continuously **streamline** the new offering development process
L5	Develop processes to **facilitate** communications between the channel members

Figure 4.8. Truly divergent competencies. The top portion of the figure depicts a clustered box-plot of the ratings by each expert group for each competency (ratings 6, 5 and 4 identify a competency as "core").

investigated, as they may be indicative of fundamental differences between practitioners and educators in the field of business market management.

Controversial "core" competencies

Since ratings 4, 5, and 6 identified a competency as core, the competencies in this group were expected to have $Q1 \geq 4$ (the middle 50% of the ratings was expected to be in the [4,6] range) for both expert groups. This group encompasses competencies that were divergent in terms of inter-group agreement (Mann-Whitney U test with $p<.05$) but had a high intra-group agreement ($IQR \leq 1$). Although the ratings indicated divergence, the competencies in this category were identified as "core". The two groups simply had divergent opinions as to how "core" these competencies were. Nine such competencies were identified and are depicted in **figure 4.9**.

Controversial "supplemental" competencies

Since ratings of less than 4 identified a competency as supplemental, the competencies in this group were expected to have $Q3 \leq 4$ (the middle 50% of the ratings was expected to be in the [1,4] range) for both expert groups. This group encompasses competencies that were divergent in terms of inter-group agreement (Mann-Whitney U test with $p<.05$) but had a high intra-group agreement ($IQR \leq 1$). Although the ratings indicated divergence, the competencies in this category were identified as
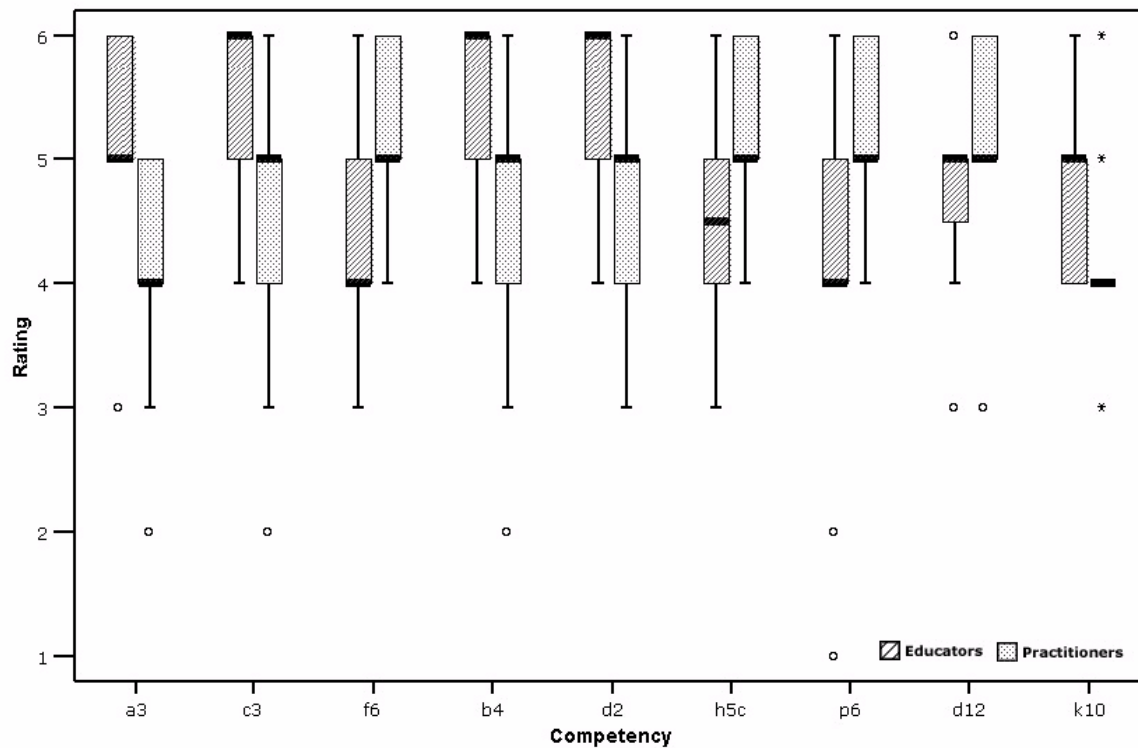
Competency	Description
A3	Understand the fundamentals of MR (know enough to **evaluate** expert advice)
C3	**Identify** customers with high lifetime value
F6	**Link** segmentation strategies to individual customer offerings
B4	Effectively use data from various sources to **improve** marketing decisions
D2	**Understand** various pricing approaches
H5C	**Test** positioning in the market to assess its value to the customers
P6	Efficiently **delegate** work
D12	**Monitor** the effectiveness of pricing strategies over time
K10	Develop solutions which **integrate** the firm's offerings with those of partners and competitors (to maximize the offering's value)

Figure 4.9. **Controversial "core" competencies**. The top portion of the figure depicts a clustered box-plot of the ratings by each expert group for each competency (ratings 6, 5 and 4 identify a competency as "core").

"supplemental", the two groups simply had divergent opinions as to how "supplemental" these competencies were. Only one such competency was identified: "L7- Develop a process for automating response feedback on offers".

Additional controversial competencies

This category contains the residual four competencies that did not fit into the preceding groupings. Oddly, all the remaining competencies share a common pattern: (1) intra-group consensus was moderate for at least one of the expert groups in each of the competencies; and (2) the median was at 4 in the practitioner group for all 4 competencies. The box-plot for the four competencies in this grouping is depicted in **figure 4.10**.

On the whole, the controversial competencies were distributed amongst 12 of the 17 third iteration clusters. Four of the clusters contained about sixty percent of the controversial competencies; furthermore, the two clusters "Channel management" and "Positioning" accounted for a third of the controversial competencies (depicted in **figure 4.11**). The top controversial clusters should be further studied as they might indicate deep-seated differences between the perceptions of the two expert groups.
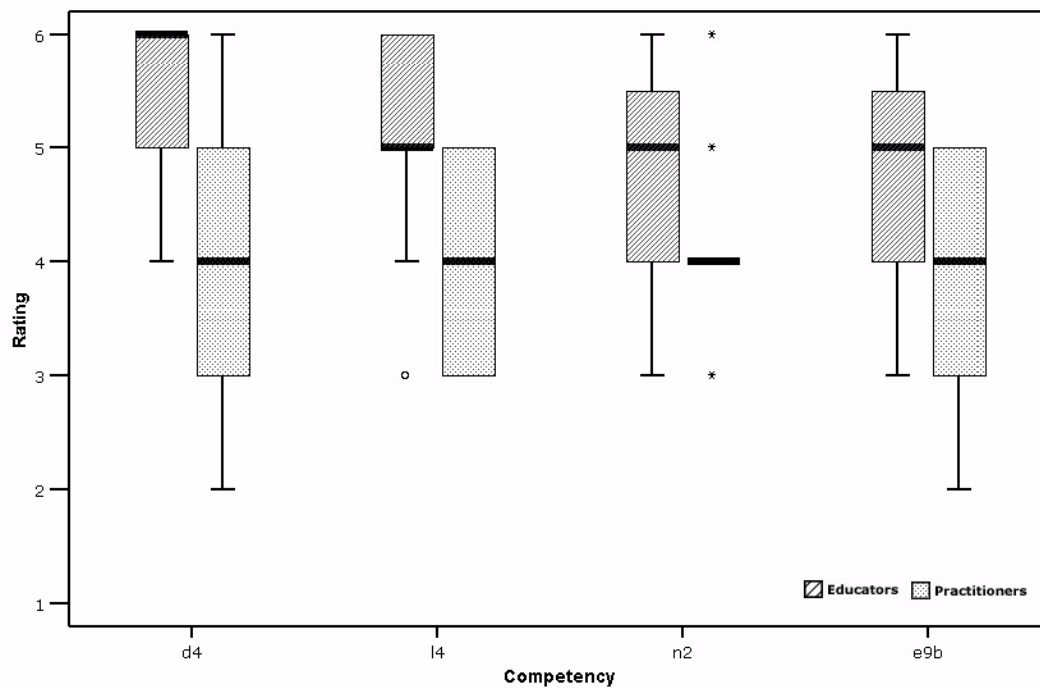
Competency	Description
D4	**Calculate** the "value-in-use" of offerings
L4	Develop processes to **assist** channels in adding value to the firm's product/service line
N2	**Integrate** all points of customer interaction (ie. account acquisition, account retention and shedding)
E9B	Establish processes to measure the ROI of marketing efforts **in terms of their impact on cash flow**

Figure 4.10. Additional controversial competencies. The top portion of the figure depicts a clustered box-plot of the ratings by each expert group for each competency (ratings 6, 5 and 4 identify a competency as "core").

# controversial competencies		Cluster
4	L	Channel Management
4	H	Positioning
3	D	Value and Pricing
3	N	Customer Relationship Management (CRM)
2	E	Market planning
2	K	New Offering Development
1	P	Marketing Leadership
1	A	Marketing research
1	B	Data management
1	C	Harnessing value
1	F	Market segmentation
1	M	Marketing communications
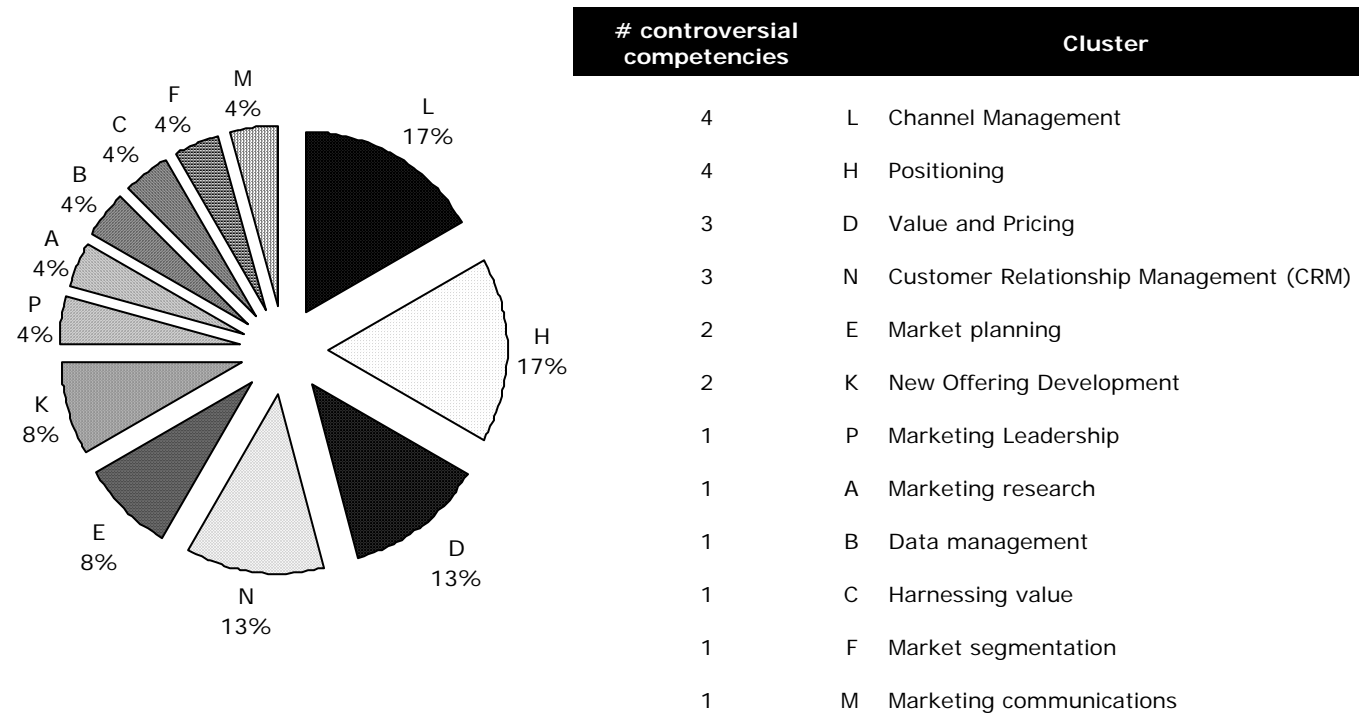
Figure 4.11. Distribution of the 24 controversial competencies among the 17 competency clusters.

<u>Perspective Four</u>

The 24 controversial competencies were removed; and the remaining 129 competencies analyzed. The fourth perspective sought to isolate the most critical competencies as identified by both groups; they were labeled "Kernel" competencies.

Kernel competencies

The data for all 129 competencies are summarized and tabulated in appendix E. The table provides dispersion and central tendency information for each expert group. The following criteria were used to select the "kernel" competencies:

- <u>High importance rating by each group</u>. The highest rated competencies by both groups were selected. For each competency, each group's ratings had to satisfy the following: $Q1 \geq 5$, mode$=6$ and $Q2 \geq 5.5$. In a few instances, because of an even number of cases (competencies with Q2 at 5 and 6), the median was assigned "5.5" by SPSS: these cases were deemed acceptable (further analysis using mean ranks showed that these competencies were closer to the "kernel" cluster than the next level of competencies).

- <u>High consensus within each group</u>. Dispersion of the ratings within each group had to be low (IQR$\leq$1). The previous requirement ensured that this requirement was met.

- ▪ <u>High consensus between the two groups</u>. The first two requirements ensured that the middle 50 percent of the ratings would fall at 5 or six with the mode and the median at six (or at least 5.5 –see comment above)

Fifteen competencies satisfied all the requirements, and they are depicted in **figure 4.12**. The kernel was composed of competencies from 11 of the 17 clusters. Three clusters (I, C and O) accounted for about half of the kernel competencies. The distribution of kernel competencies is depicted in **figure 4.13**.

It was difficult to rank-order the kernel competencies because dispersion was low and central tendency (median and mode) was at its maximum value. Taking into consideration the fact that the two expert groups were relatively small and not equal in size, the researcher calculated the mean ranks of each competency for each expert group (using SPSS's "Kendall W Ranks") and then calculated the sum of the mean ranks. Huck (2000) suggests that even though the conversion from raw scores to ranks may be cumbersome or might seem "odd", ranks should be used when data are inherently ordinal:

> converting raw scores to ranks is related to the fact that raw scores
> sometimes appear to be more precise than they actually are (….) With
> Likert-type attitude inventories, the total score derived from the subject's
> responses are probably only ordinal in nature. Fore one thing, the
> arbitrary assignment of consecutive integers to the response options does
> not likely correspond to any subject's view of how the response options
> relate to another (p. 654)

The sum of the mean ranks was used to rank order the kernel competencies. The data are described in **table 4.5**. The latter does not take into consideration the fact that outliers and extreme cases may distort the rank order. If outliers and extreme cases were put aside, the rank order would be slightly different (depicted in **figure 4.12**). It should be noted that in both ranking algorithms, competency C1A was the highest ranked. The researcher concedes that the outliers and extreme ratings should not be discarded

without further study. He recognizes the potential importance of further studying and understanding why a few experts chose to rate a competency outside of general consensus; but due to limited resources and time constraints, the outliers and extreme ratings will not be further investigated in this document. In addition, it should be mentioned that consensus was reached within both groups for competencies "C1A", "B6" and "K8" during the second iteration (these competencies were not re-rated in the third iteration by either group of experts).

Competency	Practitioners Mean Rank	Educators Mean Rank	Sum of mean ranks
C1A	9.7	8.5	18.2
A4	8.8	8.5	17.3
P8	9.8	7.2	17
I2	8.6	8.2	16.8
Q1	8.1	8.6	16.7
H5B	7.6	8.9	16.5
O3	7.1	9.4	16.5
F3	7.6	8.6	16.2
I4A	8.2	7.6	15.8
J2	7.9	7.8	15.7
I4B	7.4	7.6	15
O2	8.1	6.8	14.9
B6	7.2	7.6	14.8
K8	7.3	7.1	14.4
C5	6.7	7.6	14.3

Table 4.5. Rank order of 15 kernel competencies based on sum of mean ranks from each expert group (low ranks correspond to low values of the variables).
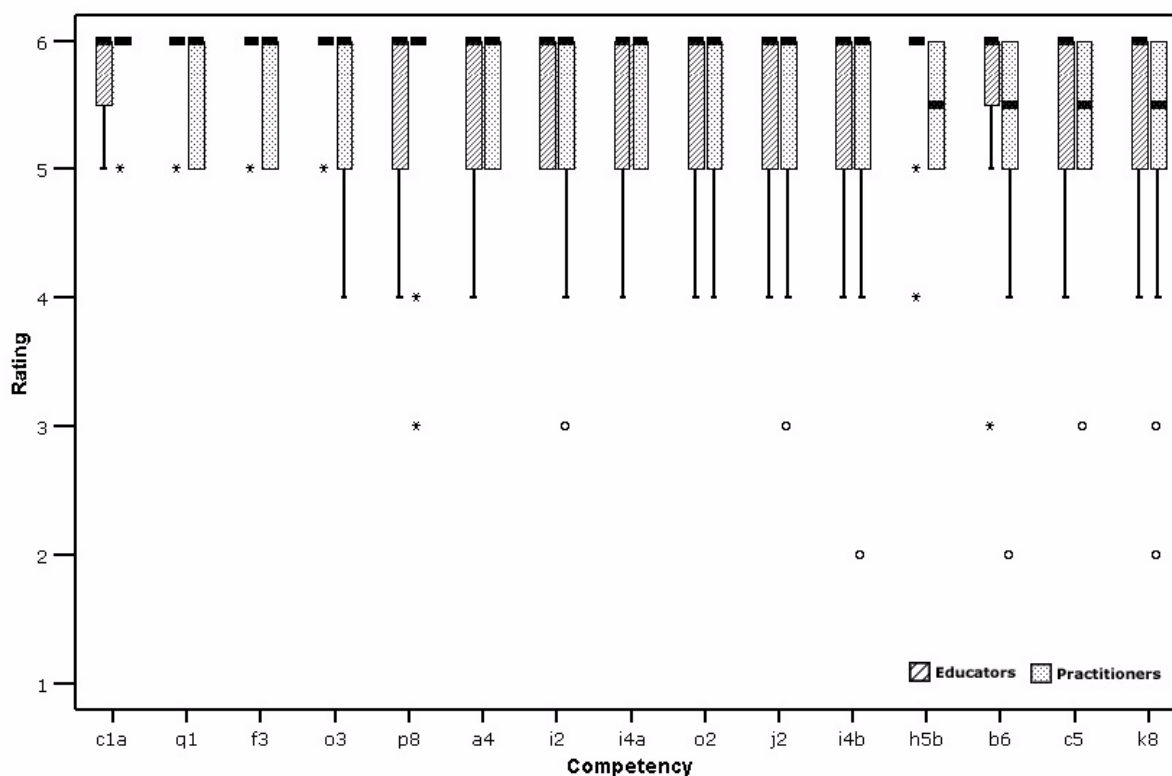
Competency	Description
C1A	**Recognize** what value is for the customer
Q1	**Justify** marketing decisions in financial terms
F3	**Identify** the fundamental drivers of customer segments
O3	**Adapt** to a changing business environment
P8	**Behave** ethically
A4	**Turn** marketing research results **into** action plans
I2	Effectively **communicate** the value proposition to the sales force
I4A	(Collaborate with sales management to) **align** the marketing and the sales plans
O2	**Anticipate** change (i.e. its effects on business)
J2	**Build** an offerings portfolio around customer needs and behaviors rather than technologies
I4B	(Collaborate with sales management to) **integrate** segmentation and targeting into the sales process
H5B	Clearly **communicate** a unique value proposition for each target segment
B6	**Collaborate** with other functional leaders to ensure the inclusion of marketing data in the business decision-making process
C5	**Use** the firms' core competencies to maximize value
K8	**Develop** value propositions for new offerings based on benefits rather than offering features

Figure 4.12. **"Kernel" competencies ordered by relative importance** (as rated by the two expert groups).

# Kernel competencies	Cluster	
3	I	Sales Integration
2	C	Harnessing Value
2	O	Creativity and Foresight
1	A	Marketing Research
1	B	Data Management
1	F	Market Segmentation
1	H	Positioning
1	J	Managing Market Offerings
1	K	New Offering Development
1	P	Marketing Leadership
1	Q	Business Acumen
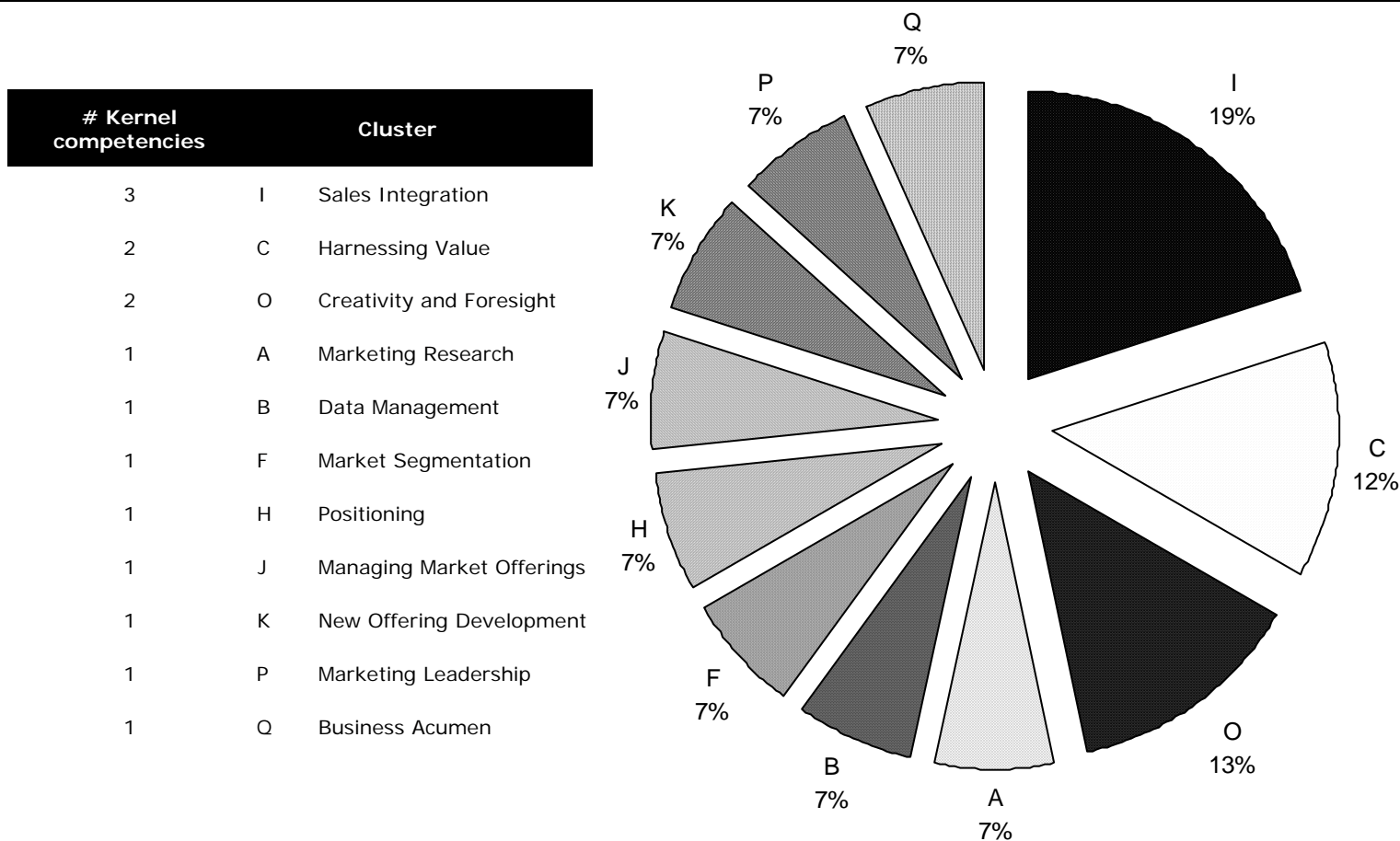
Figure 4.13. Distribution of the 15 Kernel competencies among the 17 competency clusters.

Additional kernel competencies

A few traits were identified as kernel-level competencies by only one of the expert groups; and they were therefore not included in the previous analysis. All these competencies were rated highly by both groups but did not satisfy the stringent requirements to be included among the kernel competencies. The practitioners and the educators respectively rated five and six additional competencies as kernel-level. These competencies are depicted in **figure 4.14**. Two of the competencies that were identified as "core" by the educators did not reach a high level of consensus amongst the practitioner group:

- E8. Articulate the marketing plan to all functional elements of the organization

- D3. Shift from traditional to value based models

The two competencies were identified as core (Q1≥4) by both expert groups; the mode for the pair of competencies was six (the maximum) in both expert groups; and the median was also six, with the exception of D3, where Mdn= 5 in the practitioners group. Even though central tendency was high, these two competencies showed a rather high level of dispersion (IQR=2) within the expert practitioner group. The rather low level of agreement should be further investigated in order to better understand why there was such a large dispersion of the ratings among the practitioners in these two competencies that were identified as core by the educators.
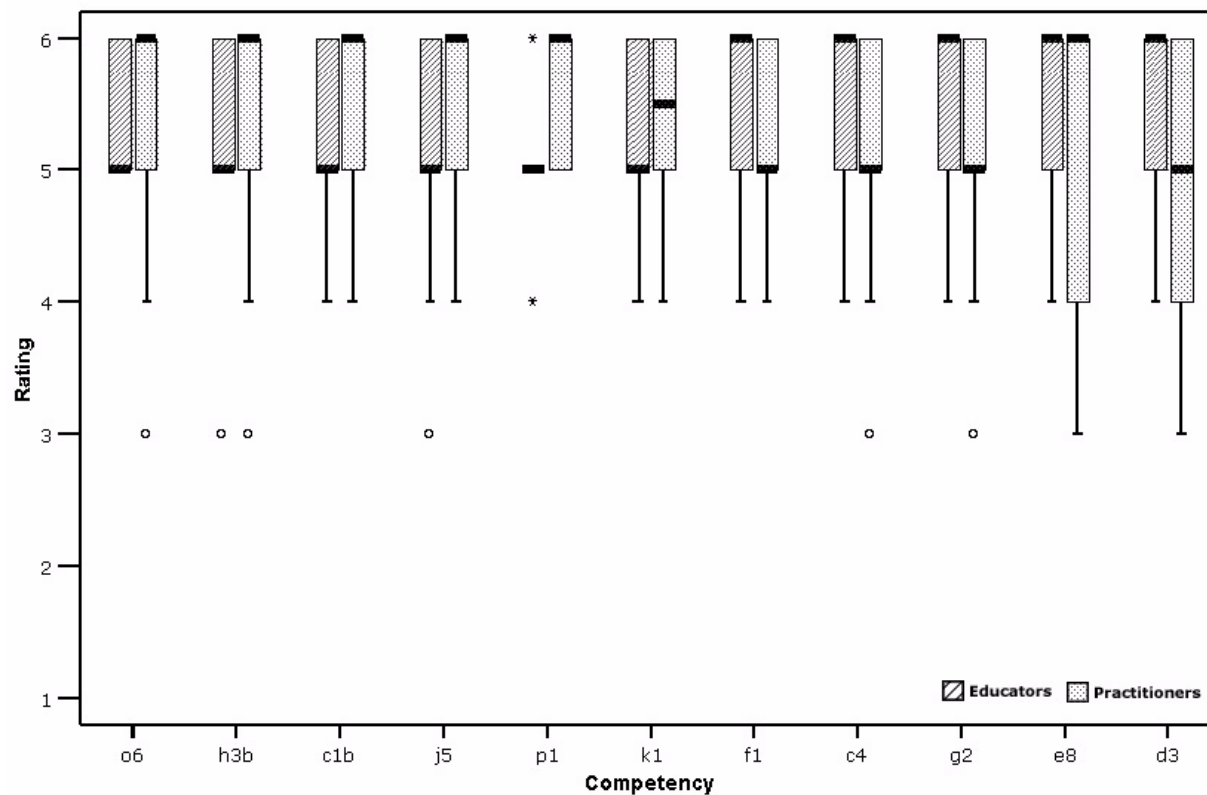
Competency	Practitioner "Kernel" competencies
O6	Creatively **identify** market opportunities
H3B	**Develop** a strategy which will enable a firm to differentiate its offerings from its competitors
C1B	**Recognize** what value is for customer's customer
J5	Understand the customer's business processes in order to better **integrate** the firm's offerings into the customer's processes
P1	**Build** strong cross functional relationships
K1	**Involve** marketing in the development process of new offerings from the fuzzy front end (project conception) to the launch

Competency	Educator "Kernel" competencies
F1	**Identify** innovative market segmentation criteria to aggregate customers with similar needs and behaviors
C4	**Understand** the firms' business model: how various operations combine efforts to create value for the customer
G2	**Allocate** resources based on target segment potential
**E8	**Articulate** marketing plans to all functional elements of the organization
**D3	**Shift** from traditional to value-based pricing models

** high dispersion within practitioner group

Figure 4.14. **Additional Kernel competencies** (based on ratings by one of the expert groups).

<u>Perspective 5</u>

The controversial and kernel competencies were isolated so that the remaining 103 competencies could be analyzed. The fifth perspective sought to identify these remaining core competencies. Just as in the previous analyses, consensus was measured using the interquartile range and the importance of a competency was measured using the location of the IQR. Since ratings 4, 5 and 6 identified a competency as "core" and ratings 1, 2 and 3 identified it as "supplemental", "core" competencies were defined as having their entire IQR within the upper half of the Likert-type scale for both groups. "Core" competencies were therefore identified as having $Q1 \geq 4$ for both expert groups; 67 such competencies were identified.

Tier 2 competencies

Twelve competencies had $Q1 \geq 5$ for both expert groups; they were labeled "tier two" competencies. These competencies were further analyzed and are depicted in **figure 4.15**. The ranking scheme was similar to the one used previously with the kernel: "outliers" and "extremes" were isolated, a competency's importance was determined by the location of the IQR and two measures of central tendency (median and the mode) were used to further refine the ranking. All twelve cases had a median and a mode of five for both expert groups with the exception of competencies "E1C" and "H1" where the mode was six for the practitioner group.
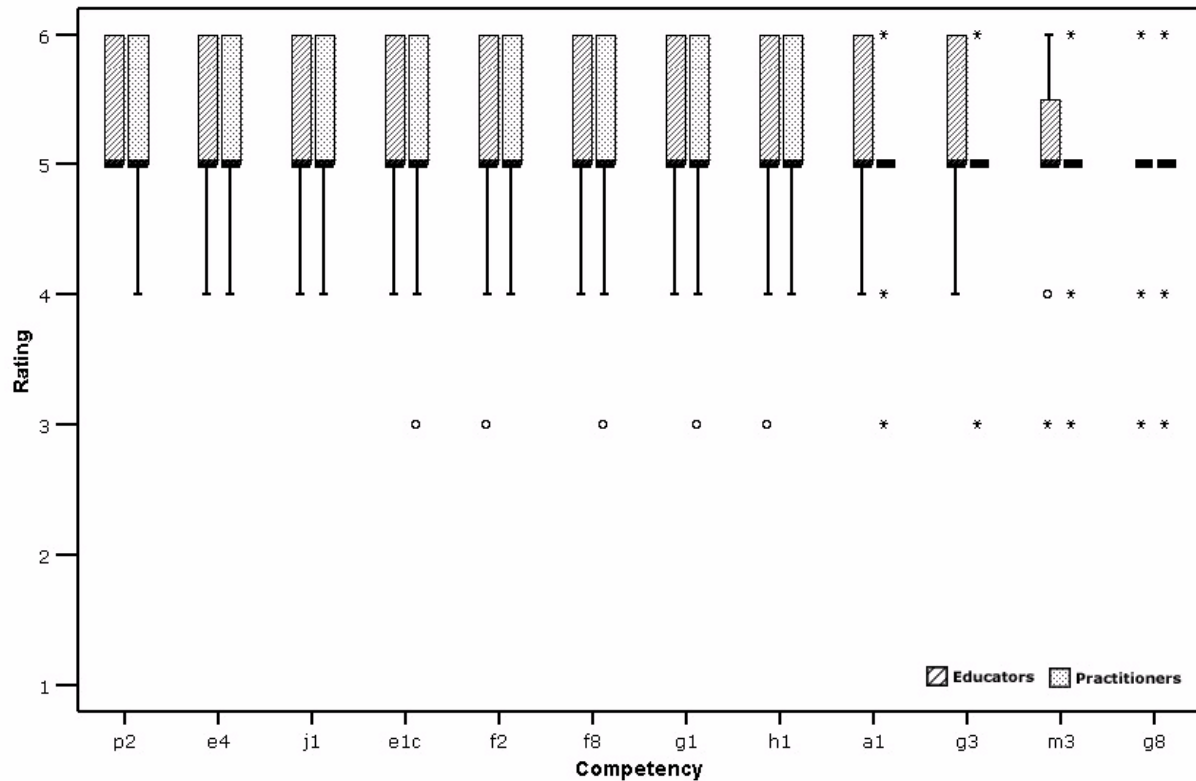
Competency	Tier 2 competencies
P2	**Align** marketing team around a vision/strategy
E4	**Design** dynamic marketing strategies that can be easily adapted to changing market conditions
J1	**Recognize** the role of service in differentiating offerings
E1C	**Identify** sources for developing sustainable competitive advantage
H1	**Compare** the firms' competitive advantage (functional and perceptual) to its competitors'
F2	**Develop** innovative segmentation schemes that can be adapted to changing market conditions
F8	**Implement** segmentation strategies through the sales organization
G1	**Define** selection criteria for identifying *profitable segments*
A1	**Select** marketing objectives to be supported by Marketing Research
G3	Manage segment specific marketing programs in order to **customize** marketing and sales efforts
M3	**Protect** brand equity
G8	**Develop** an understanding for target segments that goes beyond quantitative analyzes (e.g. live in your market as opposed to flying over it)

Figure 4.15. **Tier 2 competencies ordered by relative importance** (as rated by the two expert groups).

Fifty-five core competencies were left with Q1≥4. The first step of this part of the analysis was to determine if they could be grouped into naturally occurring clusters taking the following into consideration: (1) the two expert groups are not of equal size but the ranking algorithm must equally take into consideration the ratings from each of the two groups, (2) the data are ordinal and (3) dispersion is somewhat low both between and within the two groups. The sum of the mean ranks of each competency from each of the expert groups was calculated using SPSS's "Kendall W Ranks" (similarly to the process used in perspective four with the kernel competencies). Since SPSS only uses series without missing data to calculate the "Kendall W Ranks", only the ratings from 13 practitioners and 10 educators would have been used by the software; therefore, a within-group median imputation was conducted. In the latter, the missing values for each competency were replaced by the median value of the series for each group. Imputation by mean (Raaijmakers, 1999) seems to be more commonly used but due to the nature of the data, the researcher opted to utilize imputation by median. The substitution was conducted using SPSS's "replace missing values" function. Since the imputation process can slightly affect the measures of variability, the following analysis was done with caution (even though the results of the imputation were used only for ranking purposes). Unlike some of the previous rank ordering algorithms, this one does not isolate "outliers" and "extreme" values. The competencies were ranked based on the sum of mean ranks; the data are listed in **table 4.6**. The table itemizes (1) the mean rank for each competency by each expert group and (2) the sum of the mean ranks (low ranks correspond to low values of the variables). The last column of the table lists the linear distance between the sum of mean ranks of consecutive competencies.

Competency	PRACT Mean Rank	ED Mean Rank	Sum of Mean Ranks	Difference	Competency	PRACT Mean Rank	ED Mean Rank	Sum of Mean Ranks	Difference
F4	34.1	37.8	71.9	0.1	K2A	31.8	24.9	56.7	1.0
E7	34.0	37.8	71.8	1.2	K7	29.9	25.8	55.7	0.6
C7	33.5	37.2	70.7	1.5	K5	32.4	22.8	55.2	0.3
I4G	32.3	36.9	69.2	1.0	P3	27.4	27.4	54.8	0.3
D7	36.3	31.9	68.2	1.3	M2	27.8	26.8	54.6	1.9
E5	32.8	34.1	66.9	0.3	D8	26.4	26.3	52.7	0.8
N6B	34.9	31.7	66.6	0.0	O5	27.1	24.8	51.9	0.0
H3A	35.2	31.3	66.6	1.1	O4	23.4	28.5	51.9	0.3
G4	29.4	36.1	65.4	1.1	J7	26.4	25.2	51.6	0.3
I4C	28.9	35.5	64.4	0.0	N6A	26.7	24.6	51.3	0.4
J6	36.3	28.1	64.4	0.5	L2B	25.3	25.6	50.9	0.4
I4F	30.6	33.2	63.9	0.2	D5	30.4	20.0	50.4	0.2
E3	29.6	34.0	63.6	0.8	F7	24.1	26.2	50.2	1.4
F5	28.2	34.6	62.8	0.0	J8	23.9	24.9	48.8	0.8
P4	25.9	36.9	62.8	0.7	D6	25.1	23.0	48.0	0.3
H4	32.9	29.2	62.1	0.1	C9	20.3	27.5	47.7	0.3
B1	28.2	33.8	62.0	0.0	L3	23.1	24.3	47.4	0.1
I3	27.8	34.2	62.0	0.4	Q2	23.4	24.0	**47.3**	**3.1**
M1	34.4	27.1	61.6	0.1	K2B	25.8	18.4	**44.3**	0.0
E1D	28.9	32.6	61.5	0.1	O1	19.0	25.2	44.2	0.0
G6	30.4	31.0	61.4	0.1	L2A	18.4	25.8	44.2	0.0
D9	30.6	30.8	**61.3**	**2.8**	K6	19.4	24.8	44.2	0.3
Q5	30.3	28.3	**58.6**	0.1	E6	28.8	15.1	43.9	0.2
I4E	33.5	25.0	58.5	0.1	D10	24.5	19.2	43.7	1.4
Q3	33.0	25.5	58.4	0.3	E2	19.4	23.0	42.4	1.2
G7	30.1	28.0	58.2	0.2	K9	20.6	20.5	41.1	
H5A	32.2	25.8	58.0	0.2					
A2	24.6	33.2	57.8	0.6					
E1									

Table 4.6. **Rank order of 55 core competencies based on sum of mean ranks from each expert group** (low ranks correspond to low values of the variables).

Based on the linear distance between consecutive "sum of mean ranks", it is possible to distinguish three separate clusters of competencies (based on importance):

- Cluster A from F4 to D9
- Cluster B from Q5 to Q2
- Cluster C from K2B to K9

These clusters represented three additional tiers within the core competencies (tiers 3, 4 and 5) and they will be analyzed separately. They are described in **figures 4.16**, **4.17** and **4.18** respectively.

Tier 3 core competencies

The 22 "third tier" core competencies are depicted in **figure 4.16a** and defined in **figure 4.16b**. The median was at 5 within both groups, for all the competencies (with 1 exception: I3-educators). The level of consensus within the groups varied from very high (IQR=0) to moderate (IQR=2).

The practitioners were not in agreement regarding competency "I4G- Collaborate with sales management to establish programs for customer retention": the range of the ratings went from a minimum of two to a maximum of six. The educators on the other hand consistently gave the competency high marks: over 75% of the ratings were at 5 or six, the two highest scores. The practitioners were also ambivalent regarding competencies "I4C- Collaborate with sales management to periodically evaluate the effectiveness of marketing efforts" and "N6B- Establish processes to measure customer
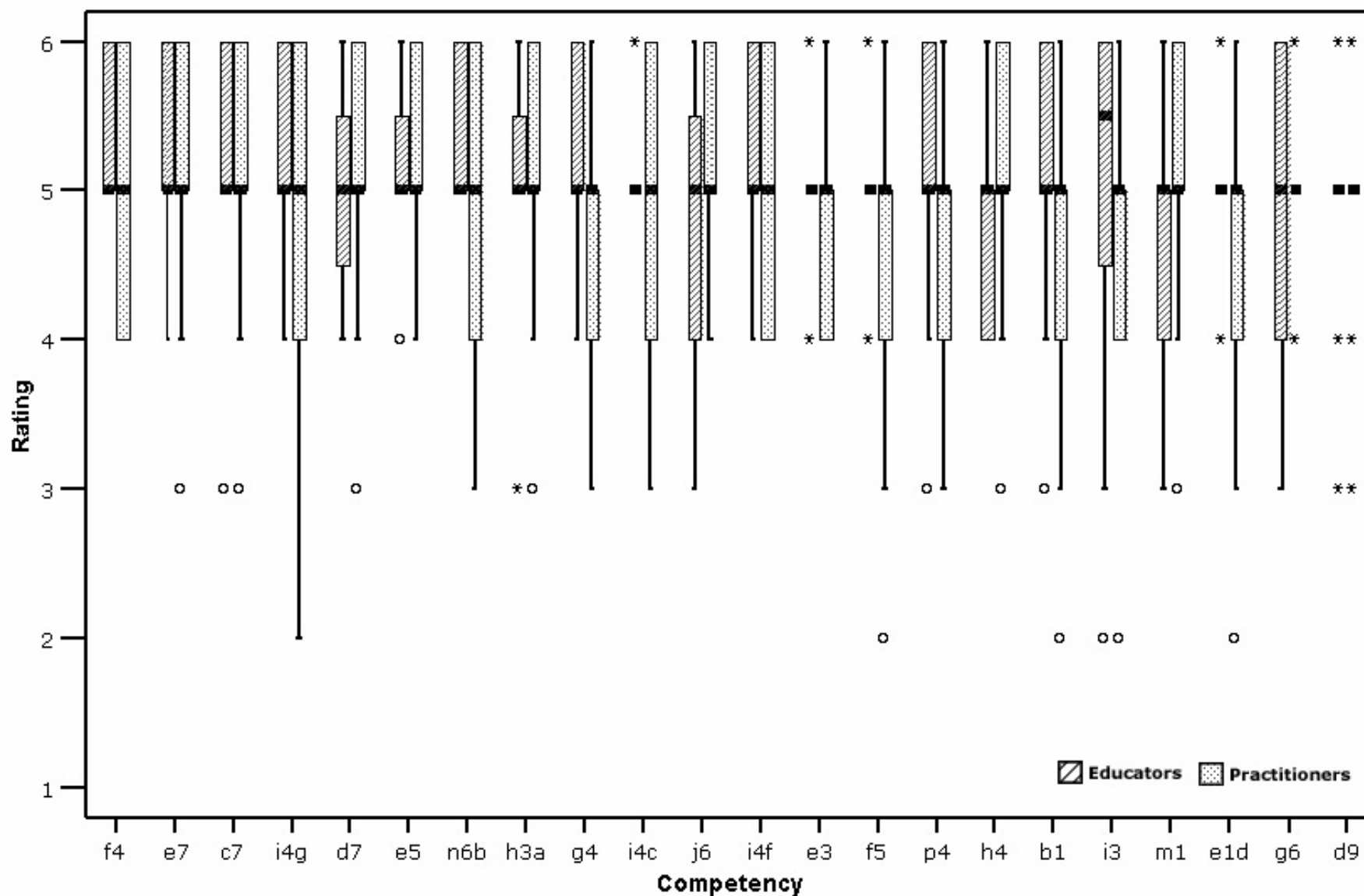
Figure 4.16a. **Tier 3 competencies ordered by relative importance** (as rated by the two expert groups).

	Competency	Sum of mean ranks
F4	Establish performance metrics for each segment	71.9
E7	Formulate marketing plan with options (analyses and recommendations)	71.8
C7	Link value (market/customer) to financial performance (shareholder value)	70.7
I4G	(Collaborate with sales management to) establish programs for customer retention	69.2
D7	Estimate the long-term effects of short-term pricing decisions	68.2
E5	Monitor competitors marketing efforts (i.e. segmentation, targeting, offerings, pricing) in order to adjust the firm's marketing strategy	66.9
N6B	Establish processes to measure customer loyalty by segment	66.6
H3A	Develop a strategy which will enable a firm to differentiate itself from its competitors	66.6
G4	Match segment-specific targeting strategy to overall corporate strategy	65.4
I4C	(Collaborate with sales management to) periodically evaluate the effectiveness of marketing efforts	64.4
J6	Discontinue ineffective offerings efficiently	64.4
I4F	(Collaborate with sales management to) develop strategies to enhance relationships with customers	63.9
E3	Assess potential factors that may help or hinder marketing objectives	63.6
F5	Develop cost/profit models to serve each market segment	62.8
P4	Demonstrate empathy for a wide cross-section of people (including customers and colleagues)	62.8
H4	Evaluate the impact of differentiation (e.g. on the firm's operations) on profitability	62.1
B1	Set up a monitoring process that periodically provides feedback on vital marketing metrics	62.0
I3	Identify the respective roles of marketing and sales in the firm in order to better integrate the two functions	62.0
M1	Manage integrated marketing communications that are aligned with offering positioning	61.6
E1D	identify sources of negative value (i.e. activities or customers that are draining value)	61.5
G6	Implement targeting strategies through internal stakeholders (i.e. sales, R&D, manufacturing)	61.4
D9	Manage pricing over generations of an offering (e.g. penetration pricing, upgrade pricing)	61.3

Figure 4.16b. Tier 3 core competencies- Descriptions.

loyalty by segment": the range of the ratings from the practitioners went from 3 to 6. All the practitioners rated these two competencies at 5 or six. Competencies I4G, I4C and N6B should be further examined as they may identify endemic differences between the two groups. Additionally, competencies F4 and I4F exhibited moderate to low consensus on the practitioner side but all the ratings (100%) were within the "core" range.

The educators were also ambivalent on the importance of certain competencies. The ratings for "G6- Implement targeting strategies through internal stakeholders" were spread over a range of [3-6] however, that competency was rated "5" by over 50% of the practitioners. Competencies G6 and I3 exhibited moderate levels of consensus among the educators (IQR>1), whereas consensus within the practitioners was higher (IQR≤1). The ratings between the groups were divergent for 4 of the cases: even though these competencies were clearly identified as core and the medians were the same, one group saw the competency as more important than the other. P4 and B1 were rated higher by the educators whereas the practitioners rated H4 and M1 higher. In addition, the distribution of the ratings for "D9- Manage pricing over generations of an offering" was almost identical for both expert groups.

Tier 4 core competencies

The 25 fourth tier competencies are depicted in **figure 4.17a** and are defined in **figure 4.16b**. Most of the competencies in this tier had a similar distribution, with median ratings of five except:

- competencies J8, C9 and I3, where the median ratings for the practitioners were at 4 and 4.5

- competency K5, where the educators' median was at 4.5.

Dispersion was rather high for two competencies: "N6A- Establish processes to measure customer satisfaction by segment"; and "D8- Implement pricing strategies in dynamic environments (uncertain demand and fluctuating capacity)". In both cases, the range of the ratings for the expert practitioners went from a minimum of 2 to a maximum of 6. While the practitioners were unable to clearly agree on the importance of N6A, more than 50% of the educators (IQR=0) gave the competency a rating of 5. In addition, the practitioners also showed ambivalence (IQR=2) for competency "K2A- Forecast market demand" but all the ratings were in the "core" region, between 4 and 6. It should also be mentioned that the two groups diverged mildly on the importance of three of the competencies:

I4E- "(Collaborate with sales management to) leverage intelligence from sales"

Q3- "Ensure that all functions within the organization understand the strategic role of marketing

K5- "Assess the risk of failure of new offerings by identifying critical issues that could impact the success of new offering launches"

Even though the competencies were identified as core, the distributions were skewed in opposite directions for the two expert groups.
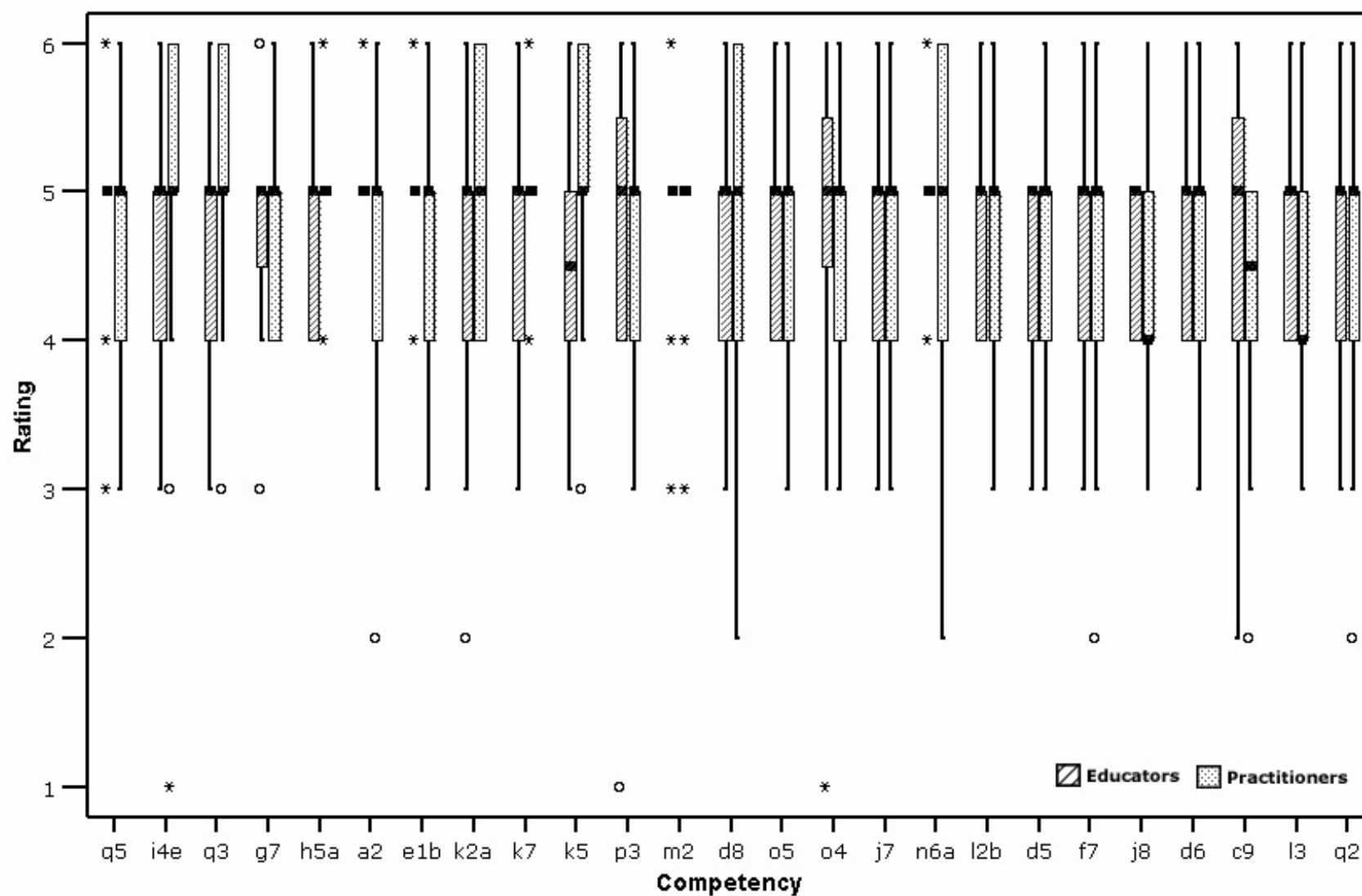
Figure 4.17a. **Tier 4 competencies ordered by relative importance** (as rated by the two expert groups).

	Competency	Sum of mean ranks
Q5	Recognize how technology impacts B-to-B marketing processes (i.e. markets, sales, channels, CRM)	58.6
I4E	(Collaborate with sales management to) leverage intelligence from sales	58.5
Q3	Ensure that all functions within the organization understand the strategic role of marketing	58.4
G7	Devise a process to track changes in targeted segments in order to realign targeting strategy	58.2
H5A	Develop an integrated corporate and brand positioning strategy that is communicated to each market segment	58.0
A2	Formulate information requirements necessary to support marketing decisions	57.8
E1B	Analyze value chains	57.2
K2A	Forecast market demand	56.7
K7	Align new offerings with the brand positioning strategy	55.7
K5	Assess the risk of failure of new offerings by identifying critical issues that could impact the success of new offering launches	55.2
P3	Manage multiple marketing projects simultaneously	54.8
M2	Develop a theme for the brand that can be built over time, evolving with market conditions	54.6
D8	Implement pricing strategies in dynamic environments (uncertain demand and fluctuating capacity)	52.7
O5	Evaluate solutions that can streamline and optimize marketing processes	51.9
O4	Experiment with innovative ideas using calculated risk	51.9
J7	Distinguish different value criteria of international customers	51.6
N6A	Establish processes to measure customer satisfaction by segment	51.3
L2B	Evaluate alternative channels	50.9
D5	Evaluate tradeoff opportunities for market share and price premiums	50.4
F7	Adapt segmentation scheme over product lifecycle	50.2
J8	Rapidly turn customized solutions into offerings	48.8
D6	Develop strategies for pricing bundled offerings	48.0
C9	Assess the value of intangibles (e.g. Relationships, brands, market intelligence)	47.7
L3	Formulate strategies to address channel conflict	47.4
Q2	Understand global market dynamics	47.3

Figure 4.17b. Tier 4 core competencies- Descriptions.

Tier 5 core competencies

The 8 "fifth tier" competencies are depicted in **figure 4.18**. The distributions in this stratum of the core competencies are similar. All the competencies follow a similar pattern: the median ratings for the two groups are at 5 for one expert group and 6 for the other (with the exception of K6 where the higher median is at 4.5). Consensus was high for most of the competencies with the exception of "E6- Estimate staffing levels (e.g. skill sets) required to carry out marketing plan effectively" where the IQR=2, Min=2 and Max=6 for the expert practitioner group.
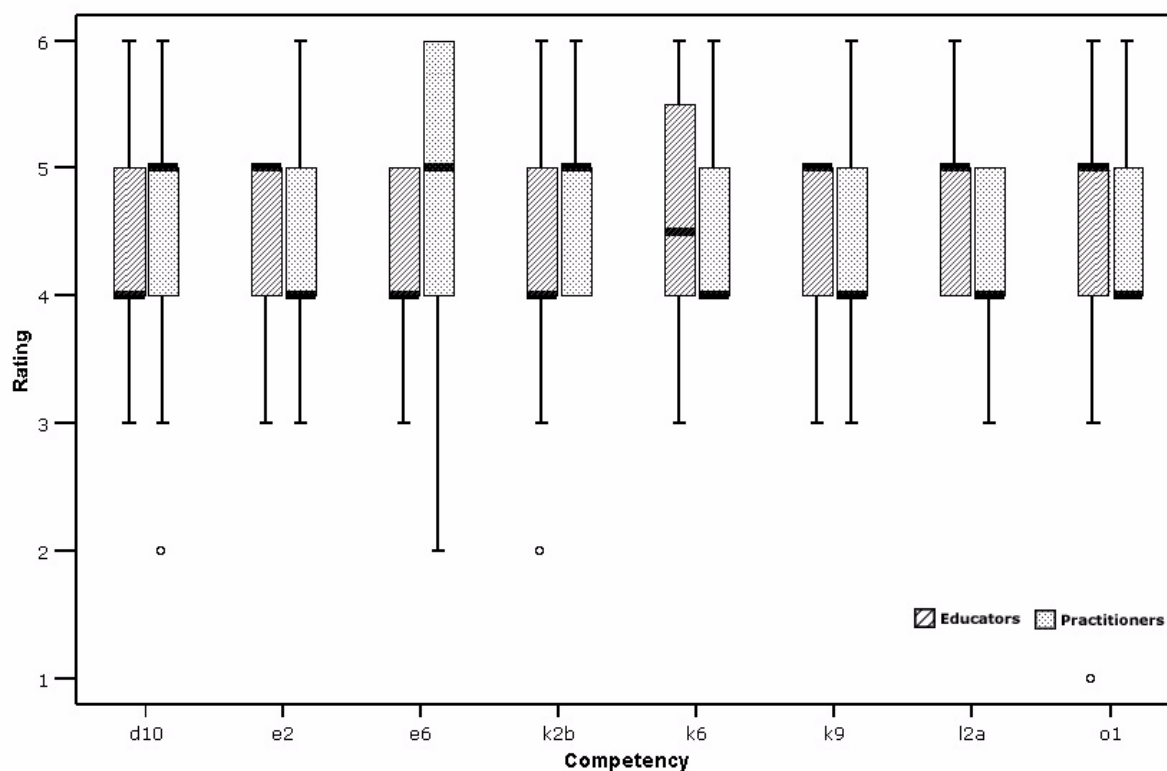
Competency		Sum of mean ranks
K2B	Forecast competitive reaction to a new offering	44.3
O1	Integrate ideas into hybrid solutions	44.2
L2A	Develop monitoring programs to track the effectiveness of channels	44.2
K6	Estimate the impact of new offerings on current operations (e.g. selling, distribution channels, and customer service)	44.2
E6	Estimate staffing levels (e.g. skill sets) required to carry out marketing plan effectively	43.9
D10	Develop a plan for global pricing	43.7
E2	Recognize opportunities to build profitable and sustainable cooperative networks	42.4
K9	Balance resources required for product development (time to market) and market development (time to market penetration).	41.1

Figure 4.18. **Tier 5 competencies ordered by relative importance** (as rated by the two expert groups).

<u>Perspective six</u>

Once all the core and controversial competencies were identified and isolated, about a quarter of the original 153 components remained. They were the lowest rated by the two expert groups and labeled "supplemental" competencies; **figure 4.19** provides basic descriptive information on these items. Since these competencies were identified during the Delphi process, a minority of the panelists did see some utility in possessing these competencies. They will therefore be investigated.

Borderline competencies

The first step was to identify the "borderline" competencies. The latter are defined as the cases that fall between the upper limit for the supplemental competencies and the lower limit for the core competencies ($3<Q1<4$). Since the data were being treated at the ordinal level, the researcher opted not to set the threshold at the midpoint between the two limits (3.5) but identified a gray zone between the two limits (where $Q1>3$). Twelve cases were identified as borderline competencies. They were ordered by importance and depicted in **figure 4.20** (It should be mentioned that SPSS rounds the data used to create box-plots to the nearest .5; therefore, most of the items depicted in the figure as having $Q1=4$ have an actual first quartile of 3.75).

The residual supplemental competencies were the lowest rated. As one will notice, there is an endemic pattern common to these competencies: in most cases, dispersion is

	Expert Practitioners						Expert Educators/Researchers				
	Central tendency		Dispersion				Dispersion			Central tendency	
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median
A5	3.5	3	3	5	2	P	1.5	5	3.5	4	4 A5
B2A	4	3	3	5	2	P	0.5	4.5	4	4	4 B2A
B2B	4	3	3	5	2	B	1.75	5	3.25	4	4 B2B
B3A	4	4	3.75	5	1.25		1.5	5	3.5	4	4 B3A
B3B	5	5	4	5	1		1	4	3	4	4 B3B
B5	4	4	3	5	2	P	1	5	4	5	4 B5
C2	5	5	3.75	6	2.25		1	6	5	5	5 C2
C6	4	4	3.75	5	1.25		1	5	4	5	5 C6
C8	4	5	3	5	2	P	0.5	3.5	3	3	3 C8
D1	4	3	3	5	2	P	1	4	3	3	3 D1
D11	4	4	3	4	1		1.5	5	3.5	4	4 D11
E9A	5	5	3.75	5	1.25		1.5	6	4.5	5	5 E9A
E9C	4	3	3	5	2	P	1.5	5	3.5	5	4 E9C
G5	4.5	4	4	5	1	E	2	5	3	5	5 G5
H2	5	5	3	6	3	*P*	1.5	5.75	4.25	5	5 H2
H7	4	4	3	4	1		1	4	3	3	4 H7
H9	5	5	3	5	2	P	1.5	5.5	4	5	5 H9
I1	4	4	3.75	5	1.25		1.5	4.5	3	4	4 I1
I4D	3	3	3	4	1		1.5	5	3.5	5	4 I4D
I5	4	5	3.75	5	1.25		0.5	4.5	4	4	4 I5
J3	4	4	3.75	5.25	1.5		1.5	5	3.5	5	5 J3
J4	4.5	5	3	5	2	P	1	5	4	4	4 J4
K3	4.5	5	4	5	1	E	2	5	3	5	5 K3
K4	5	5	4	5	1	E	2	5	3	3	4 K4
L1	4.5	5	3.75	5	1.25		1	6	5	5	5 L1
M4	4	4	3.5	5	1.5		1.5	5	3.5	4	4 M4
M5	5	5	4.75	5	0.25	E	2	5	3	5	4 M5
M6A	4.5	5	3.75	5	1.25		1	5	4	4	4 M6A
M6C	4	4	3	5	2	P	1	4	3	4	4 M6C
M7	4	4	3.75	5	1.25		1.75	5	3.25	5	5 M7
N3	4	4	3.75	5.25	1.5		1	6	5	5	5 N3
N4A	4.5	3	3	5.25	2.25	P	1	5	4	5	5 N4A
N4B	5	5	3	5	2	B	2	6	4	6	5 N4B
P5	5	5	3.5	5	1.5		1.75	5.75	4	4	4 P5
P7	4	3	3	5	2	P	1	5	4	4	4 P7
Q4	4	4	3	4	1	E	2.5	4.5	2	2	3 Q4

Figure 4.19. **Distribution data for "supplemental" competencies (unranked).** Letters in middle column identify and describe cases of large dispersion: P-high variability within practitioners, E-high variability within educators and B-high variability within both groups.
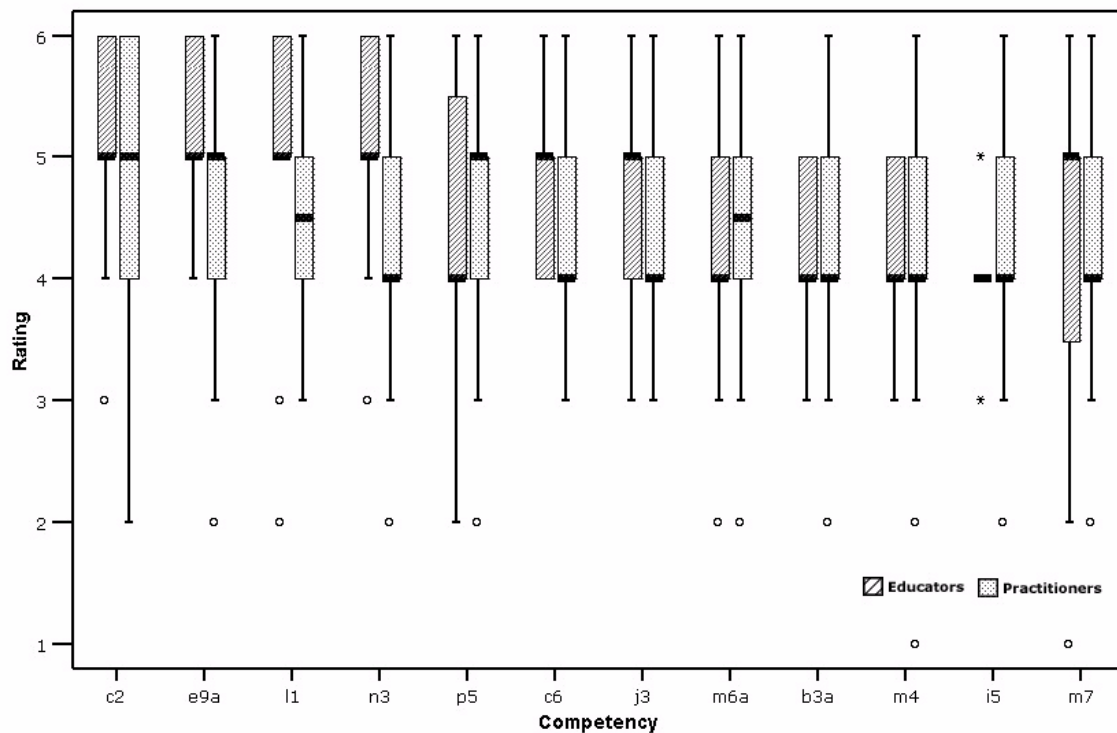
Borderline competencies	
C2	**Estimate** the sustainability of sources of value
E9A	**Establish** processes to measure the ROI of marketing efforts
L1	**Manage** channel relationships
N3	**Embed** STP (Segmentation-Targeting-Positioning) into all aspects of CRM
P5	**Exhibit** exceptional ability to settle conflicts
C6	Effectively **use** alliances to create value
J3	**Develop** bundling (de-bundling and re-bundling) strategies
M6A	**Recommend** programs for reinforcing brand values with all stakeholders (internal/external)
B3A	**Recognize** instances when data mining can be advantageously used
M4	**Solicit** sales force input into marketing communications programs
I5	**Monitor** the effectiveness of the sales force (e.g. by brand, by market segment)
M7	**Monitor** the effectiveness of marketing communications efforts in order to demonstrate a ROI

Figure 4.20. **Borderline competencies** (as rated by the two expert groups)

high within at least one of the groups. Furthermore, unlike the other competencies studied previously, the ambivalence of the experts within the group crosses the "core" competency/ "supplemental" competency proverbial threshold. Understanding why the members of one of the two expert groups would not agree on the importance of these competencies can provide crucial insights into the business-to-business marketing profession. Three distinct clusters of large intra-group dispersion cases can be identified: (1) cases with lower levels of agreement within both groups, (2) cases with lower levels of agreement within the practitioners and (3) cases with lower levels of agreement within the educators

Cases with low levels of agreement within both groups.

Two cases were identified where both expert groups could not clearly agree on the importance of a competency (identified with a "B" in the center column in figure 4.19):

- B2B "*Understand the characteristics (i.e. limitations, strengths) of qualitative research methods*"

- N4B "*Establish processes to share the results of corrective actions with customers*"

Two possible explanations could describe the lack of consensus in both groups. First, it is possible that the competency statements were unclear or unspecific; therefore they were interpreted differently by different people. Second, it is possible that the experts from both groups simply disagreed on the importance of the competencies.

Furthermore, the distributions of the ratings for the two cases were very different. Competency B2B exhibited a rather high level dispersion and the measures of

central tendency were at the threshold between "core" and "supplemental" (median=4, mode=3 for the practitioners and median=mode=4 for the educators). Competency N4B also showed rather high dispersion but the measures of central tendency were clearly inside the core rating range (median=mode=5 for the practitioners and median=5, mode=6 for the educators). The N4B should be further investigated as it may be a core competency.

Cases with low levels of agreement within the practitioners.

Twelve such cases were identified and are depicted in **figure 4.21**. All the competencies in this category (with the exception of H2) had an IQR=2 with Q1=3, Q2=4 or 4.5 and Q3=5 for the practitioners. Seven out of these 11 competencies did reach the threshold (Q≥4) to be identified as core competencies by the educators (B2A, B5, H9, J4, N4A, P7 and H2). "*H2-Assess current brand positions in targeted segments*" had the highest level of dispersion out of all 153 competencies (IQR=3): the expert practitioners could not agree on its level of importance. On the other hand, the educators did identify it as a core competency (Q1= 4.25, Q3=5.75) and variability within that group was moderate (IQR=1.5). This dichotomy should be further examined.
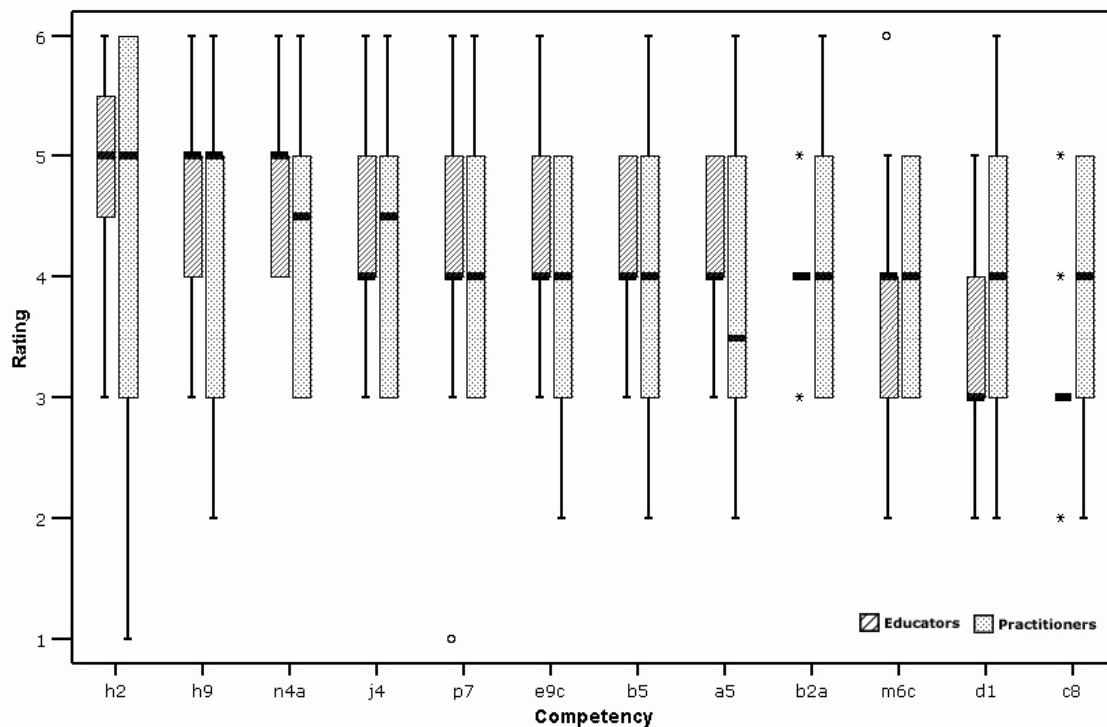
Supplemental competencies (w/ high dispersion within practitioners)

H2 — **Assess** current brand positions in targeted segments

H9 — **Manage** positioning in global markets

N4A — **Establish processes to manage** (capture, analyze and handle) customer feedback (ie. satisfaction, complaints, suggestions)

J4 — **Establish** a continuous offering improvement process

P7 — Effectively **manage** agency relationships (e.g. marketing research, Marketing communications)

E9C — (Establish processes to measure the ROI of marketing efforts) **in terms of their impact on reducing risk for companies**

B5 — **Manage** a competitive intelligence program

A5 — Develop a process to **measure** the Return On Investment of MR

B2A — **Understand** the characteristics (i.e. limitations, strengths) of quantitative research methods

M6C — **Manage** design issues (ie. trademark, logo...) associated with branding

D1 — **Calculate** the total costs of offerings (e.g. manufacturing costs, service costs)

C8 — **Assess** the potential value of proprietary technologies

Figure 4.21. **Supplemental competencies with high dispersion within the practitioners**

Cases with low levels of agreement within the educators.

Only five such competencies were identified and they are depicted in **figure 4.22**. The distributions were very similar for all the competencies (with the exception of "Q4"): IQR=2, Q1=3, Q2=5, the medians were at 4 or 5 for the educators and IQR=1, Q1=4, Q2=5, the medians were at 4.5 or 5 for the practitioners. Competency "*Q4-Address not only customer but also investor communications*" exhibited the lowest ratings seen thus far in the analysis. Both Delphic groups agreed that it was one of the least important competencies identified.

Lowest rated competencies.

Five competencies were left and these were the lowest rated competencies by both groups. The following is a listing of the least important competencies identified through the Delphi process (unranked): B3B-"*Recognize instances when qualitative approaches can provide more insight than quantitative methods (e.g. probing customers' unmet needs)*"; D11- "*Align pricing strategies with government regulations*"; H7-"*Understand the principles associated with brand extensions*"; I1-"*Distinguish the role of marketing in different sales scenarios (e.g. Solutions selling, strategic selling, relationship selling)*"; and I4D-"*Collaborate with sales management to assist in the design of compensation schemes for sales people to motivate them to achieve both the firms' sales and marketing objectives*"

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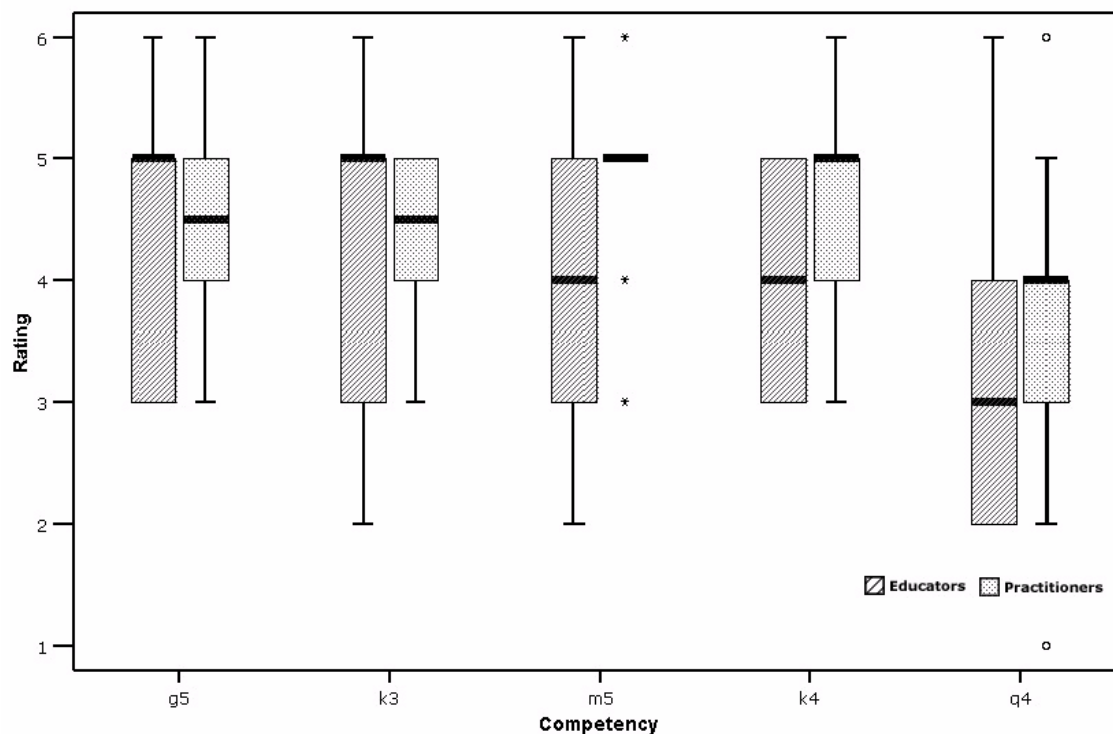
	Supplemental competencies (w/ high dispersion within educators)
G5	**Market** the targeted segments <u>to</u> internal stakeholders (i.e. sales, communication, R & D, strategic planning...)
K3	**Involve** all stakeholders (within the firm, the target segments and the channel) in the development of new offerings
M5	**Design** segment-specific communications taking into account cultural and regional differences
K4	Create a process to **review** new offerings with decision gates at critical steps
Q4	**Address** not only customer but also investor communications

Figure 4.22. **Supplemental competencies with high dispersion within the educators**

<u>Perspective 7</u>

Perspective two examined the data in the early phases of the quantitative analysis. A preliminary assessment of the consensus building approach was undertaken using the intraclass correlation (ICC(3,k) two-way mixed model average measure reliability). Since the model was designed with the premise that all the observations would be independent, the analysis of the third iteration data was done with caution: the raters had been provided with measures of central tendency and dispersion for their group.

Evolution of consensus building

Given that one of the main goals of the Delphi technique is to build consensus, the consensus building process was measured one last time from another perspective, one that is less constrictive and appropriate to even nominal level data. The frequencies of the IQR values for all the competencies and a series of clustered bar graphs were used to measure convergence within the two groups during the last two iterations. Given that a large portion of the analysis relied on the IQRs, this approach also provided a basic but holistic view of the consensus data that were used in this analysis. These snapshots of the consensus building process are provided in **figure 4.23** (the graphs in the figure share the same axial and spatial scale).

The clustered bar graphs show the shift toward consensus from the second iteration to the third. Even though the overall range of the dispersion levels remained the same from the second iteration to the last (Min IQR=0 and Max IQR= 3), the shape of

the distribution did change. By the end of the second iteration, the majority of the competencies had dispersion levels located at $0.5> \text{IQR} \leq 2$: the practitioners and the educators had dispersion levels within that range for 77% and 82% of their competencies respectively. By the end of the last iteration, the number of cases in that range reached 90% for the practitioners and 85% for the educators. Furthermore, at the end of the second iteration the majority of the competencies had a consensus level of IQR=2 (in both groups) but by the end of the third round, about half of the competencies (in both groups) had reached a consensus level of IQR=1.

Consensus levels (IQR) at the end of the second iteration

IRQ≤1   : High consensus
1<IRQ≤2 : Moderate consensus
IQR>2   : Low consensus

	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
■ Pract	1%	1%	16%	24%	37%	14%	7%	1%	0%	0%	0%
□ Ed	0%	2%	22%	27%	33%	12%	3%	0%	0%	0%	0%

IQR

Consensus levels (IQR) at the end of the third iteration

IRQ≤1   : High consensus
1<IRQ≤2 : Moderate consensus
IQR>2   : Low consensus

	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
■ Pract	3%	6%	48%	24%	18%	1%	1%	0%	0%	0%	0%
□ Ed	7%	8%	61%	12%	12%	1%	0%	0%	0%	0%	0%

IQR

Figure 4.23. **Consensus levels for all 153 competencies and both expert panels at the end of iterations 2 and 3.**

<u>Summary of the perspectives</u>

This chapter provided an overview of the analysis of the second and third iteration quantitative data. The data were broken down into a series of clusters that emerged from the ratings. A synopsis of these strata is provided in **figure 4.24**. Overall, 102 competencies were identified as core. In most of the clusters, it is possible to identify patterns and themes (these are listed in the figure under the column labeled "primary themes").

The pre-Delphi processes and the Delphi allowed for the construction of the preliminary functional competency model. The analysis facilitated the de-construction of that model into clusters that emerged from the data. Over the next chapter, the model will be reconstructed based on the findings from the analysis. Chapter five will provide a summary of the data from a more holistic point of view.

	Level	# cases	stratum	# cases	Primary theme(s)
Core (102)	Kernel	26	Kernel	15	- Understanding the customer - Recognizing, communicating and maximizing value - Boundary spanning (particularly with sales) - Sales integration - Anticipating and adapting to change - Offering development
			Additional kernel (Pract)	6	
			Additional kernel (Ed)	5	
	Tier two	12			- Segmentation (Designing adaptable competitive marketing strategy)
	Tier three	22			- Market sensing (monitoring the evolution of marketing strategy)
	Tier four	25			- Optimizing marketing processes
	Tier five	8			- Maintaining a competitive advantage
	Controversial/core *	9			- Market Research and Pricing
Supplemental (37)	Borderline	12			*(disparate)*
	Lower consensus	19	Practitioners	12	- Positioning - Quantification (ROI/monetary value …) - Relationship management
			Educators	5	- Stakeholder (internal/firm, external/segments, channel, investors) participation in marketing processes
			Both	2	*(disparate)*
	Lowest rated	5			*(disparate)*
	Controversial/supp *	1			
Misc. (14)	Truly divergent	10			*(mildly disparate)*
	Additional controversial	4			*(disparate)*
	Note: The controversial competencies were analyzed separately but they were redistributed in this table based on their type (see *)				

Competency type (# cases)

Figure 4.24. Summary of the de-construction process and break down of the 153 competencies identified through the modified Delphic process

Chapter 5

Summary, recommendations and conclusions

Just as the largest library, badly arranged, is not so useful as a very moderate one that is well arranged, so the greatest amount of knowledge, if not elaborated by our own thoughts, is worth much less than a far smaller volume that has been abundantly and repeatedly thought over.
Arthur Schopenhauer (1788-1860)

<u>Introduction</u>

Prior to the Delphi, a prelusive competency model was developed through an environmental scanning process conducted simultaneously with a literature review supplemented by a series of review panels composed of expert business market management practitioners and researchers. At the end of the first iteration of the modified Delphi, a preliminary functional competency model was developed and refined with the assistance of the Delphic panel. In an effort to further refine the model, quantitative data were collected separately from the two groups of expert participants during the second and third iterations of the modified Delphi process.

One hundred and fifty three competencies were rated using a Likert-type scale and the data were analyzed in chapter four. Overall, 102 competencies of the original 153 were identified as "core" and stratified into 5 (+1 "controversial core") levels of importance; 37 of the competencies were rated "supplemental" and grouped into 4 levels; and 14 controversial traits were identified. First, this chapter will summarize the results of the study and make recommendations for future research. Second, a post-Delphi overview will be provided covering both the participants' perspective and researcher's insights.

In an attempt to provide a more holistic view of the data, a model based on the six strata of the 102 "core" competencies will be synthesized. The latter will depict the data in a less compartmentalized and myopic manner than seen thus far and will offer a holistic view of the competencies that will define exceptional business-to-business market managers over the next five years. The emergent model will offer a perspective of the data based on the competencies' perceived importance by the two groups of experts.

In an effort to offer a more complete assessment of the findings, two additional expositions will be offered. The emergent model data will be viewed from a functional perspective and then from a systems point of view. The latter will be exploratory and will attempt to map out the relationships and interdependence between the core competencies.

Once the three perspectives of the competency model have been drafted, suggestions for future research in business market management will be reviewed. The chapter will conclude with a brief description of the panelists' comments and experiences, followed with a discussion by the researcher.

Holistic perspective A: The Emergent Model (EM)

The emergent model was structured around the analysis of the data collected during the last two Delphic iterations; and is founded solely on the competencies that were identified in the six strata of the "core" competencies. This model identifies the various layers of the core based on the perceived importance of the competencies by the two expert groups. The model is depicted in **figure 5.1**. Aside from the "controversial core" competencies, each stratum exhibited commonalities between its components.
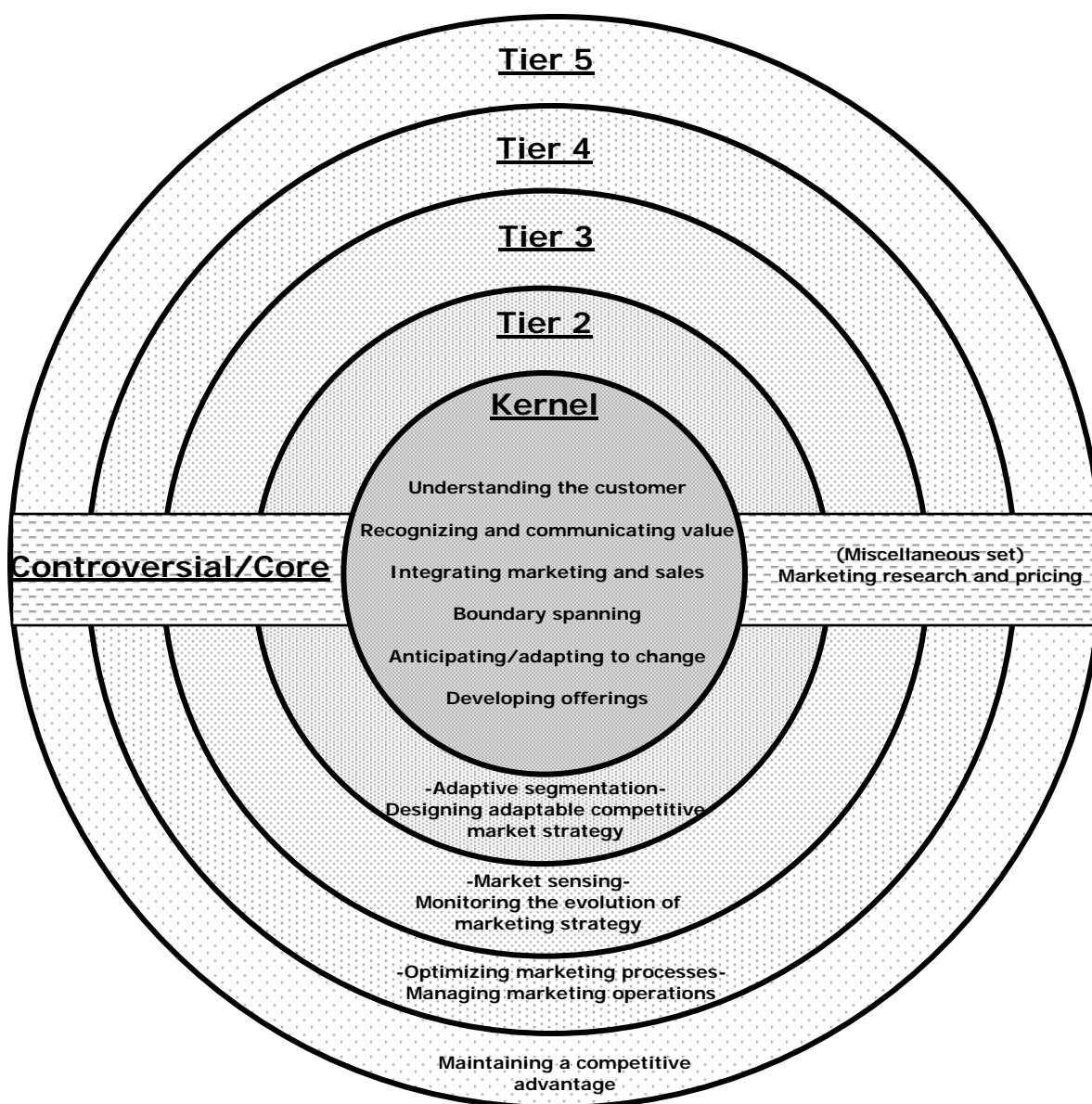
Figure 5.1 (with interactive links). Holistic perspective A: Emergent model. Strata based on perceived importance of core competencies by expert practitioners and educators

The kernel. Composed of six main themes, the kernel represents the most important competencies that will define exceptional business marketers over the next five years. These competencies were analyzed in more detail in the previous chapter. Two of the prevalent notions are present within that group involve: (1) understanding the needs of the customer and (2) having a good grasp of the concept of "value". The latter is crucial in the realization of the former. The model's highest rated competency encompasses both concepts: "*C1A- Recognize what value is for the customer*". Over the next five years, exceptional business marketers will understand the concept of value on many levels, they will be able to recognize it and communicate it to various audiences. These individuals will be keen at identifying their customers' needs and catering to them through their offerings. They will not build their offerings portfolio around technologies or features but around the clients' needs. The expert educators went even further: (1) they see these marketers as professionals who can identify value not only for their customers but also for their customers' customers, (2) these marketers understand their customers so well that they are able to better integrate their firm's offerings into the clients' processes. They identify innovative market segmentation criteria to aggregate customers with similar needs and behavior; and clearly communicate a unique value proposition for each target segment.

These marketers anticipate change, its impact on business; and are able to adapt to a business environment that is constantly changing. They turn marketing research results into action plans and are able to communicate and collaborate with various functions within the firm, especially sales. They work closely with sales to align the marketing and the sales plans; to effectively communicate the value proposition to the sales force; and to integrate segmentation and targeting into the sales process. They

articulate the marketing plans to all the functional elements of the organization, ensure that marketing data is included in the business decision process and are able to justify marketing decisions in financial terms. They understand their firm's business model and the role of other functional areas well enough that they are able to leverage the firm's core competencies to create and maximize value for the customers. The practitioners add that these market managers involve marketing in the development process of new offerings from the project's inception ("fuzzy front end") to the launch.

These marketers behave ethically [it should be noted that during the second iteration, dispersion was at the border of moderate to high with ratings fluctuating between 5 and 6 within the educators group. The 2002 Enron scandal occurred before the third iteration and it may have encouraged the educators to sway toward the maximum rating (6). It should also be mentioned that ethical behavior was rated highly by the practitioners from the beginning].

Tier 2. The second level of competencies (based on importance) encompasses various aspects in the design of competitive strategy, especially segmentation. The exceptional market managers align their marketing team around a vision to design dynamic marketing strategies that can be adapted to changing market conditions. They continuously seek means of developing a sustainable competitive advantage and periodically compare their firm's competitive advantage (functional and perceptual) to their competitors'. They develop innovative segmentation schemes that can be adapted to the changes in dynamic markets and implement these segmentation strategies through the sales organization. They are able to identify profitable segments and manage segment specific marketing programs where marketing and sales efforts are customized.

They recognize the role of service in differentiating offerings, which they tailor to the needs of the targeted segments. They select the marketing objectives to be supported by marketing research and develop an understanding for target segments that goes beyond quantitative analyses. They are the champions of "brand equity".

Tiers 3 through 5. The last three levels of the model focus more on the execution of marketing strategy and the marketing plan. Tier three mostly highlights competencies that involve the monitoring of various marketing metrics to detect changes in various aspects of the markets (in targeted segments, in competitors marketing efforts -e.g. segmentation, targeting, offerings, pricing). A complete listing of the competencies in the third layer of the model is provided in chapter 4. The fourth tier brings together competencies that focus on integrating, adapting and optimizing marketing processes. The competencies in this stratum are more focused at managing marketing operations; and rely on the proper execution of competencies that were listed in tier 4. Tier five is the smallest (size wise) of the five levels; the competencies in this group are geared more at maintaining a competitive advantage.

Controversial "core" competencies. The competencies in this stratum were labeled as controversial because the two expert groups diverged in their perceived importance of the competencies (highlighted in **Figure 5.4**). The scores from the two groups attested that these competencies were "core", albeit the researchers and educators could not agree on their degree of importance. Definite patterns could not be identified. The competencies in this cluster described various concepts: marketing research (MR) and MR-related competencies occurred the most; followed by pricing-related competencies.

<u>Holistic perspective B: The Emergent Functional Model (EFM)</u>

A prelusive functional competency model was developed in the pre-Delphic phases of the study and it was refined during the first iteration of the modified Delphi. That version of the functional model was composed of 153 competencies grouped into 17 clusters. After the analysis of the data, the functional model was re-drafted based solely on the set of core competencies identified through the analysis in chapter 4 (**figure 5.2**).

The new model features a total of 102 competencies grouped in 12+1 clusters. The "Marketing Research" and "Data Management" clusters were fused to create a new grouping. After the analysis, about a third of the component competencies within the two clusters were identified as controversial or lowest rated, and 9 competencies were identified as core. The two clusters were merged into one new cluster labeled "Data Management" (as per the recommendations of some of the panelists in the second and third iterations). Furthermore, these competencies were originally split into two clusters to facilitate the processing of the data as suggested by Dembo (1991, p.270). According to Dembo the short-term information processing capacity of an adult is limited. An average adult can process 7±2 pieces of information at a time but "chunking" or grouping the pieces increases the amount of information that can be handled. Since the panelists had to handle a multitude of competencies (over 150 during the second iteration), it was deemed necessary to break up large clusters. Using similar reasoning, the "Personal competencies" (clusters O, P and Q) were originally broken down into three clusters. After the analysis, clusters O, P and Q were merged to form two groupings: "Marketing Leadership" and "Business Acumen".
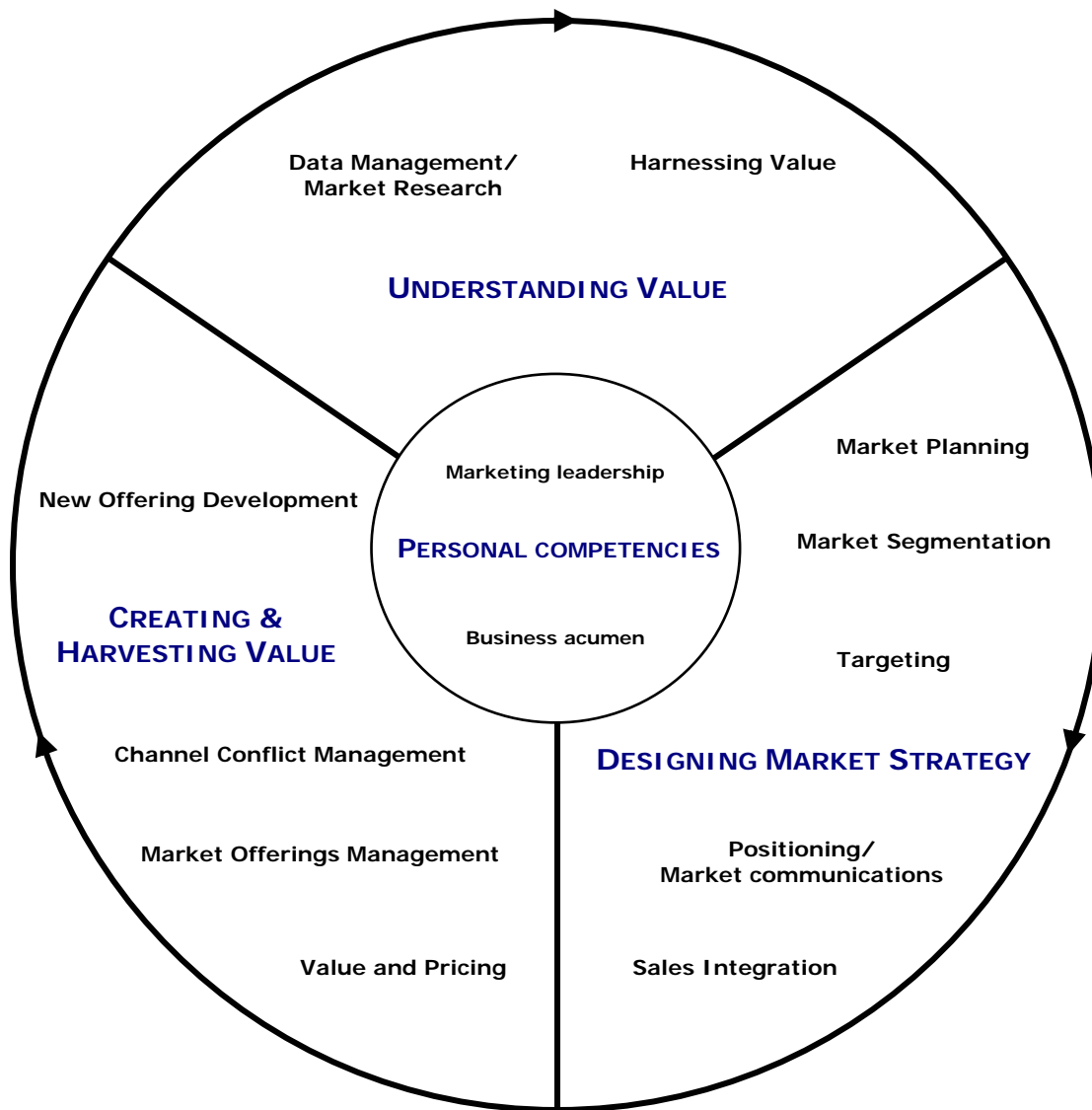
Figure 5.2. **Emergent functional model (EFM)**. Based on core competencies that will define exceptional B-to-B Market Managers (as identified by leading expert practitioners and researchers).

The new emergent functional model was based only on competencies that had been identified as "core" by both expert groups. Two of the clusters that were composed mostly of competencies that were rated "supplemental" or "controversial" were decimated:

- Cluster M- *"Marketing Communications"* which originally contained nine competencies was reduced to a complement of three. Five of the six competencies were taken out of the model because of their rather low importance ratings and one was identified as a "truly divergent" competency. Furthermore, since the remaining 3 competencies were all directly related to the concept "positioning", they were collapsed into H- *"Positioning"*.

- Cluster N- *"Customer Relationship Management"* lost six (75%) of its original eight competencies for the same reasons. Half of these competencies were eliminated from the model because of low ratings and the other three were taken out because of the divergent ratings between the two expert groups. The two competencies that were left were part of a two-faceted competency statement relating to the measurement of (a) customer satisfaction by segment and (b) customer loyalty by segment. The two-part competency statement was moved to cluster B- *"Data management"*.

A third cluster was severely impacted: L-*"Channel management"* lost six of its eight competencies. Five of the competencies taken out of the model were identified as controversial and one was taken out because of low ratings. This cluster raises many issues and should be further investigated to better understand the dichotomy between the perceptions of the practitioners and the educators regarding the importance of these competencies. Furthermore, this cluster received some of the lowest rankings from both

groups: its two top competencies were among the lowest rated "tier four" competencies; the third was part of the "fifth tier". In addition, these three remaining competencies could not be merged with any of the existing clusters: they formed a category of their own and could not be integrated into any other grouping.

It should be noted that the only technical cluster that remained intact was F-*"Market segmentation"*. All the competencies within that cluster were part of the core: 6 of the 8 competencies (75%) were part of the Kernel and the second tier; 1 competency was part of the 3rd tier; and the last, part of the 4th tier. The strongest and most integral functional cluster was "segmentation".

Holistic perspective C: The Emergent Systems Model (ESM)

This last perspective of the competency model is exploratory and seeks to depict the interdependencies and relationships that exist between the core competencies. Various competency modeling approaches were reviewed in chapter two, followed by the description of a wide range of competency modeling studies that were conducted in various fields. The literature suggests that thus far, competency models have been very simple linear descriptions: in most of the cases reviewed, researchers sought to identify the skills and other traits that identify exemplary performers, without investigating the latent relationships that may exist between the competencies. This study sought to offer an optimized approach to competency model building; therefore an alternative method of viewing the emergent model will be offered. First, the concept of a "model" will be

briefly examined followed by a short overview of the use of systems theory in qualitative research.

Models and systems thinking.

Most of the peer-reviewed articles examined on this topic provided a myopic interpretation of the word "model" that was geared toward a specific discipline or linked to a specific philosophy. Encyclopædia Britannica Online (2000) was consulted and it presented a well-rounded overview of the concept from a variety of viewpoints and disciplines. The following is a synopsis of eight of the encyclopedia's articles on the topic.

In sciences such as physics, biology, medicine and others, models are simple representations of tangible items or processes. The simplest models are usually physical representations such as mockups of object (e.g. planes and ships). One level up from physical models, we find graphs but they only allow for a limited number of variables and cannot support very complex variable interactions. At the next level, models are represented in a more abstract form: in symbolic models, variables are depicted as symbols. Unlike their physical counterparts, symbolic models can support an unlimited number of variables with very complex interactions. These models are usually very useful in fields such as applied mathematics where they can be used to mimic the complex interactions between multiple variables. Abstract models are not necessarily mathematical formulas; they can be paradigms or descriptions of patterns (such is the case with competency models). Since models are basic representation of a more complex system, they only address aspects of the system that pertain to the issue being studied. Limitations also stem from the fact that we live in a very complex and dynamic world where most of the time, it is impossible to account for all the variables affecting the

object we are trying to model. Physicists and chemists are sometimes able to control

their environment and therefore, are able to exert more control over their model. Since it

is usually not worthwhile to design more detailed models than necessary, the level of

complexity of a model is therefore directly related to its use.

A few researchers and theoreticians have argued for the use of systems theory in

the social sciences as a means of providing a holistic view of complex problems. Patton

(1990) explains:

> Parallel to the philosophical and methodological paradigms debate
> between logical positivists (quantitative-experimental research) and
> phenomenologists (qualitative-naturalistic inquiry), there has been
> another and corresponding paradigms debate about mechanistic, linear
> constructions of the world versus organic, systems constructions. This
> debate has been most intense among organizational theorists (Burns and
> Stalker, 1972; Azumi and Hage, 1972; Lincoln, 1985; Gharajedaghi, 1985;
> Morgan, 1986, 1989). It includes concern about definitions of closed
> systems versus open systems and the implications of such boundary
> definitions for research, theory and practice in understanding programs,
> organizations, entire societies, and even the whole world (Wallerstein,
> 1980). (p. 78).

Patton goes on to stress three points: (1) a systems perspective can be an important

approach to understanding complex problems, (2) qualitative inquiry is an important

aspect of certain types of systems research and (3) a systems approach can be an efficient

method for "making sense out of qualitative data".

The last holistic perspective of the business-to-business market management

competency model will be built based on the qualitative data that was collected over a

period of about thirty months. That data will be used in parallel with the quantitative

findings from the last two iterations of the Delphi. The model will be built based on

concepts borrowed from systems theory; and first and second order cybernetics. Geyer

(1995) defines first order cybernetics and negative feedback:

> ...first order cybernetics- with its engineering approach and
> corresponding stress on constructing control systems, and with its

predilection for negative rather than positive feedback phenomena—was
interested primarily in homeostasis or equilibrium-maintenance, or at
least in restoring a system's equilibrium whenever it was disturbed by
external influences impinging on that system. (paragraph 10)

Ghosal (1999) explains the concept of second order cybernetics and its focus on negative

feedback:

The second order cybernetics rests on the premise that the system
definition includes the observer/researcher as a key element. The second
order cybernetics considers problems of growth and morphogenesis in
biological, economic and social systems (p. 377).

For the purpose of this study, negative feedback is described as a process that keeps a

system at equilibrium, allowing it to fluctuate within certain boundaries: when changes

are detected, a negative feedback loop brings the system back to its preset parameters (a

good example of the latter is a home thermostat: when the temperature is under the

preset limit, it turns on the furnace and when it is above the limit, it turns on the cooling

system). Conversely, positive feedback catalyzes and facilitates change; in fact, it

accelerates the deviation from equilibrium. Both forms of feedback are present in

biological and organizational systems; Greyer writes:

As Van der Zouwen [23] put it succinctly: without negative feedback loops
the organism cannot maintain itself in its environment, and without
positive feedback loops it has no chance of survival as a species in view of
the environmental changes to which it has to adapt by setting new goals.
(paragraph 13)

The systems perspective of the model will examine (1) the main components of the

model, (2) the interrelations of these components and (3) the presence of negative or

positive feedback loops.

Validity. One of the tenets of second order cybernetics is that the observer is a key

element in the analysis of the system: observations are dependent on and directly linked

to the researcher. Even though the results of the analysis of the quantitative data will be

used in the first step of the model building process, much of the system's design involved the use of qualitative data that was collected prior to and during the Delphi process. Validity becomes an issue and it is directly related to the competence of the observer/researcher. In an attempt to (hopefully) alleviate validity concerns, a brief description of the researcher's skills, in areas that pertain to this aspect of the study, are provided.

The researcher spent over 30 months working on this project. During that time, he worked closely with various practitioners, educators and researchers in business management to collect data, identify and understand the competencies. He has participated in various conferences and meetings on the professional development of business marketers, conducted the initial literature review for this study, and synthesized the various surveys that were used. He is familiar with all the 153 competencies listed in the original model; and has managed the entire project since its genesis. Over the past three years, he has worked for the Professional Personnel Development Center at Penn State University where he provided various development services ranging from occupational analysis and competency identification to needs assessments. He has taught courses and conducted workshops at the State University of New York at Stony Brook and at Penn State University on telecommunications systems/cybernetics, supercomputing systems/cluster computing, and telecommunication and information systems. He has completed undergraduate and graduate programs in areas that involved various aspects of systems theory and optimization: applied mathematics and statistics, business management (focus on technology and operations) and technological systems management.

The algorithm. A very simple yet time-consuming algorithm was used to develop the systems model. The process was somewhat similar to the one used in the content analysis of the first iteration data (described in chapter 3). The main difference was that the focus was the identification of clues that might indicate (1) any kind of relationship between and within the competencies (2) the presence of negative feedback (realignment or error detection and correction) and (3) the existence positive feedback (adaptation or metamorphosis). The process started with the kernel; followed by the various layers of the core competencies. In most cases, the competencies had to be retraced to their genesis for clarification. The process was iterative: once all the competencies were grouped, the procedure was started again to refine the clusters and reduce the model to the smallest possible number of clusters.

Overall, 14 clusters were identified and are depicted in **figure 5.3**. Cluster N-*"Channel Conflict Management"* is represented in a lighter shade because of the weak importance rating of its competencies. Three clusters (E, J and L) all linked to K-*"Market Strategy"* were identified with both positive and negative feedback loops: the system relies on both for its survival. Market Strategy (K) must be synchronized with the markets (outside world) and that is done through its realignment (I) based on the Market Sensing (E) competencies (thus the negative feedback loop). While K is being realigned with current or short-term market conditions, it is also evolving so that it is able to adapt to future or longer-term market condition (positive feedback loop) forecasted through competency (H). In this perspective of the model, the "strategy competencies" (I, J, K, L) are the focal point of the system. All the clusters link to that nexus directly or indirectly: it seems that the ultimate role of many of the other clusters
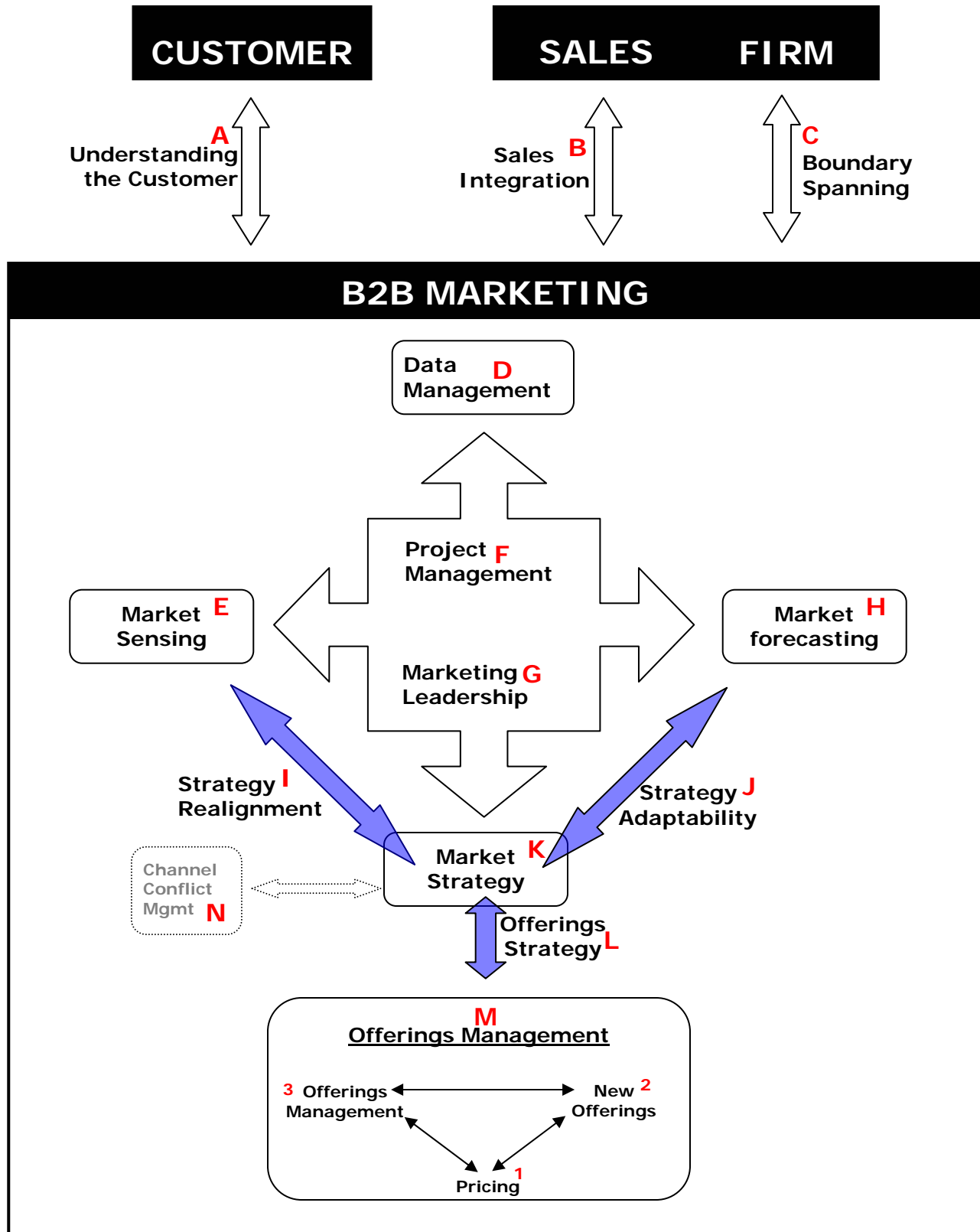
Figure 5.3 (with interactive links). Holistic emergent perspective C: Emergent systems model. The gray arrows represent clusters with feedback loops.

is to complement cluster (K). Furthermore, the "strategy competencies" are very much dependent on the other clusters and rely on them for input. It should also be noted that the three competency clusters across the top of the model (A, B, C) were among the highest rated competencies, albeit the fact that they seem isolated from the rest of the model. That trio of competencies involves multidisciplinary abilities that transcend purely technical business marketing skills.

Future research on business marketing competencies

This study identified many areas where educators and practitioners disagreed. All the competencies that were identified as controversial in perspective 3 of the previous chapter should be examined. The largest dissent was among the "truly divergent" competencies, where one group identified a competency as core and the other as supplemental. In nine out of these ten cases, the educators rated the competencies as core and the practitioners rated them as supplemental. The latter was unusual when one considers that on the average, the practitioners had a tendency to rate slightly higher than the educators (perspective 2, chapter 4). These competencies should be further examined in order to better understand the reason behind the dichotomous ratings.

The most dissenting ratings between the two groups came from competency N5-"*Integrate CRM and supply chain management*". The median rating for the educators was 5 (the second highest rating) but 2 for the practitioners (the second lowest rating). Perplexed by the large difference in opinion between the two groups and worried that there may have been a problem with the design of some of the competency statements,

the researcher began polling the participants of the Delphi and presented this dichotomy at the 2002 fall ISBM educators' consortium. It was concluded that the difference in opinion might have stemmed from a fundamental difference in the way the two groups interpreted the letters "CRM". It seemed that the educators saw Customer Relationship Management as a great concept that in theory is full of potential and can be very beneficial to business; whereas the practitioners seemed to see it as a very costly process that is difficult to implement and seldom works. In this case, the dichotomy could have been experiential: the two groups could have been looking at the same concept through different points of view.

Another cluster that should be further examined is the group of competencies that was related to the concept of pricing. In most cases, the educators rated these competencies higher than the practitioners. The competencies with a high level of dispersion within one of the groups should also be analyzed; they were identified in the previous chapter.

Review of the process- Panelists' perspective

The modified Delphi procedure demanded more time from the panelists than a typical survey. The panelists were polled at each of the three stages of the Delphic process and asked to make suggestions for future improvement. Since many of the participants attended the semiannual conferences of the ISBM, the researcher had the opportunity to interact face-to-face with a few of the panelists and received feedback on

the process. The comments from the panelists regarding their experiences with the modified Delphi study are described over the next paragraphs.

In general, the feedback from the panelists was short and very positive. One of the practitioner panelists wrote: "Good process that worked effectively. A well executed study". Most of the comments collected through the last survey were similar to the latter. A few were more detailed: "I think that the overall process was quite revealing and thought provoking. Re improvements- a focus group to start the process may have helped to calibrate the experts' general concerns about marketing and to help design the first set of questions. (I realize that this is somewhat impractical with a global panel)". Some of the panelists offered suggestions such as automating the process through the use of a web interface.

Many of the panelists found the process itself rewarding. They liked the idea of being immersed in a variety of ideas from diverse perspectives. One of the panelists wrote: "The best part was information sharing and gaining insight as to what other marketers view as important".

The first two surveys were field-tested and took an average of 15-20 minutes to complete. Since the last survey contained a third of the items from the second iteration, it was not tested. The only two pieces negative of feedback collected pertained to the length and the breadth of the survey. During the second iteration, two of the panelists were frustrated and complained that the surveys were taking them hours to complete. The researcher quickly polled about five of the Delphi panelists who were attending one of the ISBM biannual meetings and they confirmed that the original average time estimate of 15-20 minutes per iteration was accurate. The time issue was not examined further.

A more common worry among the participants was the breadth of the competencies that were being identified in the Delphic process. One of the educators/researchers wrote: "it appears what we are trying to do is to create 'supermen' or 'superwomen'. All these things are important but there are just too many of them. This needs to be windowed down to manageable proportions which I assume you will do". Another panelist explained: "The term 'market management' varies widely by market area. It is often a discrete function that does not get involved in pricing, channel management issues, etc."

A few of the participants wanted to make sure that they got their point across the deluge of competencies that were identified by summing up the traits they feel would exemplify an exceptional business market manager over the next five years: "What seems to come out of this is what are really needed are business managers who happen to focus on marketing, not marketing managers who have a bit of knowledge about the business. I strongly opt for the former but I don't think this process will illustrate that nor will you get what is really needed without some additional screening down to the basics". Another participant wrote: "I can only offer one perspective... Today, markets are made up of customers... In the future ... a customer will be a market of ONE. The focus will move to buyers within customers. Most of this survey focuses on the Supply Chain Concept. Make the product ... sell the product ... and then deliver the product. In the future the model will become much more Demand Chain Driven: Sell the solution, make or assemble the solution ... Deliver the solution. The solution will be made up of a customized mix of products and services."

<u>Discussion</u>

The purpose of the study was two-fold. First, it was an attempt to design a systematic approach to developing future oriented competency models. Second, the method was used to create a competency for an entire occupation.

The methodology was based on a prospective naturalistic inquiry methodology coupled with a pragmatic inductive analysis approach. The outcome was not to create new theory but to inductively analyze the occupation. The latter was accomplished through the use of a qualitative approach with quantitative overtones: a modified Delphi preceded and supplemented with an environmental scan and a series of review panels. Since the approach was exploratory, the qualitative portion of the study allowed for the adaptation of the method as it evolved. The quantitative aspect facilitated the ranking, ordering and clustering of the qualitative data in a more systematic manner than would have been possible had the study been conducted qualitatively in its entirety. The approach worked as expected but the execution of the study was intermittently disturbed by a series of external events over which the researcher had no control.

In the early phases of the study, the American economy was flourishing, most of the practitioners contacted were very willing to participate and business-to-business firms seem to have a vested interest in improving their marketing human capital. Less than a year later, the dot com bubble burst; and a few months after, many of these individuals were no longer concerned with the professional development of business marketers. A few of the people who had been working with the researcher made lateral moves to other companies, opened consultancies or retired; the others were flooded with

work presumably caused by downsizing. As suggested by the director of the ISBM, the launch of the Delphi was postponed by about five months to allow "the dust to settle".

Technology glitches. The first iteration was disseminated via the web to facilitate the processing of the human subject informed consent forms. One week into the first iteration, the server that housed the project site was hacked into and all the files destroyed. Since a backup mirror site had been setup, it was promptly activated and only two panelists were inconvenienced. During that same period, the researcher was contacted by two panelists who were unable to download the surveys from the website. It was determined that the problem was due to their company's firewall; the survey was attached to an e-mail message and sent to the participants.

The second and third iteration surveys were transmitted as electronic mail attachments. To increase the rate of return, the participants had the option of sending the instruments back via e-mail, fax or they could contact the researcher for additional alternatives such as courier or telephone (the researcher was willing to conduct the surveys via telephone to facilitate the participants). No one opted to use the latter two options.

During the third iteration, instead of providing the panelists with a series of ranges for each competency, the researcher decided to convey the measures of dispersion and central tendency through a series of visual cues (highlights and underlines). The surveys were tested on four different versions of Microsoft Word and sent through a fax machine to ensure readability. Two weeks later, 2 of the surveys came back illegible. The problem was due to the combination of printing the document from Word 95 and returning it through a fax machine set to transmit at low resolution. The panelists

retransmitted the documents. One of the participants lost the original but agreed to fill out another copy of the survey within a week.

Alternative means of transmitting or receiving the surveys were contemplated. An automated telephone system was examined but the idea was rejected due to chronic problems with that system. Furthermore, it was decided that the surveys were too lengthy to collect via that medium.

Even with all the minor complications, the researcher is convinced that the most efficient approach to collecting information from such a Delphi-variant is through a well constructed website (provided that all the participants have access to an internet connection). It provides uniformity; and the data collected is already in digital form and can be automatically transferred to a database for analysis.

Improving the process. The approach used in this study was experimental. As the study evolved many glitches had to be corrected. The researcher will suggest a few steps that may streamline the process if a similar modified Delphi approach is used to collect data.

- *Dealing with ambiguous data*. A process should be put in place to identify and clarify ambiguous data. The latter should be done as closely as possible to the submission of the surveys. In this study, the telephone and e-mail were used. The latter was most efficient.

- *Understanding the population*. It is important to familiarize oneself with the group that is participating in the Delphi so that a research strategy with contingencies can be planned. One could argue that having a researcher from the population conduct the study can save time. Parts of this study were conducted with the assistance of the Executive Director of the ISBM, a practitioner turned

academic with decades of experience. During the analysis of the data, there was a tendency on his part to make assumptions: an understandable reaction for someone with such extensive experience and knowledge of the field but it can have detrimental repercussions on the neutrality and the validity of the findings. The ideal situation may be to have competency modeling projects managed by a team composed of both Training and Subject Matter specialists.

- *Panel composition.* In the initial design of the study, the researcher had anticipated a Delphi panel composed of three groups of experts: practitioners, educators and stakeholders. The stakeholders were defined as individuals whose work performance is impacted directly by the performance of business marketers (e.g. VPs of marketing, CEOs) or whose job function supports or is supported by business marketing (e.g. sales, pricing). Ten of these individuals were nominated and invited to participate but less than half of the nominees completed the first iteration. The group was dismantled due to its small size. The individuals who did participate in the first iteration contributed to the development of the preliminary model but did not rate the competencies as a group. Having a third stratum of experts complete the process would have increased the richness of the model.

- *Sampling.* The validity of the findings is directly related to the expertise of the panelists. Having access to the right people is critical. In this study, the ISBM provided the initial contacts. Once a core group of experts had been identified, a snowball was conducted. The latter was not very successful with the educators/researchers; most of who also worked as consultants, and in many cases had signed confidentiality clauses with their best clients preventing them

from divulging the clients' identities or any information pertaining to their

clients' competency modeling efforts.

- *Environmental scanning.* The environmental scanning process was critical in

   acclimating the researcher with the business-to-business marketing culture. It

   also provided various insights into the occupation. During that phase of the

   study, the researcher realized that the original timeline would have to be adapted

   to the panelists' schedule: many of these individuals traveled constantly and

   sometimes were unavailable for periods of two to three weeks.

- *Systems Model.* There can be utility in developing a systems perspective of the

   emergent model. The latter can allow the researcher to identify central key

   competencies that are at the core of the model. These "nexus" competencies may

   not necessarily be the highest rated but most of the other core competencies

   depend on their outputs. In this study, segmentation was such a concept: many of

   the other competencies cannot be accomplished successfully if segmentation is

   done incorrectly.

   The downside is that the design of such a model is a qualitative exercise

and is very time consuming because the researcher must implicitly understand all

the nuances that exist within each competency statement. The analysis of the

systems model developed in this study took a few hundred hours to design and it

is about three quarters complete (it does not account for relationships within the

individual clusters –except to some degree, the cluster "Offerings Management").

<u>Simplifying the analysis</u>. The analysis was conducted by reducing the data into

manageable clusters. The following suggestions may help facilitate the analysis.

- *Clustering algorithm.* Various means of clustering were examined and rejected due to the assumption that the data collected was qualitative and subjective thus ordinal at best. The sum of mean ranks (from each group) could be used as an alternative to the clustering approach used in this study to identify the various strata. Although the latter could be a quick method for clustering the competencies, it does not take into consideration outliers and extreme values. Additionally, the level of detail may be reduced: the investigator considered using the sum of mean ranks in the early phases of the analysis and 4 main strata (as opposed to 13) were identified after the isolation of the "controversial" competencies.

- *Surveys and scale.* The quantitative surveys used a 6-point Likert-type scale where ratings 4-6 identified a competency as core and 1-3 as supplemental. There was a tendency to rate the competencies in the middle of the "core" range (rating 5). The data analysis would have been easier had overall dispersion been larger. One alternative to counteract that problem can be to use the entire scale (1-6) to rate the core competencies and identify supplemental competencies through a nominal variable.

Final comments. The study's findings raised many questions such as: now that the competencies have been identified, will it be possible to mold the perfect business marketer through training? If some of the competencies cannot be trained for, how does one identify an individual who possesses these competencies? Will these competencies be cherished in all types of corporate cultures? Many other issues can be raised and should perhaps be studied.

Over the past thirty months, the researcher has had the opportunity to scrutinize business-to-business market management and identify its distinct characteristics. Business marketing seems to be a nascent field that is still evolving: there may be a need for more inductive research to better understand and define the concepts involved in the development of the occupation. Currently, business marketers seem to rely mostly on "best practices" and "ready to use" tools to carryout their functions; and there does not seem to be a large effort to research and understand why these "best practices" work. Qualitative or mixed method studies that focus on depth instead of breadth can solidify and refine the core concepts and advance theory. Unfortunately, various talks with junior faculty members from a variety of universities seem to indicate that qualitative research is frowned upon and not rewarded in the business marketing field. Perhaps an entity such as the ISBM could encourage interest in such studies by providing adequate funding to investigators interested in epistemologically-oriented research looking into business market management. Investing in marketing education research and improving its theoretical base can greatly benefit the occupation (Smart, Kelley and Conant (1999); Howard and Ryans (1993); Hansen, Carlsson & Walden, 1988; Kastiel (1986); Walker (1986); Piercy, Evans and Martin (1982); Saunders, 1980)

<u>Conclusion</u>

What traits will define an exceptional Business-to-Business marketer over the next five years? It can be concluded that that the exemplary performers will possess the following traits (not arranged by importance and highlighted in **fig. 5.3**):

Customers. Exceptional business marketers have a deep understanding of their customers that goes beyond numbers and statistics: they understand their customers needs so well that they are able to deliver solutions that integrate seamlessly into their customers' processes.

Firm and boundary scanning. They have a good grasp of their firm's core competencies and use the latter to maximize value creation. They are comfortable working and collaborating with other functions within the firm to ensure the integration of marketing and marketing data in the business' decision-making process. They make sure that the marketing strategy is aligned with the overall corporate strategy; and forecast the impact of marketing decisions on current operations. They ensure that all the other functions understand the marketing plan and help implement it.

Sales. These marketers collaborate with the sales function to align the marketing and sales plans; and develop a relationship that is mutually beneficial to both functions.

Data management. They use data from multiple sources to support marketing decisions and establish performance metrics for the targeted segments and other vital marketing functions. They establish processes to measure the ROI of marketing efforts; and measure customer loyalty and customer satisfaction by segment. Overall, it was more important that b-to-b marketers be able to manage and synthesize the results of analyses and less important that they be able to conduct detailed (statistical or qualitative) analyses themselves.

<u>Market segmentation/Market sensing.</u> They use "innovative" market segmentation criteria to aggregate customers with similar needs and behaviors. A few experts did warn that in some cases, a segment will be composed of ONE customer and it is critical that the b2b marketer is able to identify these instances. They assess current brand positions in targeted segments and compare the firm's competitive advantage to its competitors. These marketers analyze value chains and value webs and are keen at identifying:

- profitable segments

- customers with a high lifetime value

- activities or customers that are draining value from the firm

- sources for developing a sustainable competitive advantage

It should be noted that the adjective "innovative" was used by many of the experts to describe various aspects of the segmentation process.

<u>Market Forecasting.</u> They anticipate change and its impact on business.

<u>Strategy/offerings strategy.</u> Strategy is linked to 2 concepts: realignment and adaptability. The exceptional marketer is able to design strategy that can be adapted to changing market conditions and evolve with dynamic markets. Periodically, strategy is revisited and corrected (based on market sensing efforts) so that it is realigned to the markets. There are two aspects of that realignment that were not clearly captured in the emergent model (but were present in the first iteration data). The first one involves a short-term realignment process (realigning strategy to current market conditions) whereas the second is more long-term and linked to forecasting (adapting strategy based

on market forecasts). It implies that marketing would have to periodically revisit its strategy (even if it seems to be working well) to assess:

- its alignment to the current market conditions
- the degree to which it will be adaptable to meet future market conditions.

Offerings management. They develop value propositions for new offerings based on benefits to the customer rather than the offering features; and build an offerings portfolio around customers' needs and behaviors rather than technologies. They involve marketing early in the offering development process. They understand the concept of value and its relationship to pricing. They maximize value through bundled offerings and recognize the role of service in differentiating these offerings.

Adaptability and realignment also play an important role in offerings management. The exceptional business marketer manages pricing over generations of an offering. They develop un-bundling and re-bundling strategies to cope with changes in the markets and discontinue ineffective offerings efficiently.

Project management. They demonstrate empathy for a wide cross-section of people and understand how technology impacts business marketing processes. They forecast the resources (people/skill sets, information, technology, …) required to carryout the marketing plan effectively and balance the resources required for product development (time to market) and market development (time to market penetration). They experiment with innovative ideas using calculated risk.

<u>Marketing leadership</u>. They adapt well to a changing business environment and can align the marketing team around a vision and a strategy, even amid a tumultuous market environment. They behave ethically. They protect the brand equity (two of the participants went as far as saying that business marketers should protect the brand even if it means putting their job on the line). They creatively identify market opportunities and effectively use alliances to create value.

<u>Closing comments.</u> From the point of view of the competencies as a system, the most critical concept identified was "segmentation", a concept that is omnipresent throughout the model. Most of the marketing processes and technical competencies rely heavily on the accuracy or the appropriateness of the segmentation scheme. Segmentation is somewhat the technical manifestation of truly "understanding the customer", the top competency out of the entire pool of 153. Furthermore, it is at the heart of strategy.
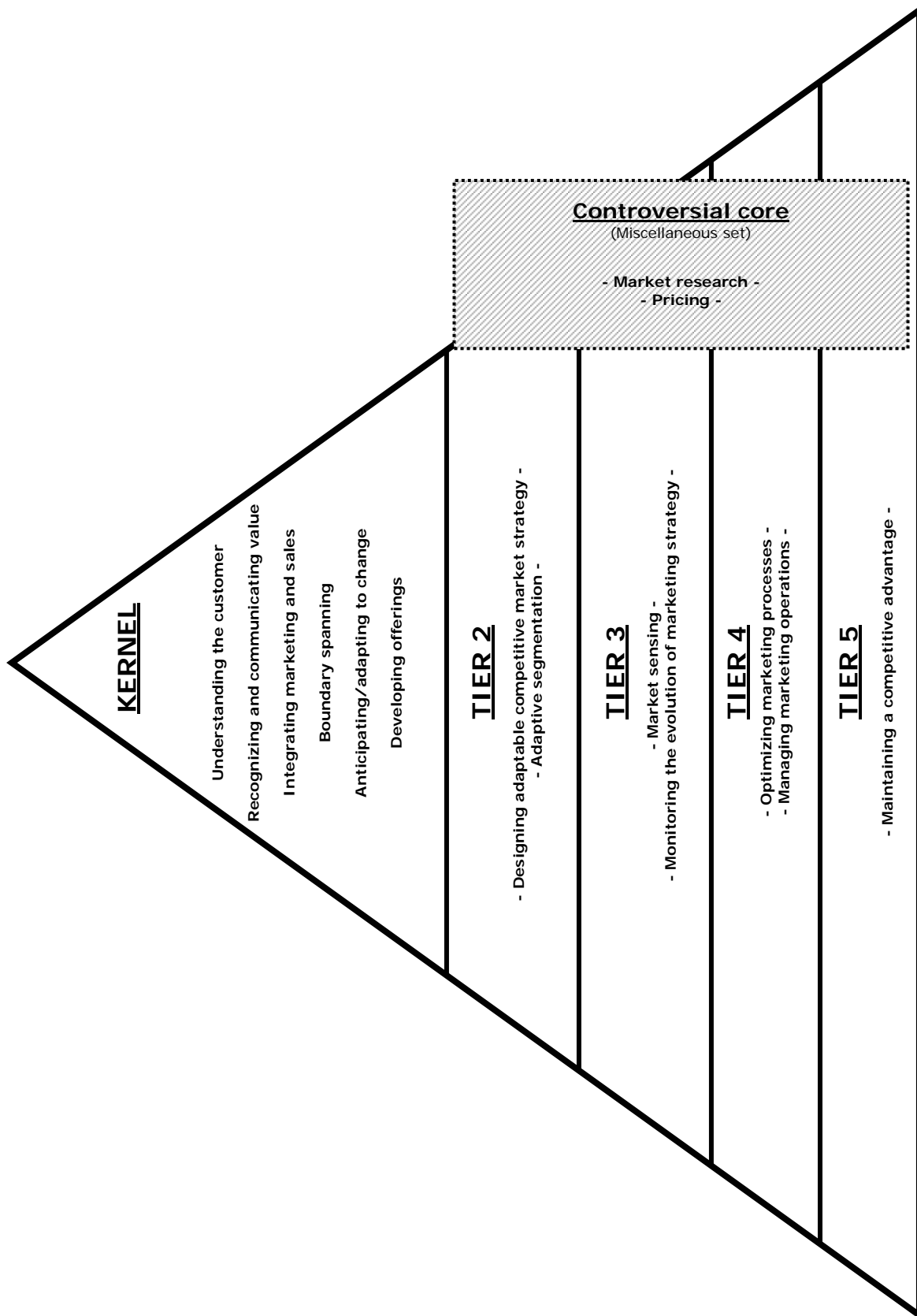
Figure 5.4 (with interactive links). Holistic perspective: Emergent model (EM) highlighting controversial core. Strata based on the perceived importance of core competencies by expert practitioners and educators.

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Appendix A

List of journals and periodicals used in content analysis

1) The Academy of Management Executive; Ada

2) Academy of Management Journal; Mississippi State

3) Academy of Management. The Academy of Management Review; Mississippi State

4) Academy of Marketing Science. Journal; Greenvale

5) Advances in International Marketing; Greenwich

6) American Business Review; West Haven

7) Asia Pacific International Journal of Marketing; Hong Kong

8) Asia Pacific Journal of Management; Singapore

9) Asia Pacific Journal of Marketing and Logistics; Bradford

10) Asian Business; Hong Kong

11) Australian Business Monthly; Sydney

12) Baylor Business Review; Waco

13) Baylor Business Studies; Waco

14) British Journal of Industrial Relations; London

15) British Journal of Management; Chichester

16) B to B; Chicago

17) Business Africa; New York

18) Business America; Washington

19) Business Asia; New York

20) Business China; New York

21) Business Communication Quarterly; New York

22) Business Communications Review; Hinsdale

23) Business Management; Greenwich

24) Business Marketing Digest; Dorking

25) Business Mexico; Mexico City

26) Business Strategy Review; Oxford

27) Business Studies

28) Business Trends; Petaluma

29) Business Week; Industrial/technology edition; New York

30) Business and Economic Dimensions; Gainesville

31) Business and Economic History; Williamsburg

32) Business and Economic Review; Columbia

33) Business in Brief; New York

34) Business; Atlanta

35) Business; London

36) Canadian Business Conditions; Toronto

37) Canadian Business Review; Ottawa

38) Canadian Business; Toronto

39) The Chicago MBA; Chicago

40) Chief Executive; London

41) Chief Executive; New York

42) Competitive Intelligence Magazine; Washington

43) Competitive Intelligence Review; Washington

44) Consulting to Management; Burlingame

45) East European Markets; London

46) Emerging European Markets; London

47) European Business Journal; London

48) European Business Review; Bradford

49) European Journal of Marketing; Bradford

50) Executive Development; Bradford

51) Financial Times of London World Business Weekly; London

52) Forbes; New York

53) Fortune; New York

54) Harvard Business Review; Boston

55) Inc; Boston

56) Indiana Business Review; Bloomington

57) Industrial Management; Mississauga

58) Industrial Management; Norcross

59) Industrial Marketing & Purchasing; Bradford

60) Industrial Marketing Management; New York

61) International Marketing Review; London

62) International Organization; Cambridge

63) International Review of Strategic Management; Chichester

64) Irish Marketing Review; Dublin

65) Ivey Business Journal; London

66) Journal of Advertising Research; New York

67) Journal of Advertising; Provo

68) Journal of Applied Business Research; Laramie

69) Journal of Applied Management Studies; Abingdon

70) Journal of Applied Management; Walnut Creek

71) Journal of Asian Business; Ann Arbor

72) The Journal of Business & Industrial Marketing; Santa Barbara

73) Journal of Business Research; New York

74) Journal of Business Strategies; Huntsville

75) The Journal of Business Strategy; Boston

76) The Journal of Business and Economic Studies; Fairfield

77) Journal of Euro - Marketing; New York

78) The Journal of European Business; New York

79) Journal of Global Marketing; New York

80) Journal of Interactive Marketing; New York

81) Journal of International Business Studies; Washington

82) Journal of International Marketing and Marketing Research; Brixham

83) Journal of International Marketing; Chicago

84) Journal of Macromarketing; Boulder

85) Journal of Management; Bloomington

86) Journal of Management; Greenwich

87) Journal of Managerial Issues; Pittsburg

88) Journal of Marketing Education; Boulder

89) Journal of Marketing Theory and Practice; Statesboro

90) Journal of Marketing; New York

91) The Journal of Product and Brand Management; Santa Barbara Journal of Sales Management; Bradford

92) Journal of World Business; Greenwich

93) Management Education and Development; London

94) Management Focus; New York

95) Management International Review; Wiesbaden

96) Management Japan; Tokyo

97) Management Learning; Thousand Oaks

98) Management Quarterly; Washington

99) Management Research News; Bradford

100) Management Review; New York

101) Managing Service Quality; Bedford

102) Marketing & Media Decisions; New York

103) Marketing Communications; New York

104) Marketing Health Services; Chicago

105) Marketing Intelligence & Planning; Bradford

106) Marketing Management; Chicago

107) Marketing News; Chicago

108) Marketing Research; Chicago

109) Marketing Science; Providence

110) Marketing Times; Cleveland

111) Marketing Tools; Stamford

112) Marketing Week; London

113) Marketing and Research Today; Amsterdam

114) Marketing/Communications; New York

115) Marketing; London

116) Marketing; Munich

117) Multinational Business Review; Detroit

118) Multinational Business; London

119) New Management; Los Angeles

120) New Zealand Management; Auckland

121) The Quarterly Review of Marketing; Cookham

122) Revue Française du Marketing; Paris

123) Sales & Marketing Manager Canada; Scarborough

124) Sales and Marketing Management; New York

125) Southern Advertising/Markets; Atlanta

126) Southern Business Review; Statesboro

127)   Strategic Management Journal; Chichester

128)   Target Marketing; Philadelphia

129)   Thunderbird International Business Review; New York

130)   University of Michigan Business Review; Ann Arbor

131)   What's New in Marketing; London

132)   Worldbusiness; New York

Appendix B

Human subjects

Welcome to the 1rst iteration

Thank you for being part of the expert panel that will help develop the future-oriented Business-to-Business marketing competency model. We estimate your commitment will be less than an hour spread over 3 iterative questionnaires (about 15-20 minutes per questionnaire). You will be asked to identify and rate the competencies you perceive will define an exceptional B-to-B market manager based on your expertise and experiences.

Your participation in this research is confidential. Only Allen Stines (the researcher) and Ralph Oliva (the Executive Director of ISBM) will have access to your identity and to information that can be associated with your identity. In the event of publication of this study, no identifying information will be disclosed aside from the participant list. To make sure your participation is confidential, all responses will be directed to an e-mail address or fax number that has been setup specifically for this study. Confidentiality of documents submitted electronically is limited by the technology of the Internet. If you have any questions regarding this study titled "Identification of Competencies Defining an Exceptional B-to-B Marketer", feel free to contact: Allen Stines at allen1@psu.edu or Ralph Oliva at rao8@psu.edu.

This study is part of the researcher's doctoral program at the Pennsylvania State University. Even though this type of study does not pose any anticipated risks to your health, Penn State requires that all participants in studies conducted at the University be provided with an informed consent form highlighting their right to withdraw from the study at any time. Please read the "informed consent" statement, and click on the button at the bottom of the page.

We would like to thank you in advance for your help. This study would not be possible without your assistance. You will receive a copy of the results as soon as the data is analyzed.

Thank you,

Ralph Oliva, Executive Director ISBM

&

Allen Stines, Researcher

Informed consent to participate in the research

By clicking on the following link, I agree to participate in a scientific investigation of Allen Stines, as an authorized part of the education and research program of the Pennsylvania State University. I understand the information given to me, and I have received answers to any questions I may have had about the research procedure.

I will receive no compensation for participating. My participation in this research is voluntary, I have the right to decline to answer specific questions or withdraw from this study at any time by notifying Allen.

Begin iteration 1
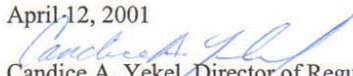
PENNSTATE

1855

Vice President for Research
Office for Regulatory Compliance

The Pennsylvania State University
212 Kern Graduate Building
University Park, PA 16802-3301

(814) 865-1775
Fax: (814) 863-8699
www.research.psu.edu/orc/

Date: April 12, 2001

From: Candice A. Yekel, Director of Regulatory Affairs

To: Allen Stines

Subject: Proposal for Use of Human Subjects in Research - Exemption **(IRB #01B0455-00)**

           Approval Expiration Date: April 12, 2002

           "Identification of Competencies Defining an Exceptional B-2-B Marketer in 2006"

Your proposal for use of human subjects in your research has been reviewed and **approved for a one-year period.** Subjects in your research are at minimal risk.

Attached are confidential labels you can use to seal the envelopes that contain the original, signed informed consent forms obtained from the subjects of your study. These envelopes are then to be mailed to the address listed above. Contact this office if you need more labels.

Subjects must receive a copy of the informed consent form and the written explanation of your study that was submitted to this office for review.

By accepting this decision you agree to notify this office of (1) any additions or changes in procedures for your study that modify the subjects' risks in any way and (2) any events that affect the safety or well being of subjects.

The University appreciates your efforts to conduct research in compliance with the federal regulations that have been established to ensure the protection of human subjects.

CAY/mbc

Attachments

cc: P. Krueger
       D. Passmore
       E. Herr

PENNSTATE

Vice President for Research
Office for Regulatory Compliance

The Pennsylvania State University
212 Kern Graduate Building
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Date: June 7, 2001

From: Candice A. Yekel, Director of Regulatory Affairs

To: Allen Stines

Subject: Proposal for Use of Human Subjects in Research - Exemption **(IRB #01B0455-01)**

Approval <u>Expiration</u> Date: June 7, 2002

"Identification of Competencies Defining an Exceptional B-2-B Marketer in 2006"

Your proposal for use of human subjects in your research has been reviewed and **approved for a one-year period.** Subjects in your research are at minimal risk.

<u>COMMENT</u>: Thank-you for making the required revisions.

Attached are confidential labels you can use to seal the envelopes that contain the original, signed informed consent forms obtained from the subjects of your study. These envelopes are then to be mailed to the address listed above. Contact this office if you need more labels.

Subjects must receive a copy of the informed consent form and the written explanation of your study that was submitted to this office for review.

By accepting this decision you agree to notify this office of (1) any additions or changes in procedures for your study that modify the subjects' risks in any way and (2) any events that affect the safety or well being of subjects.

The University appreciates your efforts to conduct research in compliance with the federal regulations that have been established to ensure the protection of human subjects.

CAY/ √
Attachments
cc: P. Krueger
        D. Passmore
        E. Herr

An Equal Opportunity University

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Date: September 19, 2001

From: Candice A. Yekel, Director of Regulatory Affairs

To: Allen Stines

Subject: Research Proposal - Modification **(IRB #01B0455-02)**
          Approval Expiration Date: April 12, 2002
          (Note: This date reflects the anniversary date of the actual submission approval date.)

          "Identification of Competencies Defining an Exceptional B-2-B Marketer in 2006"

The revisions to your study, outlined in your September 18, 2001 memorandum, do not increase risks to human subjects. You may proceed with your study.

Please continue to notify this office of any further modifications.

CAY/mbc
cc: P. Krueger
      K. Gray
      R. Hendrickson

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Vice President for Research	The Pennsylvania State University	(814) 865-1775
Office for Regulatory Compliance	212 Kern Graduate Building	Fax: (814) 863-8699
	University Park, PA 16802-3301	www.research.psu.edu/orc/

Date: November 21, 2001

From: Candice A. Yekel, Director of Regulatory Affairs

To: Allen Stines

Subject: Research Proposal - Modification **(IRB #01B0455-03)**
          Approval Expiration Date: April 12, 2002
          (Note: This date reflects the anniversary date of the actual submission approval date.)

          "Identification of Competencies Defining an Exceptional B-2-B Marketer in 2006"

The revisions to your study, outlined in your **November 21, 2001** email, do not increase risks to human subjects. You may proceed with your study.

Please continue to notify this office of any further modifications.

CAY/mbc
cc: P. Krueger
        K. Gray
        R. Hendrickson

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Appendix C

Study portal

www.B2Bcompetencies.com

B-to-B Market Management
Competencies Study

August 29, 2003

What?
Why?
Who?
How?

Welcome to the ISBM B-to-B market management competencies study homepage. We are currently researching and identifying the key competencies that will define exceptional B-2-B market managers over the next five years (research phases).

Professional competencies (along with technology and processes) are the building blocks of a firm's core competency. Optimizing and aligning professional competencies to an organization's strategy can be the key to increasing efficiencies thus, unleashing performance.

PENNSTATE

Site navigation tips

Any time you want to come back to this page, click the site banner (above). The information in this site has been divided into four main categories (left).

- "**What?**" covers the study's basics
- "**Why?**" covers the study's primary purpose and the potential uses of the results.
- "**Who?**" covers the individuals and organizations involved in this research effort.
- "**How?**" covers the research methods

If you would like to get additional information about the study or discuss an issue that is not covered here, please contact us.

Home | What? | Why? | Who? | How? | Contacts | ISBM | Penn State University
Copyright 2001 - Last modified oct 14, 01 by Webmaster

B-to-B Market Management
Competencies Study

What?
Why?
Who?
How?

What?

B-to-B market management can be compared to a complex art where the winners are the artists who are able to properly scan the landscape and interpret all its intricacies onto a canvas. Like artists, successful marketers must be able to scan the market and develop its intricacies into a value-adding model. Just as artists must be able to account for environmental factors such as lighting variations, depth perception and color nuances, marketers must be able to discern variations in the market, account for the customer's perception of their product and understand the nuances in the needs of their customers. In this study, B-to-B marketing will be treated as an art form whose mastery requires a mixture of both technical skills and other non-technical characteristics.

Just as in art, it takes more than just technical knowledge to become an exceptional marketer. A simple listing of tasks would not be able to depict an exemplary performer. In order to fully grasp the essence of a super performer, one would need a competency model listing not only technical skills but also knowledge, traits, abilities, attitudes and soft skills common to exceptional B-to-B market managers. A review of the available, non-proprietary literature, suggests that such competency inventories for B-to-B market managers are not readily available.

This study will generate a competency model for B-to-B market managers.

Primary objectives of the study
contributions to B-to-B Market Management (see methodological contributions) :

- To develop a comprehensive competency model for business market managers that can be used across the various industrial classifications
- To identify and rate the competencies that will characterize a stellar B-to-B market manager over the next five years.
- To analyze the level of consensus **within** (1) practitioners (2) educators regarding the competencies that define an outstanding business-to-business market manager.
- To identify possible gaps that may exist **between** the expert practitioners and expert educators on the perceived competencies that define a stellar B-to-B market manager.

Operational Definitions

B-to-B market management: The process of understanding, creating, delivering and profitably harvesting value from targeted business markets and customers (Ralph Oliva).

Business markets: "firms, institutions, or governments that acquire goods and services either for their own use, to incorporate into the products or services that they produce, or for resale along with other products or services to other firms, institutions, or governments". (Anderson and Narus, 1999, p.4).

Competency model: "decision tool that describes the key capabilities for performing a specific job" (McLagan, 1996, p. 63), the results of a competency study (Spencer and Spencer, 1993). In the confines of this study, we will be looking at KSAs - knowledge, skills, and attitude competencies (McLagan, 1997)

Delphi: " a group process which utilizes written responses as opposed to bringing individuals together" (Delbecq et al, 1975, p. 83).

Super performer: exemplary, best-in-class worker.

Home | **What?** | **Why?** | **Who?** | **How?** | **Contacts** | **ISBM** | **Penn State University**
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B-to-B Market Management
Competencies Study

What?
Why?
Who?
How?

Why?

The few efforts that have been undertaken to develop a skills inventory for marketers focused on consumer marketing and were conducted using a job analysis approach to develop marketing curriculum. Since job analysis focuses on specific tasks, the results are only valid as long as the tasks do not change. In this era of technological marvels, change and innovation are continuously altering the way we do our jobs. Job duties change as new technologies and processes are developed.

By focusing on the competencies of the worker (the individual as opposed to the job), firms are able to develop their strategies and structure themselves so that they are able to morph at the pace of innovation. Theoretically, since competency-based systems focus on each worker's abilities and skills, they offer a modular approach to the fulfillment of a holistic endeavor: the realization of organizational goals. Because of their modularity, these systems are more tolerant to change and innovation.

Traditional competency models have been built on the critical incident technique, which identified vital competencies based on past experiences of experts. This study attempts to develop a competency model based on a heuristic, future-oriented approach.

Basic Characteristics of the study

- Focus on individuals (not jobs)
- Compact set of professional competencies
- Can be used across various industrial classifications
- Future-oriented approach
- Knowledge, skills, abilities and attitudes

A few of the potential uses of competency models

- Gap assessment
- Succession planning
- Training/ Curriculum design
- Recruitment & selection
- Strategic planning
- Career planning
- Team construction (Portable competencies)
- Competency-based compensation ???

B-to-B Market Management
Competencies Study

Who?

Many experts and specialists from a multitude of areas are involved in this study. This multidisciplinary research effort involves practitioners and educators/ researchers in various B-to-B marketing specialties, various workforce development specialties, methods (qualitative & quantitative) and survey design.

Expert panelists

The study involves three main groups of experts:

- **Practitioners**. This group includes expert professionals from a variety of specialties related to the B-to-B market management function.
- **Educators/Researchers**. This group includes leading researchers/ professors from all over the world who specialize in a variety of specialties related to the B2B market management function
- **Stakeholders**. This group is composed of both practitioners and educators/ researchers whose functional areas are affected by the B-to-B market management function (ie. purchasers, VPs, CEOs, etc…)

The main B-to-B market management specialties that are represented:

- Brand Management
- Customer Relationship Management
- Distribution Channel Management
- E-business
- Market Research/Data Collection & Analysis
- Marketing Communications
- New product Development
- Pricing
- Sales Management
- Segmentation/Targeting/Positioning
- Strategic Market Management
- other specialties related to B-to-B market management

The sampling technique:

For information on the sampling technique that is used, please contact researcher. Many of the expert practitioners are from ISBM member firms.

Researchers

The primary researcher (Allen C. Stines) is currently finishing his PhD in Workforce Development at Penn State. He works as a member of the Professional Development Team housed in the Professional Personnel Development Center (at Penn State). The team provides consulting services (training, organizational

change etc…) to an area covering the middle third of Pennsylvania. Over the past five years, he has worked on diverse projects in various capacities: managerial, academic, consulting etc… He served as the Assistant Director of the Pennsylvania Governor's school for Information Technology and taught as an Adjunct Lecturer in the College of Engineering and Applied Sciences at the State University of New York at Stony Brook.

His academic training covers various areas. He has completed undergraduate programs in Business Management, Applied Mathematics & Statistics and graduate programs in Technological Systems Management and educational computing.

Research committee

The study is overseen by a committee of 4 outstanding academicians whose role is to monitor the research methods and ascertain that academic rigor is maintain.

Ralph A. Oliva, PhD.
"B-to-B Market Management" Subject Matter Expert/Special Advisor. Dr. Oliva is the executive Director of the Institute for the Study of Business Markets (ISBM) and a professor of Marketing at Penn State. Before joining the ISBM, he served as Vice President of Worldwide Market Communications and Design at Texas Instruments where he was responsible for the global management of the Texas Instruments brand, oversight of all TI market communications, and leadership in design, message and communications strategy, and the creation of the TI web practice.

Paul Krueger, PhD., EdD.
Committee Chair
"Methods & Survey Research" Subject Matter Expert/Advisor. Dr. Krueger is the Research Committee Chair. He currently heads the Institute for Research in Training and Development at Penn State. He has over 18 years of diversified experience in the practice, teaching and research of human resources management, training and organizational development. He has managerial experience in manufacturing, insurance and business services industries, including two multi-national corporations: Johnson & Johnson and Bio-Rad Laboratories. He teaches classes on research methods, survey research, data analysis and various other topics.

William Rothwell, PhD.
"Competency Modeling" Subject Matter Expert/Special Advisor. Dr. Rothwell is one of the foremost experts in Training and Development (T&D) and one of the most published academicians in the space. He consults worldwide and teaches classes on various areas T&D. He has completed various competency models for organizations such as the American Society for Training and Development (ASTD) and has written various books and articles on Competency Models.

Judith Kolb, PhD.
"Small Group Facilitation/Communication" Subject Matter Expert. Dr. Kolb expertise covers group facilitation and communication issues. She has published on topics related to Training & Development (T&D) and communication. She teaches various classes on T&D and group dynamics. Dr. Kolb's business background includes experience as a corporate trainer and management consultant. She has worked with several Fortune 500 companies, as well as with a host of small organizations.

Organizational resources

ISBM. This study is being conducted through the [Institute for the Study of Business Markets](#) (ISBM) at Penn State. The Executive Director of the ISBM plays a critical role in various aspects of this study.

IRTD. The Director of the [Institute for Research in Training and Development](#) (IRTD) at Penn State serves as the Chair of the Research committee and is consulted on all matters related to research and survey methods.

B-to-B Market Management
Competencies Study

How?

A naturalistic inquiry methodology coupled with a pragmatic inductive analysis approach is used throughout the study. Such an approach allows for a tremendous amount of flexibility and allows for slight adjustments of the study design based on the data: the researcher can look into new directions that were not anticipated in the initial design of the study. The various steps of the study design are tuned based on the findings from the preceding step.

The methodology used in this study is structured around pragmatism therefore it is centered primarily around real-world practical knowledge and applications. The focus is on the outcome instead of the origin, on the practical applications and results of an idea or theory as opposed to the idea or theory itself.

Delphi Method

The Delphi allows for the refinement of group judgments by way of an iterative questionnaire. A three-iteration modified Delphic approach is used in this study.

The first Delphic iteration is very qualitative in nature whereas the last two are quantitatively based. In the first questionnaire, the expert participants are asked to identify the competencies they perceive will define an exceptional B-to-B market manager based on their expertise and experiences. The data collected from the three groups of expert participants (educators, practitioners and stakeholders) is used to draft the second survey. In the latter, each group of experts is asked to rate the competencies that were identified. In the third iteration, the expert panelists are provided with their group's collective ratings and are asked to provide their final rating.

Data Collection Process

The main steps in the data collection process are depicted in a figure that is available in two formats:

HTML (will display in current browser window)

PDF (Best for printing purposes - must have Acrobat Reader))

Research model

The main phases of the research are depicted in a figure (study phases).

B-to-B Market Management
Competencies Study

What?

What?
Why?
Who?
How?

Primary objectives of the study
methodological contributions (also see contributions to B-2-B Market Management):

- To develop a systematic Delphi-hybrid methodology based on empirical research
- To attempt to use quantitative measures to gauge the internal consistency of the expert submissions (qualitative data) within and between expert groups
- To evaluate the use Delphi in building future-oriented competency models

Home | **What?** | **Why?** | **Who?** | **How?** | **Contacts** | **ISBM** | **Penn State University**
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B-to-B Market Management
Competencies Study

Contact info

For more information about the study, feel free to contact:

Allen C. Stines
Competencies Study Project Manager

e-mail:	allen1@psu.edu
Tel:	**(814) 777-2587** Feel free to contact me **7days/week** any time between: 11 A.M. - 10 P.M. Eastern Standard Time 10 A.M. - 9 P.M. Central Time 9 A.M.- 8 P.M. Mountain Time 8 A.M. - 7 P.M. Pacific Time
Fax:	(603) 720-0701
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ISBM Executive Director
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Home | **What?** | **Why?** | **Who?** | **How?** | **Contacts** | **ISBM** | **Penn State University**

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B-to-B Market Management
Competencies Study

How?

Data Collection Process

**ISBM B2B marketing study using Modified Delphi
(w/ methodological triangulation and stratified sampling)**

What?
Why?
Who?
How?

PENN STATE

Literature review

| Competence |
| Delphi |
| B-2-B marketing |

Content analysis ↔

Informal interviews ↔

Competencies inventory v.1 → Expert panel #1

Expert panel #2 ← Competencies inventory v.2

Competencies inventory v.3 → Expert panel #3

Design of instrument

Iteration #1 Instrument ← Modifications ← Instrument review panel ← Design of instrument

Delphi

Iteration #1 → Qualitative analysis → Iteration #2 instrument

Iteration #2 → Quantitative analysis → Iteration #3 instrument

Iteration #3 → Qualitative analysis

Telephone interviews

Identification of outliers → Structured telephone interviews → Qualitative analysis

---

Modified Delphi process (w/ methodological triangulation and stratified sampling) using a naturalistic inquiry methodology coupled with pragmatic analysis approach. Copyright 2001

B-to-B Market Management
Competencies Study

How?

Main steps of study
(**click to see data collection process**)

| Literature review |
| Interviews with Researchers / Educators |
| Expert Panels (Practitioners / Educators) |
| Design of instrument (draft) Pilot test |
| Delphi |
| Data analysis |
| Final report |

| Creation of focus group |
| Presentation |
| Creation of Delphi panel |

Time

Action

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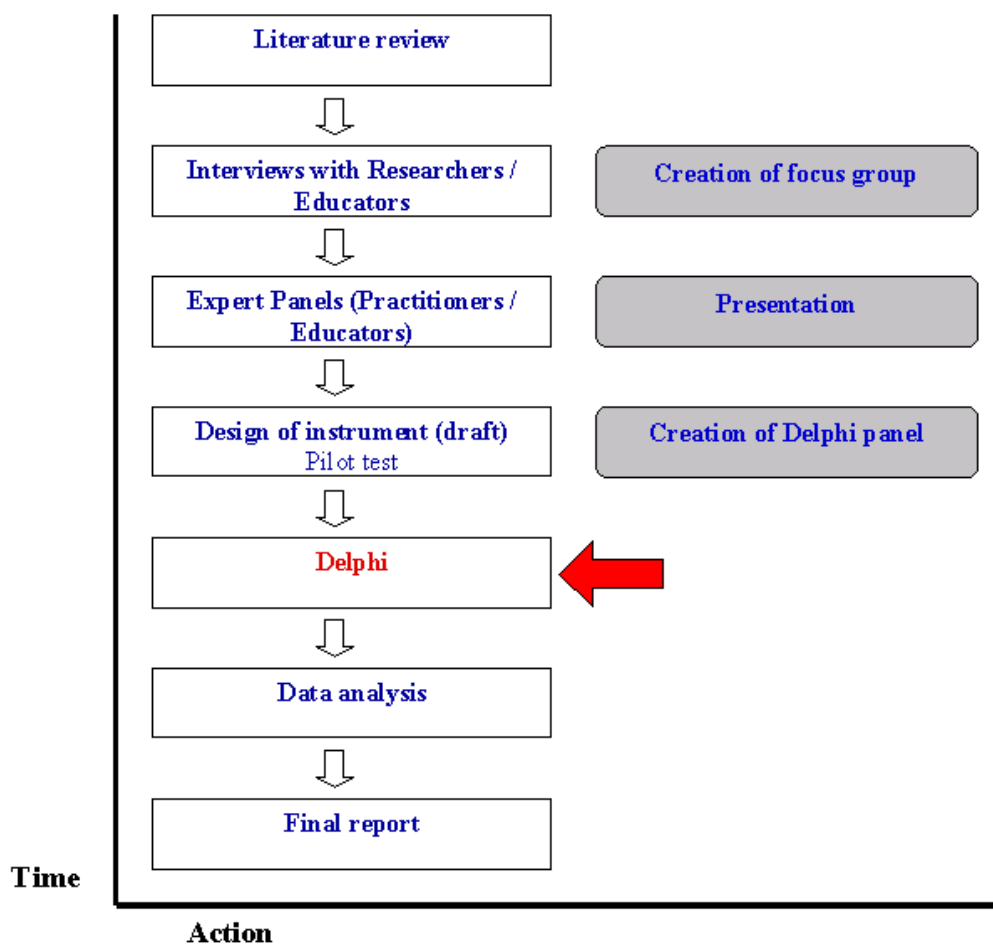
Appendix D

Delphic instruments

Various survey instruments were used to collect data in both the pre-Delphic and Delphic stages. Appendix D lists the 4 instruments that were used during the three iterations of the Delphi. The first instrument is based on the prelusive competency model; it was used to collect data from all the panelists during the first iteration. The second instrument depicts the preliminary functional model; it was completed by both expert groups in the second iteration. The third and forth instruments were used in the third iteration to collect data on the competencies for which consensus had not been reached in the previous iteration. The third survey instrument was used with the expert practitioners and the fourth instrument was used with the expert educators. More information on these instruments and the Delphic iterations is provided in chapters 3 and 4.

ISBM Business-to-Business Market Management Competencies Study

Institute for the Study of Business Markets

Directions- Your assistance is needed to identify the competencies that will be indicative of a stellar business-to-business market manager five years from now. Envision a star performer, the best of the best, an exceptionally talented and outstandingly competent B-to-B market manager and the skills, abilities, attitudes or knowledge such an individual would exhibit. You may base your comments on trends; draw from your professional experience or your current practice.

Rather than ask you to react to a blank sheet, we are providing you with a basic and preliminary set of competencies to get your thinking started (Please note: the competency set provided is deliberately <u>NOT</u> comprehensive). We need your help and expertise to develop an inclusive yet concise set of competencies.

First, browse through the entire list of skills in order to gain a general sense of the material. Second, don't forget to focus on the future. Then, while considering each competency set, type your comments in the suggestion box:

1. **Indicate if any of the competencies are improperly stated or inadequately grouped: make suggestions. Indicate if certain competencies should be collapsed into one.**

2. **Suggest any other skills, abilities, attitudes or knowledge you feel should be added.**

3. **Indicate if any competencies should be eliminated (with a very brief explanation- a sentence or two will suffice). Don't forget, we are trying to come up with a list that is inclusive but as streamlined as possible.**

Suggestions- (a) On most machines, the document is best viewed in "web layout". On the toolbar, select "view" then select "web layout". (b) If you begin entering your comments and need to stop, don't forget to save the document. (c) If you have any questions, suggestions or concerns, feel free to contact:
- Allen Stines (Researcher) at allen1@psu.edu or (814) 777-2587
- Dr. Ralph Oliva (Executive Director, ISBM) at rao8@psu.edu or (814) 863-2782.

<u>**Some operational definitions:**</u>
B-to-B market management: The process of understanding, creating, delivering and profitably harvesting value from targeted business markets and customers.

Value: The worth in monetary terms of the economic, technical, service, and social benefits a customer firm receives in exchange for the price it pays for a market offering

Technology: technical processes, methods or models.

Demographics

Contact information:
Please enter your contact information (the records in our database may not be current).

Name	
Tel #	
Title:	
Company:	

You are a: (select one)
Please select your **primary** occupation (mark with an X). If currently not employed, please identify your most recent occupation.

	Professional (not consultant)
	University faculty/Researcher
	Consultant
	Other: (please specify)

i. Understanding Value

A. Marketing research

In 2007, an exceptional B-to-B market manager should be able to:
- Formulate market research objectives
- Select suppliers of market research services
- Develop market research plans
- Manage the marketing research process
- Evaluate the potential for value creation in a market

Your suggestions or additions to the "market research" competency cluster: *(type comments in box)*

B. Data collection & analysis

In 2007, an exceptional B-to-B market manager should be able to:
- Select appropriate sources of data
- Choose appropriate data analysis tools to examine data
- Estimate the inherent limitations of data analysis
- Manage intelligence gathering efforts
- Translate data into better business decisions

Your suggestions or additions to the "Data collection & analysis" competency cluster:

C. Harnessing value

In 2007, an exceptional B-to-B market manager should be able to:
- Identify sources of value **inside** a firm
- Identify sources of value **outside** a firm
- Effectively use alliances and partnerships to create value
- Compute the value of a customer to a firm
- Assess the potential value of proprietary technologies
- Assess the potential value of technology licensing agreements

Your suggestions or additions to the "Harnessing value" competency cluster:

D. Value & Pricing

In 2007, an exceptional B-to-B market manager should be able to:
- Formulate prices for offerings based on customer value
- Develop strategies for price discovery
- Manage a value-chain
- Align pricing strategies with government regulations

Your suggestions or additions to the "Value & Pricing" competency cluster:

ii. Strategy

E. Market segmentation

In 2007, an exceptional B-to-B market manager should be able to:
- Recommend the appropriate techniques for market segmentation
- Analyze market information to categorize customers with similar needs
- Develop value propositions for different segments

Your suggestions or additions to the "Market segmentation" competency cluster:

F. Targeting

In 2007, an exceptional B-to-B market manager should be able to:
- Select the appropriate tools to identify the market segments to be addressed
- Select target markets to be addressed

Your suggestions or additions to the "Targeting" competency cluster:

G. Positioning

In 2007, an exceptional B-to-B market manager should be able to:
- Develop procedures that will enable a firm to differentiate its offerings from its competitors'

Your suggestions or additions to the "Positioning" competency cluster:

H. Strategic marketing management planning

In 2007, an exceptional B-to-B market manager should be able to:
- Formulate risk/reward analyses
- Develop marketing strategy plans
- Evaluate how competitors' marketing efforts are evolving
- Consider the implications of patent/copyrights/trademark law on marketing decisions
- Establish processes to measure the return-on-investment (ROI) of marketing efforts

Your suggestions or additions to the "Strategic marketing management planning" competency cluster:

I. New product development

In 2007, an exceptional B-to-B market manager should be able to:
- Integrate the target market's needs into the product development process
- Develop launch strategies for new products
- Estimate the impact of new products on a firm's bottom line
- Manage a portfolio process for new product offerings mix

Your suggestions or additions to the "New product development" competency cluster:

iii. Communicating and Delivering Value

J. Brand & identity management

In 2007, an exceptional B-to-B market manager should be able to:
- Implement the procedures for building brands that will create positive economic effects
- Align product brand strategies with overall corporate brand strategy
- Identify key issues surrounding identity management
- Manage an identity portfolio for optimal business impact

Your suggestions or additions to the "Brand & identity management" competency cluster:

K. Marketing communications

In 2007, an exceptional B-to-B market manager should be able to:
- Assess communications needs
- Design an integrated process for communicating offerings to targeted segments
- Measure the effectiveness of market communication efforts

Your suggestions or additions to the "Market communications" competency cluster:

L. Sales management

In 2007, an exceptional B-to-B market manager should be able to:
- Implement a process for executing the marketing plan through the sales force
- Distinguish the respective roles of marketing and sales in order to coordinate the two functions
- Monitor the effectiveness of the sales force

Your suggestions or additions to the "Sales management" competency cluster:

M. Distribution channel management

In 2007, an exceptional B-to-B market manager should be able to:
- Determine optimal distribution channel configurations
- Develop channel management strategies
- Understand situations that lead to channel conflicts

Your suggestions or additions to the "Distribution channel management" competency cluster:

N. Customer relationship management

In 2007, an exceptional B-to-B market manager should be able to:
- Demonstrate a continuous desire to satisfying the needs of the customer
- Establish a process to capture, analyze and handle customer complaints
- Develop strategies to enhance relationships with customers
- Establish processes to measure customer satisfaction
- Establish processes to measure customer loyalty

Your suggestions or additions to the "Customer relationship management" competency cluster:

iv. Personal Competencies

O. Communication skills

In 2007, an exceptional B-to-B market manager should be able to:
- Demonstrate outstanding presentation skills
- Exhibit exceptional facilitation skills
- Demonstrate superb coaching skills
- Possess active listening skills
- Demonstrate awareness of the implications of cultural differences on marketing endeavors
- Negotiate solutions

Your suggestions or additions to the "Communication skills" competency cluster:

P. Creativity and foresight

In 2007, an exceptional B-to-B market manager should be able to:
- Demonstrate creative problem solving skills
- Adapt to a changing environment.
- Serve as a catalyst for change

Your suggestions or additions to the "Creativity and foresight" competency cluster:

Q. Technical savvy

In 2007, an exceptional B-to-B market manager should be able to:
- Recommend technological solutions that will streamline and optimize marketing processes
- Demonstrate product knowledge
- Demonstrate industry knowledge

Your suggestions or additions to the "Technical savvy" competency cluster:

R. Personal attributes

In 2007, an exceptional B-to-B market manager should be able to:
- Demonstrate critical thinking skills.
- Manage resources effectively
- Demonstrate project management skills
- Demonstrate ethical behavior

Your suggestions or additions to the "Personal attributes" competency cluster:

v. Additional comments

S. Additional competencies / General comments

Please use the box below for additional comments

Thank you for your participation

After entering all your comments:
1. Save this document.
2. Attach the file to an e-mail message and send it to allen1@psu.edu **-OR-** fax it back at (603) 720-0701.
3. Your responses are confidential. If you have any difficulties or questions about the study, please contact Allen at allen1@psu.edu or call (814) 777-2587.

*** **END OF DOCUMENT** **

ISBM

**Institute for
the Study of
Business Markets**

ISBM Business-to-Business Market Management Competencies Study

Iteration 2 Questionnaire

Thank you for participating in our Delphi study of B-to-B market management competencies, and for responding to our last survey. The hundreds of comments you and fellow expert panelists returned have been compiled, analyzed and clustered to draft the second iteration survey.

Our goal is to compile a set of competencies that stellar business-to-business market managers will possess five years from now. However, some of the competencies will be more important than others. We need your help and expertise to develop an inclusive yet concise set of competencies. That is the issue we will tackle in this questionnaire: **rating competencies by their essentiality to superior market management performance**.

Directions- First, browse through the entire list of competencies in order to gain a general sense of the material. Second, envision a star performer, the best of the best, an exceptionally talented and outstandingly competent B-to-B market manager and the skills, abilities, attitudes or knowledge such an individual would exhibit. Depending on the size of the firm, these competencies may be spread over multiple functions (e.g. marketing manager, marketing research manager, marketing communications manager). While considering each competency:

1. **Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale (where 1= least important and 6= most important). Furthermore, ratings 1, 2 or 3 identify the competency as being "supplemental" (nice to have but not critical). Ratings 4, 5 or 6 classify the competency as "core".**

2. **If you choose not to rate a competency, please mark the box labeled "NR" (No Rating) and provide a very brief explanation in the comments box.**

3. **After completing the survey, please return it as an e-mail attachment or by fax.**

Suggestion- (a) If you choose to fill out the instrument electronically and need to stop at any point, don't forget to save it. (b) If you travel a lot, you may opt to print out the instrument, fill it out using a dark pen (whenever you have the time –on a plane, train…) and fax it back. (c) If you have any questions, suggestions or concerns, feel free to contact:
- Allen Stines (Researcher) at allen1@psu.edu or (814) 777-2587
- Dr. Ralph Oliva (Executive Director, ISBM) at rao8@psu.edu or (814) 863-2782.

Directions: Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale
- **1**= least important and **6**= most important
- **Ratings 1, 2 or 3** identify the competency as being "supplemental" (nice to have but not critical).
- **Ratings 4, 5 or 6** classify the competency as "core".
- **NR**= No Rating (please provide a brief explanation).

Total # years of experience in your field: ___

I. Understanding Value

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core			
A. Marketing Research (MR) (1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**	**NR**
Select marketing objectives to be supported by Marketing Research							
Formulate information requirements necessary to support marketing decisions							
Understand the fundamentals of MR (know enough to **evaluate** expert advice)							
Turn marketing research results **into** action plans							
Develop a process to **measure** the Return On Investment of MR							

Comments *(please type comments in box):*

	Supp.			Core			
B. Data Management (1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**	**NR**
Set up a monitoring process that periodically provides feedback on vital marketing metrics							
Understand the characteristics (i.e. limitations, strengths) of:							
-Quantitative research methods							
-Qualitative research methods							
Recognize instances when:							
-Data mining can be advantageously used							
-Qualitative approaches can provide more insight than quantitative methods (e.g. probing customers' unmet needs)							
Effectively use data from various sources to **improve** marketing decisions							
Manage a competitive intelligence program							
Collaborate with other functional leaders to ensure the inclusion of marketing data in the business decision-making process							

Comments:

C. Harnessing Value (1= least important; 6= most important)	Supp.			Core			
	1	2	3	4	5	6	NR
Recognize what value is for:							
- the customer							
- customer's customer							
Estimate the sustainability of sources of value							
Identify customers with high lifetime value							
Understand the firms' business model: how various operations combine efforts to create value for the customer							
Use the firms' core competencies to maximize value							
Effectively **use** alliances to create value							
Link value (market/customer) to financial performance (shareholder value)							
Assess the potential value of proprietary technologies							
Assess the value of intangibles (e.g. Relationships, brands, market intelligence)							

Comments:

D. Value and Pricing (1= least important; 6= most important)	Supp.			Core			
	1	2	3	4	5	6	NR
Calculate the total costs of offerings (e.g. manufacturing costs, service costs)							
Understand various pricing approaches							
Shift from traditional to value-based pricing models							
Calculate the "value-in-use"[1] of offerings							
Evaluate tradeoff opportunities for market share and price premiums							
Develop strategies for pricing bundled offerings							
Estimate the long-term effects of short-term pricing decisions							
Implement pricing strategies in dynamic environments (uncertain demand and fluctuating capacity)							
Manage pricing over generations of an offering (e.g. penetration pricing, upgrade pricing)							
Develop a plan for global pricing							
Align pricing strategies with government regulations							
Monitor the effectiveness of pricing strategies over time							

---

[1] Value of an offering which is used in a specific customer application

Comments:

II. Strategy

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core			
E. Market planning (1= least important; 6= most important)	1	2	3	4	5	6	NR
Analyze **"value webs"**[2]							
Analyze **value chains**							
-**identify** sources for developing sustainable competitive advantage							
-**identify** sources of negative value (i.e. activities or customers that are draining value)							
Recognize opportunities to **build** profitable and sustainable cooperative networks							
Assess potential factors that may help or hinder marketing objectives							
Design dynamic marketing strategies that can be easily adapted to changing market conditions							
Monitor competitors marketing efforts (i.e. segmentation, targeting, offerings, pricing) in order to adjust the firm's marketing strategy							
Estimate staffing levels (e.g. skill sets) required to carry out marketing plan effectively							
Formulate marketing plan with options (analyses and recommendations)							
Articulate marketing plans to all functional elements of the organization							
Establish processes to measure the ROI of marketing efforts							
-in terms of their impact on cash flow							
-in terms of their impact on reducing risk for companies							

Comments (please type comments in box):

---

[2] Product eco-systems or value networks

F. Market segmentation (1= least important; 6= most important)	Supp.			Core			
	1	2	3	4	5	6	NR
Identify innovative market segmentation criteria to aggregate customers with similar needs and behaviors							
Develop innovative segmentation schemes that can be adapted to changing market conditions							
Identify the fundamental drivers of customer segments							
Establish performance metrics for each segment							
Develop cost/profit models to serve each market segment							
Link segmentation strategies to individual customer offerings							
Adapt segmentation scheme over product lifecycle							
Implement segmentation strategies through the sales organization							

Comments:

G. Targeting (1= least important; 6= most important)	Supp.			Core			
	1	2	3	4	5	6	NR
Define selection criteria for identifying *profitable segments*							
Allocate resources based on target segment potential							
Manage segment specific marketing programs in order to **customize** marketing and sales efforts							
Match segment-specific targeting strategy to overall corporate strategy							
Market the targeted segments *to* internal stakeholders (i.e. sales, communication, R & D, strategic planning…)							
Implement targeting strategies *through* internal stakeholders (ie. sales, R&D, manufacturing)							
Devise a process to **track** changes in targeted segments in order to realign targeting strategy							
Develop an understanding for target segments that goes beyond quantitative analyzes (e.g. live in your market as opposed to flying over it)							

Comments:

H. Positioning	Supp.			Core			
(1= least important; 6= most important)	1	2	3	4	5	6	NR
Compare the firms' competitive advantage (functional and perceptual) to its competitors'							
Assess current brand positions in targeted segments							
Develop a strategy which will enable a firm to differentiate:							
-itself from its competitors							
-its offerings from its competitors							
Evaluate the impact of differentiation (e.g. on the firm's operations, on profitability)							
Develop an integrated corporate and brand positioning strategy that is communicated to each market segment							
-Clearly **communicate** a unique value proposition for each target segment							
- **Test** positioning in the market to assess its value to the customers							
Collaborate with other market players in the positioning of offerings (e.g. via co-op advertising, co-branding, service contracts)							
Distinguish products/services that can be outsourced while still preserving positioning							
Understand the principles associated with brand extensions							
Manage positioning in global markets							
Tie brand equity to marketing ROI metrics							

Comments:

I. Sales integration	Supp.			Core			
(1= least important; 6= most important)	1	2	3	4	5	6	NR
Distinguish the role of marketing in different sales scenarios (e.g. Solutions selling, strategic selling, relationship selling)							
Effectively **communicate** the value proposition to the sales force							
Identify the respective roles of marketing and sales in the firm in order to better **integrate** the two functions							
Collaborate with sales management to:							
Align the marketing and the sales plans							
Integrate segmentation and targeting into the sales process							
Periodically **evaluate** the effectiveness of marketing efforts							
Assist in the design of compensation schemes for sales people to motivate them to achieve both the firms' sales and marketing objectives							
Leverage intelligence from sales							
develop strategies to **enhance** relationships with customers							
establish programs for customer retention							
Monitor the effectiveness of the sales force (e.g. by brand, by market segment)							

Comments:

III. Creating Value

In 2007, an exceptional B-to-B market manager should be able to:

J. Managing market offerings (1= least important; 6= most important)	Supp.			Core			NR
	1	2	3	4	5	6	
Recognize the role of service in differentiating offerings							
Build an offerings portfolio around customer needs and behaviors rather than technologies							
Develop bundling (de-bundling and re-bundling) strategies							
Establish a continuous offering improvement process							
Understand the customer's business processes in order to better **integrate** the firm's offerings into the customer's processes							
Discontinue ineffective offerings efficiently							
Distinguish different value criteria of international customers							
Rapidly **turn** customized solutions into offerings							

Comments *(please type comments in box):*

K. New Offering Development (1= least important; 6= most important)	Supp.			Core			NR
	1	2	3	4	5	6	
Involve marketing in the development process of new offerings from the fuzzy front end (project conception) to the launch							
Forecast:							
- market demand							
- competitive reaction to a new offering							
Involve all stakeholders (within the firm, the target segments and the channel) in the development of new offerings							
Create a process to **review** new offerings with decision gates at critical steps							
Assess the risk of failure of new offerings by identifying critical issues that could impact the success of new offering launches							
Estimate the impact of new offerings on current operations (e.g. selling, distribution channels, and customer service)							
Align new offerings with the brand positioning strategy							
Develop value propositions for new offerings based on benefits rather than offering features							
Balance resources required for product development (time to market) and market development (time to market penetration).							
Develop solutions which **integrate** the firm's offerings with those of partners and competitors (to maximize the offering's value)							
Continuously **streamline** the new offering development process							

Comments:

L. Channel Management (1= least important; 6= most important)	Supp.			Core			NR
	1	2	3	4	5	6	NR
Manage channel relationships							
Develop monitoring programs to **track** the effectiveness of channels							
-Evaluate alternative channels							
Formulate strategies to **address** channel conflict							
Develop processes to **assist** channels in adding value to the firm's product/service line							
Develop processes to **facilitate** communications between the channel members							
Optimize distribution by **combining** online (e.g. e-channels) and offline distribution channels							
Develop a process for automating response feedback on offers							

Comments:

IV. Delivering Value

In 2007, an exceptional B-to-B market manager should be able to:

M. Marketing Communications (1= least important; 6= most important)	Supp.			Core			NR
	1	2	3	4	5	6	NR
Manage integrated marketing communications that are aligned with offering positioning							
Develop a theme for the brand that can be built over time, evolving with market conditions							
Protect brand equity							
Solicit sales force input into marketing communications programs							
Design segment-specific communications taking into account cultural and regional differences							
Recommend programs for reinforcing brand values with all stakeholders (internal/external)							
-Select communications media to best deliver messages to targeted audience							
-Manage design issues (ie. trademark, logo...) associated with branding							
Monitor the effectiveness of marketing communications efforts in order to demonstrate a ROI							

Comments (please type comments in box):

N. Customer Relationship Management (CRM) (1= least imp.; 6= most imp.)	Supp.			Core			
	1	2	3	4	5	6	NR
Establish processes to **manage** company wide relationships							
Integrate all points of customer interaction (ie. account acquisition, account retention and shedding)							
Embed STP (Segmentation-Targeting-Positioning) into all aspects of CRM							
Establish processes to:							
-manage (capture, analyze and handle) customer feedback (ie. satisfaction, complaints, suggestions)							
-share the results of corrective actions with customers							
Integrate CRM and supply chain management							
Establish processes to **measure**:							
Customer satisfaction by segment							
Customer loyalty by segment							

Comments:

V. Personal competencies

In 2007, an exceptional B-to-B market manager should be able to:

O. Creativity and foresight (1= least important; 6= most important)	Supp.			Core			
	1	2	3	4	5	6	NR
Integrate ideas into hybrid solutions							
Anticipate change (i.e. its effects on business)							
Adapt to a changing business environment							
Experiment with innovative ideas using calculated risk							
Evaluate solutions that can streamline and optimize marketing processes							
Creatively **identify** market opportunities							

Comments (please type comments in box):

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P. Marketing Leadership (1= least important; 6= most important)	Supp.			Core			NR
	1	2	3	4	5	6	NR
Build strong cross functional relationships							
Align marketing team around a vision/strategy							
Manage multiple marketing projects simultaneously							
Demonstrate empathy for a wide cross-section of people (including customers and colleagues)							
Exhibit exceptional ability to settle conflicts							
Efficiently **delegate** work							
Effectively **manage** agency relationships (e.g. marketing research, Marketing communications)							
Behave ethically							

Comments:

Q. Business Acumen (1= least important; 6= most important)	Supp.			Core			NR
	1	2	3	4	5	6	NR
Justify marketing decisions in financial terms							
Understand global market dynamics							
Ensure that all functions within the organization understand the strategic role of marketing							
Address not only customer but also investor communications							
Recognize how technology impacts B-to-B marketing processes (i.e. markets, sales, channels, CRM)							

Comments:

Thank you for your participation

After rating the items:
1. Save this document to a known location on your disk (if filled out electronically).
2. Attach the file to an e-mail message and send it to allen1@psu.edu **-OR-** fax it back at (603) 720-0701.
3. Your responses are confidential. If you have any questions about the study, please contact Allen at allen1@psu.edu or call (814) 777-2587.

ISBM Business-to-Business Market Management Competencies Study

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Iteration 3 Questionnaire (expert practitioners)

Welcome to the last iteration of the study and thank you for participating in the first two rounds. Our goal is to identify the competencies that stellar business-to-business market managers should possess over the next five years. Since some of the competencies will be more critical than others, we need your help and expertise to refine the competencies into an inclusive yet concise set.

In this round, we will be refining the list of competencies that was rated in the second iteration. The results from the second iteration were used to design two separate surveys: one for the expert practitioners and the other for the academics. The analysis of the data showed that consensus was reached for about a third of the competencies rated during the second iteration. This round will only cover the competencies for which consensus was not clearly reached (the most controversial ones). We are asking you to rate these competencies once more, this time taking into consideration the ratings of the other expert practitioners.

Next to each competency, in the ratings area, you will find the following information:

- Shaded boxes indicating the "consensus range"

- Underlined box(es) indicating the central tendency within the "consensus range"

Here's an example:

A. Marketing Research	1	2	3	4	5	6
1 **Select** marketing objectives to be supported by Marketing Research						

in this case, the majority of the expert practitioners agree that the competency's rating is somewhere between 4 and 6 with central tendency at 5 and 6.

Directions- Envision a star performer, the best of the best, an exceptionally talented and outstandingly competent B-to-B market manager and the skills, abilities, attitudes or knowledge such an individual would exhibit. While considering each competency:

1. **Note the "consensus range" (shaded) and the central tendency (underlined) for the competency. Please note that these 2 measures are provided as a guide and you may choose to agree or disagree with them.**

2. **Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale (where 1= least important and 6= most important). Furthermore, ratings 1, 2 or 3 identify the competency as being "supplemental" (nice to have but not critical). Ratings 4, 5 or 6 classify the competency as "core".**

3. **After completing the survey, please return it as an e-mail attachment (preferable) to allen1@psu.edu or by fax at (603) 720-0701.**

Directions: Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale
- **1=** least important and **6=** most important
- **Ratings 1, 2 or 3** identify the competency as being "supplemental" (nice to have but not critical).
- **Ratings 4, 5 or 6** classify the competency as "core".

The following information from the second iteration is depicted:

- ▢ (Shaded) = "**consensus range**"

- ▨ (Underlined) = **central tendency** within the "consensus range".

I. Understanding Value

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core		
A. Marketing Research (MR)　(1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**
Understand the fundamentals of MR (know enough to **evaluate** expert advice)			▓	▓	▓	
Turn marketing research results **into** action plans					▓	▓
Develop a process to **measure** the Return On Investment of MR			▓	▓		

	Supp.			Core		
B. Data Management　(1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**
Set up a monitoring process that periodically provides feedback on vital marketing metrics			▓	▓	▓	
Understand the characteristics (i.e. limitations, strengths) of:						
-Quantitative research methods			▓	▓	▓	
-Qualitative research methods			▓	▓	▓	
Recognize instances when qualitative approaches can provide more insight than quantitative methods (e.g. probing customers' unmet needs)			▓	▓		
Manage a competitive intelligence program			▓	▓		

	Supp.			Core		
C. Harnessing Value　(1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**
Use the firms' core competencies to maximize value				▓	▓	▓
Effectively **use** alliances to create value			▓	▓		
Link value (market/customer) to financial performance (shareholder value)				▓	▓	▓
Assess the potential value of proprietary technologies				▓	▓	
Assess the value of intangibles (e.g. Relationships, brands, market intelligence)				▓	▓	

	Supp.			Core		
D. Value and Pricing (1= least important; 6= most important)	1	2	3	4	5	6
Calculate the total costs of offerings (e.g. manufacturing costs, service costs)			X	X	X	
Shift from traditional to value-based pricing models			X	X	X	X
Evaluate tradeoff opportunities for market share and price premiums				X	X	
Develop strategies for pricing bundled offerings			X	X		
Estimate the long-term effects of short-term pricing decisions				X	X	
Manage pricing over generations of an offering (e.g. penetration pricing, upgrade pricing)				X	X	
Develop a plan for global pricing				X	X	
Align pricing strategies with government regulations			X	X	X	
Monitor the effectiveness of pricing strategies over time				X	X	X

II. Strategy

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core		
E. Market planning (1= least important; 6= most important)	1	2	3	4	5	6
Analyze **"value webs"**			X	X	X	
Analyze **value chains**				X	X	X
-**identify** sources for developing sustainable competitive advantage				X	X	X
-**identify** sources of negative value (i.e. activities or customers that are draining value)				X	X	
Recognize opportunities to **build** profitable and sustainable cooperative networks			X	X	X	
Identify customers with high lifetime value				X	X	
Design dynamic marketing strategies that can be easily adapted to changing market conditions					X	X
Monitor competitors marketing efforts (i.e. segmentation, targeting, offerings, pricing) in order to adjust the firm's marketing strategy				X	X	X
Establish processes to measure the ROI of marketing efforts			X	X	X	X
-in terms of their impact on cash flow				X	X	X
-in terms of their impact on reducing risk for companies			X	X	X	

F. Market segmentation (1= least important; 6= most important)	Supp.			Core		
	1	2	3	4	5	6
Identify innovative market segmentation criteria to aggregate customers with similar needs and behaviors				▓	▓	▓
Develop innovative segmentation schemes that can be adapted to changing market conditions				▓	▓	▓
Identify the fundamental drivers of customer segments				▓	▓	▓
Establish performance metrics for each segment				▓	▓	
Link segmentation strategies to individual customer offerings				▓	▓	▓

G. Targeting (1= least important; 6= most important)	Supp.			Core		
	1	2	3	4	5	6
Define selection criteria for identifying *profitable segments*				▓	▓	▓
Allocate resources based on target segment potential				▓	▓	
Match segment-specific targeting strategy to overall corporate strategy				▓	▓	▓
Market the targeted segments *to* internal stakeholders (i.e. sales, communication, R & D, strategic planning…)			▓	▓	▓	
Implement targeting strategies *through* internal stakeholders (ie. sales, R&D, manufacturing)				▓	▓	▓
Devise a process to **track** changes in targeted segments in order to realign targeting strategy			▓	▓	▓	
Develop an understanding for target segments that goes beyond quantitative analyzes (e.g. live in your market as opposed to flying over it)				▓	▓	▓

H. Positioning (1= least important; 6= most important)	Supp.			Core		
	1	2	3	4	5	6
Compare the firms' competitive advantage (functional and perceptual) to its competitors'				▓	▓	▓
Evaluate the impact of differentiation (e.g. on the firm's operations, on profitability)			▓	▓	▓	
Develop an integrated corporate and brand positioning strategy that is communicated to each market segment				▓	▓	▓
-Clearly **communicate** a unique value proposition for each target segment					▓	▓
- **Test** positioning in the market to assess its value to the customers				▓	▓	▓
Distinguish products/services that can be outsourced while still preserving positioning		▓	▓	▓		
Understand the principles associated with brand extensions			▓	▓	▓	
Tie brand equity to marketing ROI metrics				▓	▓	

I. Sales integration (1= least important; 6= most important)	Supp. 1	2	3	Core 4	5	6
Distinguish the role of marketing in different sales scenarios (e.g. Solutions selling, strategic selling, relationship selling)			▓	▓	▓	▓
Identify the respective roles of marketing and sales in the firm in order to better **integrate** the two functions				▓	▓	▓
Collaborate with sales management to:						
Align the marketing and the sales plans					▓	▓
Integrate segmentation and targeting into the sales process				▓	▓	
Assist in the design of compensation schemes for sales people to motivate them to achieve both the firms' sales and marketing objectives			▓	▓	▓	
Leverage intelligence from sales				▓	▓	▓
develop strategies to **enhance** relationships with customers				▓	▓	
establish programs for customer retention				▓	▓	
Monitor the effectiveness of the sales force (e.g. by brand, by market segment)			▓	▓	▓	

III. Creating Value

In 2007, an exceptional B-to-B market manager should be able to:

J. Managing market offerings (1= least important; 6= most important)	Supp. 1	2	3	Core 4	5	6
Recognize the role of service in differentiating offerings				▓	▓	▓
Establish a continuous offering improvement process			▓	▓	▓	
Understand the customer's business processes in order to better **integrate** the firm's offerings into the customer's processes				▓	▓	▓
Discontinue ineffective offerings efficiently				▓	▓	▓
Rapidly **turn** customized solutions into offerings			▓	▓	▓	▓

		Supp.			Core		
K. New Offering Development (1= least important; 6= most important)		1	2	3	4	5	6
Involve marketing in the development process of new offerings from the fuzzy front end (project conception) to the launch					▓	▓	▓
Forecast:							
- market demand					▓	▓	▓
- competitive reaction to a new offering					▓	▓	▓
Involve all stakeholders (within the firm, the target segments and the channel) in the development of new offerings				▓	▓	▓	
Create a process to **review** new offerings with decision gates at critical steps					▓	▓	▓
Assess the risk of failure of new offerings by identifying critical issues that could impact the success of new offering launches					▓	▓	▓
Estimate the impact of new offerings on current operations (e.g. selling, distribution channels, and customer service)					▓	▓	
Align new offerings with the brand positioning strategy				▓	▓		
Balance resources required for product development (time to market) and market development (time to market penetration).				▓	▓	▓	
Develop solutions which **integrate** the firm's offerings with those of partners and competitors (to maximize the offering's value)				▓	▓	▓	

		Supp.			Core		
L. Channel Management (1= least important; 6= most important)		1	2	3	4	5	6
Manage channel relationships					▓	▓	▓
Develop monitoring programs to **track** the effectiveness of channels					▓	▓	
Develop processes to **assist** channels in adding value to the firm's product/service line				▓	▓	▓	
Develop processes to **facilitate** communications between the channel members					▓	▓	
Optimize distribution by **combining** online (e.g. e-channels) and offline distribution channels					▓	▓	
Develop a process for automating response feedback on offers				▓	▓	▓	

IV. Delivering Value

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core		
M. Marketing Communications (1= least important; 6= most important)	1	2	3	4	5	6
Manage integrated marketing communications that are aligned with offering positioning				▓	▓	▓
Develop a theme for the brand that can be built over time, evolving with market conditions			▓		▓	
Protect brand equity			▓		▓	▓
Design segment-specific communications taking into account cultural and regional differences			▓		▓	
Recommend programs for reinforcing brand values with all stakeholders (internal/external)			▓		▓	
-Select communications media to best deliver messages to targeted audience			▓	▓		
-Manage design issues (ie. trademark, logo…) associated with branding			▓	▓		
Monitor the effectiveness of marketing communications efforts in order to demonstrate a ROI			▓	▓	▓	▓

	Supp.			Core		
N. Customer Relationship Management (CRM) (1= least imp.; 6= most imp.)	1	2	3	4	5	6
Establish processes to **manage** company wide relationships			▓	▓	▓	▓
Integrate all points of customer interaction (ie. account acquisition, account retention and shedding)				▓	▓	▓
Establish processes to:						
-manage (capture, analyze and handle) customer feedback (ie. satisfaction, complaints, suggestions)			▓	▓	▓	▓
-share the results of corrective actions with customers			▓	▓	▓	▓
Integrate CRM and supply chain management		▓	▓	▓		
Establish processes to **measure**:						
Customer satisfaction by segment			▓	▓	▓	▓
Customer loyalty by segment				▓	▓	▓

V. Personal competencies

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core		
O. Creativity and foresight (1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**
Integrate ideas into hybrid solutions				▨	▨	▨
Experiment with innovative ideas using calculated risk				▨	▨	▨
Evaluate solutions that can streamline and optimize marketing processes				▨	▨	

	Supp.			Core		
P. Marketing Leadership (1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**
Align marketing team around a vision/strategy					▨	▨
Efficiently **delegate** work				▨	▨	▨
Effectively **manage** agency relationships (e.g. marketing research, Marketing communications)			▨	▨	▨	

	Supp.			Core		
Q. Business Acumen (1= least important; 6= most important)	**1**	**2**	**3**	**4**	**5**	**6**
Justify marketing decisions in financial terms				▨	▨	▨
Ensure that all functions within the organization understand the strategic role of marketing				▨	▨	▨
Recognize how technology impacts B-to-B marketing processes (i.e. markets, sales, channels, CRM)				▨	▨	▨

VI. Final comments (optional)

I would appreciate it very much if you could share your experience as a member of the expert panel:
- In your opinion, was the 3-iteration data collection process an effective means of identifying, rating and refining the competencies?
- Is there anything you particularly liked or disliked about the study?
- What could have been done to improve your overall experience?

Overall comments on the data collection approach:

Thank you for your participation

After rating the items:
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2. Attach the file to an e-mail message and send it to allen1@psu.edu
   -OR-
   print the document and fax it back at (603) 720-0701.
3. Your responses are confidential. If you have any questions about the study, please contact me at allen1@psu.edu or call (917) 622-3183.

The results will be mailed as soon as the analysis is completed.

ISBM Business-to-Business Market Management Competencies Study

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**Institute for
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Business Markets**

Iteration 3 Questionnaire (expert researchers/educators)

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Next to each competency, in the ratings area, you will find the following information:

- Shaded boxes indicating the "consensus range"

- Underlined box(es) indicating the central tendency within the "consensus range"

Here's an example:

A. Marketing Research	1	2	3	4	5	6
1 **Select** marketing objectives to be supported by Marketing Research						

in this case, the majority of the expert researchers/educators agree that the competency's rating is somewhere between 4 and 6 with central tendency at 5 and 6.

Directions- Envision a star performer, the best of the best, an exceptionally talented and outstandingly competent B-to-B market manager and the skills, abilities, attitudes or knowledge such an individual would exhibit. While considering each competency:

1. Note the "consensus range" (shaded) and the central tendency (underlined) for the competency. Please note that these 2 measures are provided as a guide and you may choose to agree or disagree with them.

2. Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale (where 1= least important and 6= most important). Furthermore, ratings 1, 2 or 3 identify the competency as being "supplemental" (nice to have but not critical). Ratings 4, 5 or 6 classify the competency as "core".

3. After completing the survey, please return it as an e-mail attachment (preferable) to allen1@psu.edu or by fax at (603) 720-0701.

Directions: Rate each item by placing an "X" in the appropriate space using the assigned 6-point scale
- **1**= least important and **6**= most important
- **Ratings 1, 2 or 3** identify the competency as being "supplemental" (nice to have but not critical).
- **Ratings 4, 5 or 6** classify the competency as "core".

The following information is depicted (based on data collected during the second iteration):

- ▨ (Shaded) **=** "**consensus range**"

- ▱ (Underlined) = **central tendency** within the "consensus range".

I. Understanding Value

In 2007, an exceptional B-to-B market manager should be able to:

				Supp.			Core		
A. Marketing Research (MR)	(1= least important; 6= most important)			**1**	**2**	**3**	**4**	**5**	**6**
Select marketing objectives to be supported by Marketing Research							▨	▨	▨
Formulate information requirements necessary to support marketing decisions							▨	▨_	▨
Understand the fundamentals of MR (know enough to **evaluate** expert advice)							▨	▨_	▨
Develop a process to **measure** the Return On Investment of MR						▨	▨	▨_	

				Supp.			Core		
B. Data Management	(1= least important; 6= most important)			**1**	**2**	**3**	**4**	**5**	**6**
Set up a monitoring process that periodically provides feedback on vital marketing metrics						▨	▨	▨	▨
Understand the characteristics (i.e. limitations, strengths) of quantitative research methods							▨_	▨_	
Recognize instances when:									
-Data mining can be advantageously used						▨	▨	▨_	
Effectively use data from various sources to **improve** marketing decisions								▨	▨
Manage a competitive intelligence program							▨_	▨_	

				Supp.			Core		
C. Harnessing Value	(1= least important; 6= most important)			**1**	**2**	**3**	**4**	**5**	**6**
Estimate the sustainability of sources of value								▨	▨
Use the firms' core competencies to maximize value								▨	▨
Link value (market/customer) to financial performance (shareholder value)							▨	▨_	▨
Assess the potential value of proprietary technologies						▨	▨_	▨	

D. Value and Pricing (1= least important; 6= most important)	Supp.			Core		
	1	2	3	4	5	6
Calculate the total costs of offerings (e.g. manufacturing costs, service costs)			�	▨	▨	
Understand various pricing approaches				▨	▨	▨
Shift from traditional to value-based pricing models					▨	▨
Calculate the "value-in-use" of offerings				▨	▨	
Evaluate tradeoff opportunities for market share and price premiums				▨	▨	
Develop strategies for pricing bundled offerings				▨	▨	▨
Implement pricing strategies in dynamic environments (uncertain demand and fluctuating capacity)			▨	▨	▨	
Manage pricing over generations of an offering (e.g. penetration pricing, upgrade pricing)				▨	▨	
Align pricing strategies with government regulations			▨	▨	▨	

II. Strategy

In 2007, an exceptional B-to-B market manager should be able to:

E. Market planning (1= least important; 6= most important)	Supp.			Core		
	1	2	3	4	5	6
Analyze **"value webs"**			▨	▨	▨	
Analyze **value chains**				▨	▨	▨
-**identify** sources for developing sustainable competitive advantage				▨	▨	▨
Assess potential factors that may help or hinder marketing objectives				▨	▨	
Design dynamic marketing strategies that can be easily adapted to changing market conditions				▨	▨	
Estimate staffing levels (e.g. skill sets) required to carry out marketing plan effectively			▨	▨	▨	
Formulate marketing plan with options (analyses and recommendations)				▨	▨	▨
Articulate marketing plans to all functional elements of the organization				▨	▨	▨
Establish processes to measure the ROI of marketing efforts				▨	▨	▨
-in terms of their impact on reducing risk for companies				▨	▨	

	Supp.			Core		
F. Market segmentation (1= least important; 6= most important)	1	2	3	4	5	6
Identify innovative market segmentation criteria to aggregate customers with similar needs and behaviors				■	■	■
Identify the fundamental drivers of customer segments					■	■
Establish performance metrics for each segment				■	■	■
Develop cost/profit models to serve each market segment				■	■	
Adapt segmentation scheme over product lifecycle			■	■	■	
Implement segmentation strategies through the sales organization				■	■	

	Supp.			Core		
G. Targeting (1= least important; 6= most important)	1	2	3	4	5	6
Manage segment specific marketing programs in order to **customize** marketing and sales efforts				■	■	■
Match segment-specific targeting strategy to overall corporate strategy				■	■	■
Market the targeted segments _to_ internal stakeholders (i.e. sales, communication, R & D, strategic planning…)			■	■		
Implement targeting strategies _through_ internal stakeholders (ie. sales, R&D, manufacturing)				■	■	

	Supp.			Core		
H. Positioning (1= least important; 6= most important)	1	2	3	4	5	6
Evaluate the impact of differentiation (e.g. on the firm's operations, on profitability)				■	■	■
Clearly **communicate** a unique value proposition for each target segment				■	■	■
Collaborate with other market players in the positioning of offerings (e.g. via co-op advertising, co-branding, service contracts)				■	■	
Understand the principles associated with brand extensions				■	■	
Distinguish products/services that can be outsourced while still preserving positioning			■	■	■	
Manage positioning in global markets				■	■	
Tie brand equity to marketing ROI metrics			■	■	■	

	Supp.			Core		
I. Sales integration (1= least important; 6= most important)	1	2	3	4	5	6
Distinguish the role of marketing in different sales scenarios (e.g. Solutions selling, strategic selling, relationship selling)			▩	▩	▩	
Effectively **communicate** the value proposition to the sales force				▩	▩	▩
Collaborate with sales management to:						
Align the marketing and the sales plans				▩	▩	▩
Integrate segmentation and targeting into the sales process				▩	▩	▩
Periodically **evaluate** the effectiveness of marketing efforts				▩	▩	
Assist in the design of compensation schemes for sales people to motivate them to achieve both the firms' sales and marketing objectives			▩	▩		
Leverage intelligence from sales				▩	▩	
develop strategies to **enhance** relationships with customers				▩	▩	
establish programs for customer retention				▩	▩	▩
Monitor the effectiveness of the sales force (e.g. by brand, by market segment)			▩	▩	▩	

III. Creating Value

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core		
J. Managing market offerings (1= least important; 6= most important)	1	2	3	4	5	6
Recognize the role of service in differentiating offerings				▩	▩	▩
Build an offerings portfolio around customer needs and behaviors rather than technologies					▩	▩
Develop bundling (de-bundling and re-bundling) strategies			▩	▩	▩	
Establish a continuous offering improvement process			▩	▩	▩	
Distinguish different value criteria of international customers				▩	▩	
Rapidly **turn** customized solutions into offerings			▩	▩	▩	

		Supp.			Core		
K. New Offering Development	(1= least important; 6= most important)	1	2	3	4	5	6
Involve marketing in the development process of new offerings from the fuzzy front end (project conception) to the launch					■	■	■
Involve all stakeholders (within the firm, the target segments and the channel) in the development of new offerings				■	■	■	
Create a process to **review** new offerings with decision gates at critical steps				■	■	■	
Balance resources required for product development (time to market) and market development (time to market penetration).				■	■	■	
Develop solutions which **integrate** the firm's offerings with those of partners and competitors (to maximize the offering's value)				■	■		
Continuously **streamline** the new offering development process				■	■	■	

		Supp.			Core		
L. Channel Management	(1= least important; 6= most important)	1	2	3	4	5	6
Develop monitoring programs to **track** the effectiveness of channels					■	■	
-Evaluate alternative channels					■	■	
Formulate strategies to **address** channel conflict					■	■	
Develop processes to **assist** channels in adding value to the firm's product/service line					■	■	■
Develop processes to **facilitate** communications between the channel members					■	■	
Develop a process for automating response feedback on offers				■	■	■	

IV. Delivering Value

In 2007, an exceptional B-to-B market manager should be able to:

		Supp.			Core		
M. Marketing Communications	(1= least important; 6= most important)	1	2	3	4	5	6
Manage integrated marketing communications that are aligned with offering positioning					■	■	■
Develop a theme for the brand that can be built over time, evolving with market conditions					■	■	
Solicit sales force input into marketing communications programs				■	■	■	
Design segment-specific communications taking into account cultural and regional differences				■	■		
Recommend programs for reinforcing brand values with all stakeholders (internal/external)					■	■	
-Select communications media to best deliver messages to targeted audience				■	■	■	
-Manage design issues (ie. trademark, logo...) associated with branding				■	■		

	Supp.			Core		
N. Customer Relationship Management (CRM) (1= least imp.; 6= most imp.)	1	2	3	4	5	6
Embed STP (Segmentation-Targeting-Positioning) into all aspects of CRM				▨	▨	▨
Establish processes to:						
-manage (capture, analyze and handle) customer feedback (ie. satisfaction, complaints, suggestions)			▨	▨	▨	
-share the results of corrective actions with customers				▨	▨	▨
Integrate CRM and supply chain management				▨	▨	
Establish processes to **measure**:						
Customer satisfaction by segment			▨	▨	▨	
Customer loyalty by segment				▨	▨	▨

V. Personal competencies

In 2007, an exceptional B-to-B market manager should be able to:

	Supp.			Core		
O. Creativity and foresight (1= least important; 6= most important)	1	2	3	4	5	6
Anticipate change (i.e. its effects on business)				▨	▨	▨
Adapt to a changing business environment				▨	▨	▨
Evaluate solutions that can streamline and optimize marketing processes				▨	▨	
Creatively **identify** market opportunities				▨	▨	▨

	Supp.			Core		
P. Marketing Leadership (1= least important; 6= most important)	1	2	3	4	5	6
Build strong cross functional relationships				▨	▨	▨
Align marketing team around a vision/strategy				▨	▨	
Demonstrate empathy for a wide cross-section of people (including customers and colleagues)				▨	▨	▨
Effectively **manage** agency relationships (e.g. marketing research, Marketing communications)			▨	▨	▨	▨
Behave ethically					▨	▨

Q. Business Acumen (1= least important; 6= most important)	Supp.			Core		
	1	**2**	**3**	**4**	**5**	**6**
Justify marketing decisions in financial terms					▓	▓
Understand global market dynamics			▓	▓	▓	
Address not only customer but also investor communications		▓	▓	▓	▓	
Recognize how technology impacts B-to-B marketing processes (i.e. markets, sales, channels, CRM)				▓	▓	▓

VI. Final comments (optional)

I would appreciate it very much if you could share your experience as a member of the expert panel:

- In your opinion, was the 3-iteration data collection process an effective means of identifying, rating and refining the competencies?
- Is there anything you particularly liked or disliked about the study?
- What could have been done to improve your overall experience?

Overall comments on the data collection approach:

Thank you for your participation

After rating the items:
1. Save this document to a known location on your disk.
2. Attach the file to an e-mail message and send it to allen1@psu.edu
   -OR-
   print the document and fax it back at (603) 720-0701.
3. Your responses are confidential. If you have any questions about the study, please contact me at allen1@psu.edu or call (917) 622-3183.

The results will be mailed as soon as the analysis is completed.

Appendix E

Identification of Kernel competencies

The tables in appendix E depict the distribution data for the 129 competencies that remained after the removal of the controversial competencies. Competencies that were identified as part of the kernel by one of the expert groups are highlighted in gray. Competencies that were identified as part of the kernel by both expert groups are identified by a "K" in the middle column. For a description of the competencies, please refer to appendix G.

	Expert Practitioners						Expert Educators/Researchers				
	Central tendency		Dispersion				Dispersion			Central tendency	
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median	
A1	5	5	5	5.25	0.25		1	6	5	5	5	A1
A2	5	5	4	5.5	1.5		0	5	5	5	5	A2
A4	6	6	5	6	1	K	1	6	5	6	6	A4
A5	3.5	3	3	5	2		1.5	5	3.5	4	4	A5
B1	5	5	4	5.25	1.25		1.5	6	4.5	5	5	B1
B2A	4	3	3	5	2		0.5	4.5	4	4	4	B2A
B2B	4	3	3	5	2		1.75	5	3.25	4	4	B2B
B3A	4	4	3.75	5	1.25		1.5	5	3.5	4	4	B3A
B3B	5	5	4	5	1		1	4	3	4	4	B3B
B5	4	4	3	5	2		1	5	4	5	4	B5
B6	5.5	6	5	6	1	K	0.75	6	5.25	6	6	B6
C1A	6	6	6	6	0	K	0.75	6	5.25	6	6	C1A
C1B	6	6	5	6	1		1	6	5	5	5	C1B
C2	5	5	3.75	6	2.25		1	6	5	5	5	C2
C4	5	5	4.75	6	1.25		1	6	5	6	6	C4
C5	5.5	6	5	6	1	K	1	6	5	6	6	C5
C6	4	4	3.75	5	1.25		1	5	4	5	5	C6
C7	5	5	4.75	6	1.25		1	6	5	5	5	C7
C8	4	5	3	5	2		0.5	3.5	3	3	3	C8
C9	4.5	5	4	5	1		1.75	5.75	4	5	5	C9
D1	4	3	3	5	2		1	4	3	3	3	D1
D3	5	6	4	6	2		1	6	5	6	6	D3
D5	5	5	4	5.25	1.25		1	5	4	5	5	D5
D6	5	5	4	5	1		1	5	4	4	5	D6
D7	5	5	5	6	1		1.5	5.75	4.25	5	5	D7
D8	5	4	4	6	2		1	5	4	5	5	D8
D9	5	5	4.75	5	0.25		0	5	5	5	5	D9
D10	5	5	4	5	1		1	5	4	4	4	D10
D11	4	4	3	4	1		1.5	5	3.5	4	4	D11
E1B	5	5	4	5	1		0.5	5	4.5	5	5	E1B
E1C	5	6	5	6	1		1	6	5	5	5	E1C
E1D	5	5	4	5.25	1.25		0	5	5	5	5	E1D
E2	4	4	4	5	1		1	5	4	5	5	E2
E3	5	5	4	5	1		0.5	5.5	5	5	5	E3
E4	5	5	5	6	1		1	6	5	5	5	E4
E5	5	5	4.75	6	1.25		0.75	5.75	5	5	5	E5
E6	5	5	4	6	2		1	5	4	4	4	E6
E7	5	5	4.75	6	1.25		1	6	5	6	5	E7
E8	6	6	4	6	2		1	6	5	6	6	E8
E9A	5	5	3.75	5	1.25		1.5	6	4.5	5	5	E9A

	Expert Practitioners					K	Expert Educators/Researchers					
	Central tendency		Dispersion				Dispersion			Central tendency		
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median	
E9C	4	3	3	5	2		1.5	5	3.5	5	4	E9C
F1	5	5	5	6	1		1	6	5	6	6	F1
F2	5	5	5	6	1		1	6	5	5	5	F2
F3	6	6	5	6	1	K	0.5	6	5.5	6	6	F3
F4	5	6	4	6	2		1	6	5	5	5	F4
F5	5	5	4	5.25	1.25		0.5	5.5	5	5	5	F5
F7	5	5	4	5	1		1	5	4	5	5	F7
F8	5	5	5	6	1		1	6	5	5	5	F8
G1	5	5	5	6	1		1	6	5	5	5	G1
G2	5	5	5	6	1		1	6	5	6	6	G2
G3	5	5	5	5.25	0.25		1	6	5	5	5	G3
G4	5	5	4	5.25	1.25		1	6	5	5	5	G4
G5	4.5	4	4	5	1		2	5	3	5	5	G5
G6	5	5	4.75	5	0.25		2	6	4	6	5	G6
G7	5	5	4	5	1		0.75	5	4.25	5	5	G7
G8	5	5	5	5.25	0.25		0	5	5	5	5	G8
H1	5	6	5	6	1		1	6	5	5	5	H1
H2	5	5	3	6	3		1.5	5.75	4.25	5	5	H2
H3A	5	6	4.5	6	1.5		0.75	5.75	5	5	5	H3A
H3B	6	6	5	6	1		1	6	5	5	5	H3B
H4	5	5	4.75	6	1.25		1.5	5.5	4	5	5	H4
H5A	5	5	4.75	5.25	0.5		1	5	4	5	5	H5A
H5B	5.5	5	5	6	1	K	0	6	6	6	6	H5B
H7	4	4	3	4	1		1	4	3	3	4	H7
H9	5	5	3	5	2		1.5	5.5	4	5	5	H9
I1	4	4	3.75	5	1.25		1.5	4.5	3	4	4	I1
I2	6	6	5	6	1	K	1	6	5	6	6	I2
I3	5	5	4	5.25	1.25		1.75	6	4.25	6	5.5	I3
I4A	6	6	5	6	1	K	1	6	5	6	6	I4A
I4B	6	6	5	6	1	K	1	6	5	6	6	I4B
I4C	5	5	4	6	2		0.5	5.5	5	5	5	I4C
I4D	3	3	3	4	1		1.5	5	3.5	5	4	I4D
I4E	5	5	4.75	6	1.25		1	5	4	5	5	I4E
I4F	5	5	4	6	2		1.5	6	4.5	5	5	I4F
I4G	5	5	4	6	2		1	6	5	5	5	I4G
I5	4	5	3.75	5	1.25		0.5	4.5	4	4	4	I5
J1	5	5	5	6	1		1	6	5	5	5	J1
J2	6	6	5	6	1	K	1	6	5	6	6	J2
J3	4	4	3.75	5.25	1.5		1.5	5	3.5	5	5	J3
J4	4.5	5	3	5	2		1	5	4	4	4	J4
J5	6	6	5	6	1		1	6	5	6	5	J5
J6	5	5	5	6	1		1.75	5.75	4	5	5	J6

	Expert Practitioners					K	Expert Educators/Researchers				
	Central tendency		Dispersion				Dispersion			Central tendency	
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median	
J7	5	5	4	5.25	1.25		1	5	4	5	5	J7
J8	4	4	4	5.25	1.25		1	5	4	5	5	J8
K1	5.5	6	5	6	1		1	6	5	6	5	K1
K2A	5	5	4	6	2		1	5	4	5	5	K2A
K2B	5	5	4	5	1		1	5	4	4	4	K2B
K3	4.5	5	4	5	1		2	5	3	5	5	K3
K4	5	5	4	5	1		2	5	3	3	4	K4
K5	5	5	5	6	1		1	5	4	4	4.5	K5
K6	4	4	4	5	1		1.75	5.75	4	4	4.5	K6
K7	5	5	4.75	5	0.25		1	5	4	5	5	K7
K8	5.5	6	4.75	6	1.25	K	1	6	5	6	6	K8
K9	4	4	4	5	1		1	5	4	5	5	K9
L1	4.5	5	3.75	5	1.25		1	6	5	5	5	L1
L2A	4	4	4	5	1		1	5	4	5	5	L2A
L2B	5	5	4	5	1		1	5	4	5	5	L2B
L3	4	4	4	5	1		1	5	4	4	5	L3
M1	5	5	5	6	1		1	5	4	5	5	M1
M2	5	5	5	5	0		0.5	5	4.5	5	5	M2
M3	5	5	5	5	0		0.75	5.75	5	5	5	M3
M4	4	4	3.5	5	1.5		1.5	5	3.5	4	4	M4
M5	5	5	4.75	5	0.25		2	5	3	5	4	M5
M6A	4.5	5	3.75	5	1.25		1	5	4	4	4	M6A
M6C	4	4	3	5	2		1	4	3	4	4	M6C
M7	4	4	3.75	5	1.25		1.75	5	3.25	5	5	M7
N3	4	4	3.75	5.25	1.5		1	6	5	5	5	N3
N4A	4.5	3	3	5.25	2.25		1	5	4	5	5	N4A
N4B	5	5	3	5	2		2	6	4	6	5	N4B
N6A	5	4	4	6	2		0	5	5	5	5	N6A
N6B	5	6	4	6	2		1	6	5	5	5	N6B
O1	4	4	4	5	1		1	5	4	5	5	O1
O2	6	6	5	6	1	K	1	6	5	6	6	O2
O3	6	6	5	6	1	K	0	6	6	6	6	O3
O4	5	5	4	5	1		1.5	5.75	4.25	5	5	O4
O5	5	5	4	5	1		1	5	4	5	5	O5
O6	6	6	5	6	1		1	6	5	5	5	O6
P1	6	6	5	6	1		0.5	5.5	5	5	5	P1
P2	5	5	5	6	1		1	6	5	5	5	P2
P3	5	5	4	5	1		1.75	5.75	4	5	5	P3
P4	5	4	4	5.25	1.25		1	6	5	6	5	P4
P5	5	5	3.5	5	1.5		1.75	5.75	4	4	4	P5
P7	4	3	3	5	2		1	5	4	4	4	P7
P8	6	6	6	6	0	K	1	6	5	6	6	P8

	Expert Practitioners						**Expert Educators/Researchers**				
	Central tendency		Dispersion				Dispersion			Central tendency	
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median
Q1	6	6	5	6	1	**K**	0.5	6	5.5	6	6 **Q1**
Q2	5	5	4	5	1		1	5	4	5	5 **Q2**
Q3	5	5	4.75	6	1.25		1	5	4	5	5 **Q3**
Q4	4	4	3	4	1		2.5	4.5	2	2	3 **Q4**
Q5	5	5	4	5	1		0.5	5	4.5	5	5 **Q5**

Appendix F

Identification of additional "core" competencies

The tables in appendix F depict the distribution data for the 114 competencies that remained after isolating the controversial and kernel competencies.

(1) Competencies that were identified as part of the kernel only by the educators are identified by a "Ke" in the middle column

(2) Competencies that were identified as part of the kernel only by the practitioners are identified by a "Kp" in the middle column

Competencies that were identified as "core" by the two expert groups are highlighted in gray. For a description of the competencies, please refer to appendix G.

	Expert Practitioners						Expert Educators/Researchers				
	Central tendency		Dispersion				Dispersion			Central tendency	
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median
A1	5	5	5	5.25	0.25		1	6	5	5	5 A1
A2	5	5	4	5.5	1.5		0	5	5	5	5 A2
A5	3.5	3	3	5	2		1.5	5	3.5	4	4 A5
B1	5	5	4	5.25	1.25		1.5	6	4.5	5	5 B1
B2A	4	3	3	5	2		0.5	4.5	4	4	4 B2A
B2B	4	3	3	5	2		1.75	5	3.25	4	4 B2B
B3A	4	4	3.75	5	1.25		1.5	5	3.5	4	4 B3A
B3B	5	5	4	5	1		1	4	3	4	4 B3B
B5	4	4	3	5	2		1	5	4	5	4 B5
C1B	6	6	5	6	1	Kp	1	6	5	5	5 C1B
C2	5	5	3.75	6	2.25		1	6	5	5	5 C2
C4	5	5	4.75	6	1.25	Ke	1	6	5	6	6 C4
C6	4	4	3.75	5	1.25		1	5	4	5	5 C6
C7	5	5	4.75	6	1.25		1	6	5	5	5 C7
C8	4	5	3	5	2		0.5	3.5	3	3	3 C8
C9	4.5	5	4	5	1		1.75	5.75	4	5	5 C9
D1	4	3	3	5	2		1	4	3	3	3 D1
D3	5	6	4	6	2	Ke	1	6	5	6	6 D3
D5	5	5	4	5.25	1.25		1	5	4	5	5 D5
D6	5	5	4	5	1		1	5	4	4	5 D6
D7	5	5	5	6	1		1.5	5.75	4.25	5	5 D7
D8	5	4	4	6	2		1	5	4	5	5 D8
D9	5	5	4.75	5	0.25		0	5	5	5	5 D9
D10	5	5	4	5	1		1	5	4	4	4 D10
D11	4	4	3	4	1		1.5	5	3.5	4	4 D11
E1B	5	5	4	5	1		0.5	5	4.5	5	5 E1B
E1C	5	6	5	6	1		1	6	5	5	5 E1C
E1D	5	5	4	5.25	1.25		0	5	5	5	5 E1D
E2	4	4	4	5	1		1	5	4	5	5 E2
E3	5	5	4	5	1		0.5	5.5	5	5	5 E3
E4	5	5	5	6	1		1	6	5	5	5 E4
E5	5	5	4.75	6	1.25		0.75	5.75	5	5	5 E5
E6	5	5	4	6	2		1	5	4	4	4 E6
E7	5	5	4.75	6	1.25		1	6	5	6	5 E7
E8	6	6	4	6	2	Ke	1	6	5	6	6 E8
E9A	5	5	3.75	5	1.25		1.5	6	4.5	5	5 E9A
E9C	4	3	3	5	2		1.5	5	3.5	5	4 E9C
F1	5	5	5	6	1	Ke	1	6	5	6	6 F1
F2	5	5	5	6	1		1	6	5	5	5 F2
F4	5	6	4	6	2		1	6	5	5	5 F4
F5	5	5	4	5.25	1.25		0.5	5.5	5	5	5 F5

	Expert Practitioners						Expert Educators/Researchers					
	Central tendency		Dispersion				Dispersion			Central tendency		
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median	
F7	5	5	4	5	1		1	5	4	5	5	F7
F8	5	5	5	6	1		1	6	5	5	5	F8
G1	5	5	5	6	1		1	6	5	5	5	G1
G2	5	5	5	6	1	Ke	1	6	5	6	6	G2
G3	5	5	5	5.25	0.25		1	6	5	5	5	G3
G4	5	5	4	5.25	1.25		1	6	5	5	5	G4
G5	4.5	4	4	5	1		2	5	3	5	5	G5
G6	5	5	4.75	5	0.25		2	6	4	6	5	G6
G7	5	5	4	5	1		0.75	5	4.25	5	5	G7
G8	5	5	5	5.25	0.25		0	5	5	5	5	G8
H1	5	6	5	6	1		1	6	5	5	5	H1
H2	5	5	3	6	3		1.5	5.75	4.25	5	5	H2
H3A	5	6	4.5	6	1.5		0.75	5.75	5	5	5	H3A
H3B	6	6	5	6	1	Kp	1	6	5	5	5	H3B
H4	5	5	4.75	6	1.25		1.5	5.5	4	5	5	H4
H5A	5	5	4.75	5.25	0.5		1	5	4	5	5	H5A
H7	4	4	3	4	1		1	4	3	3	4	H7
H9	5	5	3	5	2		1.5	5.5	4	5	5	H9
I1	4	4	3.75	5	1.25		1.5	4.5	3	4	4	I1
I3	5	5	4	5.25	1.25		1.75	6	4.25	6	5.5	I3
I4C	5	5	4	6	2		0.5	5.5	5	5	5	I4C
I4D	3	3	3	4	1		1.5	5	3.5	5	4	I4D
I4E	5	5	4.75	6	1.25		1	5	4	5	5	I4E
I4F	5	5	4	6	2		1.5	6	4.5	5	5	I4F
I4G	5	5	4	6	2		1	6	5	5	5	I4G
I5	4	5	3.75	5	1.25		0.5	4.5	4	4	4	I5
J1	5	5	5	6	1		1	6	5	5	5	J1
J3	4	4	3.75	5.25	1.5		1.5	5	3.5	5	5	J3
J4	4.5	5	3	5	2		1	5	4	4	4	J4
J5	6	6	5	6	1	Kp	1	6	5	6	5	J5
J6	5	5	5	6	1		1.75	5.75	4	5	5	J6
J7	5	5	4	5.25	1.25		1	5	4	5	5	J7
J8	4	4	4	5.25	1.25		1	5	4	5	5	J8
K1	5.5	6	5	6	1	Kp	1	6	5	6	5	K1
K2A	5	5	4	6	2		1	5	4	5	5	K2A
K2B	5	5	4	5	1		1	5	4	4	4	K2B
K3	4.5	5	4	5	1		2	5	3	5	5	K3
K4	5	5	4	5	1		2	5	3	3	4	K4
K5	5	5	5	6	1		1	5	4	4	4.5	K5
K6	4	4	4	5	1		1.75	5.75	4	4	4.5	K6
K7	5	5	4.75	5	0.25		1	5	4	5	5	K7
K9	4	4	4	5	1		1	5	4	5	5	K9

	Expert Practitioners						Expert Educators/Researchers				
	Central tendency		Dispersion				Dispersion			Central tendency	
	Median	Mode	Q1	Q3	IQR		IQR	Q3	Q1	Mode	Median
L1	4.5	5	3.75	5	1.25		1	6	5	5	5 L1
L2A	4	4	4	5	1		1	5	4	5	5 L2A
L2B	5	5	4	5	1		1	5	4	5	5 L2B
L3	4	4	4	5	1		1	5	4	4	5 L3
M1	5	5	5	6	1		1	5	4	5	5 M1
M2	5	5	5	5	0		0.5	5	4.5	5	5 M2
M3	5	5	5	5	0		0.75	5.75	5	5	5 M3
M4	4	4	3.5	5	1.5		1.5	5	3.5	4	4 M4
M5	5	5	4.75	5	0.25		2	5	3	5	4 M5
M6A	4.5	5	3.75	5	1.25		1	5	4	4	4 M6A
M6C	4	4	3	5	2		1	4	3	4	4 M6C
M7	4	4	3.75	5	1.25		1.75	5	3.25	5	5 M7
N3	4	4	3.75	5.25	1.5		1	6	5	5	5 N3
N4A	4.5	3	3	5.25	2.25		1	5	4	5	5 N4A
N4B	5	5	3	5	2		2	6	4	6	5 N4B
N6A	5	4	4	6	2		0	5	5	5	5 N6A
N6B	5	6	4	6	2		1	6	5	5	5 N6B
O1	4	4	4	5	1		1	5	4	5	5 O1
O4	5	5	4	5	1		1.5	5.75	4.25	5	5 O4
O5	5	5	4	5	1		1	5	4	5	5 O5
O6	6	6	5	6	1	Kp	1	6	5	5	5 O6
P1	6	6	5	6	1	Kp	0.5	5.5	5	5	5 P1
P2	5	5	5	6	1		1	6	5	5	5 P2
P3	5	5	4	5	1		1.75	5.75	4	5	5 P3
P4	5	4	4	5.25	1.25		1	6	5	6	5 P4
P5	5	5	3.5	5	1.5		1.75	5.75	4	4	4 P5
P7	4	3	3	5	2		1	5	4	4	4 P7
Q2	5	5	4	5	1		1	5	4	5	5 Q2
Q3	5	5	4.75	6	1.25		1	5	4	5	5 Q3
Q4	4	4	3	4	1		2.5	4.5	2	2	3 Q4
Q5	5	5	4	5	1		0.5	5	4.5	5	5 Q5

Appendix G

List of competencies identified through the Delphic process

A. Marketing Research (MR)

1	**Select** marketing objectives to be supported by Marketing Research
2	**Formulate** information requirements necessary to support marketing decisions
3	Understand the fundamentals of MR (know enough to **evaluate** expert advice)
4	**Turn** marketing research results **into** action plans
5	Develop a process to **measure** the Return On Investment of MR

B. Data Management

1	**Set up** a monitoring process that periodically provides feedback on vital marketing metrics
2	**Understand** the characteristics (i.e. limitations, strengths) of:
	-Quantitative research methods
	-Qualitative research methods
3	**Recognize** instances when:
	-Data mining can be advantageously used
	-Qualitative approaches can provide more insight than quantitative methods (e.g. probing customers' unmet needs)
4	Effectively use data from various sources to **improve** marketing decisions
5	**Manage** a competitive intelligence program
6	**Collaborate** with other functional leaders to ensure the inclusion of marketing data in the business decision-making process

C. Harnessing Value

1	**Recognize** what value is for:
	- the customer
	- customer's customer
2	**Estimate** the sustainability of sources of value
3	**Identify** customers with high lifetime value
4	**Understand** the firms' business model: how various operations combine efforts to create value for the customer
5	**Use** the firms' core competencies to maximize value
6	Effectively **use** alliances to create value
7	**Link** value (market/customer) to financial performance (shareholder value)
8	**Assess** the potential value of proprietary technologies
9	**Assess** the value of intangibles (e.g. Relationships, brands, market intelligence)

D. Value and Pricing

1	**Calculate** the total costs of offerings (e.g. manufacturing costs, service costs)
2	**Understand** various pricing approaches
3	**Shift** from traditional to value-based pricing models
4	**Calculate** the "value-in-use"[1] of offerings
5	**Evaluate** tradeoff opportunities for market share and price premiums
6	**Develop** strategies for pricing bundled offerings
7	**Estimate** the long-term effects of short-term pricing decisions
8	**Implement** pricing strategies in dynamic environments (uncertain demand and fluctuating capacity)
9	**Manage** pricing over generations of an offering (e.g. penetration pricing, upgrade pricing)
10	**Develop** a plan for global pricing
11	**Align** pricing strategies with government regulations
12	**Monitor** the effectiveness of pricing strategies over time

E. Market planning

1	**Analyze** "value webs"[2]
	Analyze value chains
	-**identify** sources for developing sustainable competitive advantage
	-**identify** sources of negative value (i.e. activities or customers that are draining value)
2	Recognize opportunities to **build** profitable and sustainable cooperative networks
3	**Assess** potential factors that may help or hinder marketing objectives
4	**Design** dynamic marketing strategies that can be easily adapted to changing market conditions
5	**Monitor** competitors marketing efforts (i.e. segmentation, targeting, offerings, pricing) in order to adjust the firm's marketing strategy
6	**Estimate** staffing levels (e.g. skill sets) required to carry out marketing plan effectively
7	**Formulate** marketing plan with options (analyses and recommendations)
8	**Articulate** marketing plans to all functional elements of the organization
9	**Establish** processes to measure the ROI of marketing efforts
	-in terms of their impact on cash flow
	-in terms of their impact on reducing risk for companies

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[1] Value of an offering which is used in a specific customer application
[2] Product eco-systems or value networks

F. Market segmentation

1	**Identify** innovative market segmentation criteria to aggregate customers with similar needs and behaviors
2	**Develop** innovative segmentation schemes that can be adapted to changing market conditions
3	**Identify** the fundamental drivers of customer segments
4	**Establish** performance metrics for each segment
5	**Develop** cost/profit models to serve each market segment
6	**Link** segmentation strategies to individual customer offerings
7	**Adapt** segmentation scheme over product lifecycle
8	**Implement** segmentation strategies through the sales organization

G. Targeting

1	**Define** selection criteria for identifying *profitable segments*
2	**Allocate** resources based on target segment potential
3	Manage segment specific marketing programs in order to **customize** marketing and sales efforts
4	**Match** segment-specific targeting strategy to overall corporate strategy
5	**Market** the targeted segments *to* internal stakeholders (i.e. sales, communication, R & D, strategic planning...)
6	**Implement** targeting strategies *through* internal stakeholders (ie. sales, R&D, manufacturing)
7	Devise a process to **track** changes in targeted segments in order to realign targeting strategy
8	**Develop** an understanding for target segments that goes beyond quantitative analyzes (e.g. live in your market as opposed to flying over it)

H. Positioning

1	**Compare** the firms' competitive advantage (functional and perceptual) to its competitors'
2	**Assess** current brand positions in targeted segments
3	**Develop** a strategy which will enable a firm to differentiate:
	-itself from its competitors
	-its offerings from its competitors
4	**Evaluate** the impact of differentiation (e.g. on the firm's operations, on profitability)
5	**Develop** an integrated corporate and brand positioning strategy that is communicated to each market segment
	-Clearly **communicate** a unique value proposition for each target segment
	- **Test** positioning in the market to assess its value to the customers
6	**Collaborate** with other market players in the positioning of offerings (e.g. via co-op advertising, co-branding, service contracts)
7	**Distinguish** products/services that can be outsourced while still preserving positioning
8	**Understand** the principles associated with brand extensions
9	**Manage** positioning in global markets
10	**Tie** brand equity to marketing ROI metrics

	I. Sales integration
1	**Distinguish** the role of marketing in different sales scenarios (e.g. Solutions selling, strategic selling, relationship selling)
2	Effectively **communicate** the value proposition to the sales force
3	Identify the respective roles of marketing and sales in the firm in order to better **integrate** the two functions
4	Collaborate with sales management to:
	Align the marketing and the sales plans
	Integrate segmentation and targeting into the sales process
	Periodically **evaluate** the effectiveness of marketing efforts
	Assist in the design of compensation schemes for sales people to motivate them to achieve both the firms' sales and marketing objectives
	Leverage intelligence from sales
	develop strategies to **enhance** relationships with customers
	establish programs for customer retention
5	**Monitor** the effectiveness of the sales force (e.g. by brand, by market segment)

	J. Managing market offerings
1	**Recognize** the role of service in differentiating offerings
2	**Build** an offerings portfolio around customer needs and behaviors rather than technologies
3	**Develop** bundling (de-bundling and re-bundling) strategies
4	**Establish** a continuous offering improvement process
5	Understand the customer's business processes in order to better **integrate** the firm's offerings into the customer's processes
6	**Discontinue** ineffective offerings efficiently
7	**Distinguish** different value criteria of international customers
8	Rapidly **turn** customized solutions into offerings

	K. New Offering Development
1	**Involve** marketing in the development process of new offerings from the fuzzy front end (project conception) to the launch
2	**Forecast**:
	- market demand
	- competitive reaction to a new offering
3	**Involve** all stakeholders (within the firm, the target segments and the channel) in the development of new offerings
4	Create a process to **review** new offerings with decision gates at critical steps
5	**Assess** the risk of failure of new offerings by identifying critical issues that could impact the success of new offering launches
6	**Estimate** the impact of new offerings on current operations (e.g. selling, distribution channels, and customer service)
7	**Align** new offerings with the brand positioning strategy
8	**Develop** value propositions for new offerings based on benefits rather than offering features
9	**Balance** resources required for product development (time to market) and market development (time to market penetration).
10	Develop solutions which **integrate** the firm's offerings with those of partners and competitors (to maximize the offering's value)
11	Continuously **streamline** the new offering development process

	L. Channel Management
1	**Manage** channel relationships
2	Develop monitoring programs to **track** the effectiveness of channels
	-Evaluate alternative channels
3	Formulate strategies to **address** channel conflict
4	Develop processes to **assist** channels in adding value to the firm's product/service line
5	Develop processes to **facilitate** communications between the channel members
6	Optimize distribution by **combining** online (e.g. e-channels) and offline distribution channels
7	**Develop** a process for automating response feedback on offers

M. Marketing Communications

1	**Manage** integrated marketing communications that are aligned with offering positioning
2	**Develop** a theme for the brand that can be built over time, evolving with market conditions
3	**Protect** brand equity
4	**Solicit** sales force input into marketing communications programs
5	**Design** segment-specific communications taking into account cultural and regional differences
6	**Recommend** programs for reinforcing brand values with all stakeholders (internal/external)
	-Select communications media to best deliver messages to targeted audience
	-Manage design issues (ie. trademark, logo…) associated with branding
8	**Monitor** the effectiveness of marketing communications efforts in order to demonstrate a ROI

N. Customer Relationship Management (CRM)

1	Establish processes to **manage** company wide relationships
2	**Integrate** all points of customer interaction (ie. account acquisition, account retention and shedding)
3	**Embed** STP (Segmentation-Targeting-Positioning) into all aspects of CRM
4	Establish processes to:
	-manage (capture, analyze and handle) customer feedback (ie. satisfaction, complaints, suggestions)
	-share the results of corrective actions with customers
5	**Integrate** CRM and supply chain management
6	Establish processes to **measure**:
	Customer satisfaction by segment
	Customer loyalty by segment

O. Creativity and foresight

1	**Integrate** ideas into hybrid solutions
2	**Anticipate** change (i.e. its effects on business)
3	**Adapt** to a changing business environment
4	**Experiment** with innovative ideas using calculated risk
5	**Evaluate** solutions that can streamline and optimize marketing processes
6	Creatively **identify** market opportunities

P. Marketing Leadership

1	**Build** strong cross functional relationships
2	**Align** marketing team around a vision/strategy
3	**Manage** multiple marketing projects simultaneously
4	**Demonstrate** empathy for a wide cross-section of people (including customers and colleagues)
5	**Exhibit** exceptional ability to settle conflicts
6	Efficiently **delegate** work
7	Effectively **manage** agency relationships (e.g. marketing research, Marketing communications)
8	**Behave** ethically

Q. Business Acumen

1	**Justify** marketing decisions in financial terms
2	**Understand** global market dynamics
3	**Ensure** that all functions within the organization understand the strategic role of marketing
4	**Address** not only customer but also investor communications
5	**Recognize** how technology impacts B-to-B marketing processes (i.e. markets, sales, channels, CRM)

Appendix H

Letters of support

ISBM

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the Study of
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American Safety
Andersen Consulting
Armco Inc.
Artesyn Technologies
AT & T
Beers Construction Company
BellSouth Corporation
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Eastman Chemical Company
Eastman Kodak Company
Eli Lilly
Exelon Corporation
ExxonMobil Company
Ferro Corporation
Foamex
Hercules Incorporated
Hewlett-Packard Company
Honeywell
Huntsman Polyurethanes
IBM Corporation
Indium Corporation
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Intel Corporation
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Lyondell
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NIST/Mfg. Ext. Partnership
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PPG Industries
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Scientific-Atlanta
Shell Chemical Company
Southern Company
Sprint
Sullair Corporation
Superior Essex Wire
Sybron Chemicals, Inc.
Teleflex
3M Company
Tredegar Film Products
Unisys Corporation
United Parcel Service
United States Postal Service
Uponor Aldyl Company
VerticalNet
Wabtec Corporation
Xerox Corporation

THE SMEAL COLLEGE
OF BUSINESS ADMINISTRATION

PENNSTATE

January 30, 2001

Mr. Allen C. Stines
Pennsylvania State University
409 Keller Building
University Park, PA 16802

Subject: Business-to-Business Marketing Competency Study

Allen:

For the record, this is to certify that we're working together on a project which will be of great importance to the Institute for the Study of Business Markets: the development of a business-to-business marketing management competency profile.

To date, we've been working through a preliminary literature search, and have done a comprehensive job of gathering inputs from several ISBM member firms and assembling them. Bob Donath, former editor of Business Marketing magazine, has assisted us in taking a "real world" look at what business-to-business marketing has historically been. We have a list of competencies—which is undoubtedly not complete, and based on past experience.

Our project will now "look forward" for the next 4-5 years, and build what might very well be the most comprehensive list ever developed of the competencies desirable in B-to-B marketers as we toward the middle of the decade.

We are working together on a modified Delphi process to accomplish this. I'll be working with you to secure respondents to the process from the Institute for the Study of Business Markets' membership base. I have worked with you to develop a trial edition instrument for this purpose, and it's my understanding that you have taken steps to gather the necessary approvals through the Office of Human Subjects.

Thank you very much for this work, Allen. It will be very important to ISBM member firms as we continue to grow skills, implement education and professional development programs, and build partnerships for the future.

Best regards,

Ralph A. Oliva
Executive Director, ISBM

An Equal Opportunity University

Honeywell

Elaine Harris
Director, Learning
Corporate Strategic Marketing

Honeywell Global Headquarters
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Morristown, New Jersey 07962

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December 7, 2000

Allen Stine
Professional Development Team
409 Keller Building
University Park, PA 16802-1304

Dear Allen:

Permission is being granted to you to use AlliedSignal/Honeywell marketing competency materials in your research study. We are very interested in the outcome of your work, which we believe will provide direction as to how these competencies must evolve so that our firm will be even more competitive in the future.

Regards,

Elaine

Vita

Allen C. Stines

EDUCATION
Ph.D. Workforce Education & Development
Dept. of Learning and Performance Systems - Penn State University (Dec 03)

M.S. Technological Systems Management
State University of New York at Stony Brook (May 98)

A.G.C. Advanced Graduate Certificate in Educational Computing
State University of New York at Stony Brook (December 97)

B.S. Business Management (Operations and technology)
  "   Applied Mathematics & Statistics (Double Major)
College of engineering and applied sciences - State University of New York at Stony Brook (Dec 96)

SELECTED PROFESSIONAL EXPERIENCE
HR Development strategy Consultant - (4/03-   )
World-wide strategic rollout of Competency-based initiative
UNICEF (New York Headquarters/United Nations, NY)

Professional Development Team, Trainer/Facilitator (98-2002)
Professional Personnel Development Center, University Park, PA

Assistant Director
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Researcher/ Consultant (99-2003)
ISBM B2B market management competency project
Institute for the study of Business Markets (ISBM), University Park, PA

Researcher/ Consultant (1/99-4/99)
Community Training Needs Assessment for St. Marys Area (PA)
Penn State University (Dubois/WFED University Park)

Researcher (9/98-12/98)
Behavioral Research Study, "Models for the workplace learner"

SELECTED TEACHING
Instructor/Lecturer
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Adjunct Lecturer/Faculty/Lead Instructor (97-98)
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