

**Dynamic Managerial Capabilities and Competitive Advantage:
An Empirical Analysis of Managers from the Finance and Insurance
and Real Estate Sectors**

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The month and year of submission:

November 2013

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Abstract

This thesis empirically investigated dynamic managerial capabilities (DMCs), which are the capacities that managers use to create, extend, and modify resources. The research objectives involved identifying, classifying, and assessing DMCs in generating competitive advantage using resource-based theory (RBT). The overall research aim was to build theory in a critical yet underdeveloped area of the literature. A multi-case study using a phenomenological approach was conducted with managers from five small-to-medium sized enterprises from the finance and insurance and real estate sectors. The managers were interviewed, and described episodes when they reconfigured resources during periods of rapid change (such as the recent financial crisis and recession) in order to compete. A survey questionnaire was also used in which respondents ranked DMCs, and discussed the joint uses of them, including which capabilities were used in developing and operating others. The results of the research showed that managers used specific transformational DMCs in periods of rapid change in order to generate advantage. The DMCs are learning-based (LBDMC) and innovation-based capabilities (IBDMC) and involve participative leadership (PL). They are mutually interdependent and reinforcing, impact on ordinary capabilities, and are evolutionarily fit. They exhibited commonalities, yet are considered idiosyncratic in detail. The results are relevant to the field of strategic management in terms of theory development and practical applicability. The academic contribution exploits a gap in the extant literature, and the research shows how DMCs can be developed, used, and maintained in practice.

Keywords: dynamic capabilities: dynamic managerial capabilities: asset orchestration:
resource-based view: strategic management: competitive advantage

Glossary of Key Terms and Concepts

“**Asset orchestration** (AO) refers to managerial search, selection, and configuration/coordination of resources and capabilities” (Helfat et al., 2007, p. 121).

“**Capability** can be operational or dynamic, and refers to the *capacity* to perform a particular task, function, or activity” (Helfat et al., 2007, p. 121, emphasis original).

“**Capabilities** [are] a subset of a firm’s resources, defined as tangible and intangible assets, that enable the firm to take full advantage of other resources it controls” (Barney & Hesterly, 2012, p. 347).

“**Capacity** refers to the ability to perform the task, function, or activity in at least a minimally acceptable manner” (Helfat et al., 2007, p. 121).

“**Competitive advantage** holds when a *resource* or *capability* (or set of resources and capabilities) creates relatively more *value* than do comparable resources and capabilities of competing organizations” (Helfat et al., 2007, p. 121, emphasis original).

Competitive intangibles are capabilities a manager uses individually or collectively. They include such things as learning and innovation-based capabilities as well as leadership style, such as participative approaches.

“**Dynamic capability** (DC) is the *capacity* of an organization to purposefully create, extend, or modify its *resource base*, and consists of a patterned and somewhat practiced activity” (Helfat et al., 2007, p. 121, emphasis original).

“For analytical purposes, **dynamic capabilities** can be disaggregated into the capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and when necessary, reconfiguring the business enterprise’s intangible and tangible assets” (Teece, 2007, p. 4).

Dynamic innovation strategy is the firm’s theory about how to gain competitive advantage in periods of significant change by managing a culture of innovation. It involves developing the capacity to create, extend, and/or modify resources using learning and innovation-based DMCs and participative leadership as a part of a holistic framework.

“Dynamic managerial capability (DMC) refers to the *capacity* of managers to create, extend, or modify the *resource base* of an organization” (Helfat et al., 2007, p. 121, emphasis original).

Entrepreneur initiates and responds to change in the internal and external environment, and looks to exploit opportunities for potential wealth creation and capture. The entrepreneur converts knowledge into innovation, and harmonizes resources and capabilities in so doing.

Entrepreneurial management involves development and use of learning and innovation-based capabilities and participative leadership.

“Evolutionary fitness (EF) refers to how well a *dynamic capability* enables an organization to make a living by creating, extending, or modifying its *resource base*. Influences on evolutionary fitness include *technical fitness*, competition, and market demand” (Helfat et al., 2007, p. 121, emphasis original).

Finance and insurance and real estate sectors refers to accounting, banking, insurance and investment firms (finance and insurance sector), and real estate firms, as in the NAICS (North American Industrial Classification System), formerly the SIC (Standard Industrial Classification) system.

Innovation is to make changes to something established (e.g., new methods, ideas, products, and/or processes).

Innovation-based dynamic managerial capability (IBDMC) refers to the capacity of managers to make changes to something established (e.g., by introducing new ideas, methods, products, and/or services) in order to create, extend, or modify the resource base of an organization.

It involves the process of translating ideas or inventions into goods/services that create value for which customers will pay. The idea of entrepreneurial management is an important aspect of this capability.

Learning-based dynamic managerial capability (LBDMC) refers to the capacity of managers to use the acquisition of knowledge (tacit or intuitive and explicit knowledge) or skills through experience, practice, or study, or by being taught, in order to create, extend, or modify the resource base of an organization.

It includes managerial know-how, and goes beyond problem solving, and is used to

transform the system, as it exists. It involves lifelong learning and fostering learning in the organization.

Making strategy work (MSW) “is a process for connecting the high-level strategic plan to the day-to-day activities critical to its delivery and identifying the changes to be made in order to deliver the strategic objectives” (Roberts & MacLennan, 2003, p. xi).

“**Operational capability** is any type of *capability* that an organization uses in an effort to earn a living in the present” (Helfat et al., 2007, p. 122, emphasis original).

Participative leadership (PL) is when the manager allows employees to be engaged in the strategic process of the firm and to be involved in the decision-making it entails. It is more of a democratic, as opposed to autocratic, approach to leadership (e.g., employees are a valued part of the team).

The notion that employees can participate actively in the managerial process, and in so doing help realize personal and firm goals, is a critical component of this capability.

DMC Portfolios involve using two or more DMCs together in order to create, extend, or modify resources. The idea of dynamic portfolios is analogous to the language of finance in that it invokes the idea of a range of investments in assets (e.g., managerial capabilities referred to as competitive intangibles) used toward competitive advantage.

“**Relational capability** (RC) is a type of *dynamic capability* that refers to the *capacity* of the firm to purposefully create, modify or extend the firm’s *resource base*, augmented to include the resources of partners” (Helfat et al., 2007, p. 122, emphasis original).

“**Resource** in the broadest sense is anything upon which the organization can draw in an effort to accomplish its aims. In a narrower sense, a resource is a tangible, intangible, or human asset upon which an organization can draw” (Helfat et al., 2007, p. 122).

“**Resource base** of an organization includes tangible, intangible, and human assets (or resources), as well as capabilities that the organization owns, controls, or has access to on a preferential basis” (Helfat et al., 2007, p. 122).

“**[R]esource-based view** (RBV) [is] a model of firm performance that focuses on the resources and capabilities controlled by a firm as sources of competitive advantage” (Barney & Hesterly, 2012, p. 352).

Resource heterogeneity is when some managers and firms are better at doing

something than another.

Resource immobility is when resources (and capabilities) controlled by a firm (or its manager) may not spread to other firms.

Resource-based theory (RBT) uses the literature of the resource-based view to inform how internal resources and capabilities are critical, such as in terms of generating competitive advantage.

Small-to-medium sized enterprise (SME). There are a myriad of metrics used to determine whether a firm is an SME. For the purposes of this research, an SME is 250 employees or less (adopting the European Union (EU) standard).

“**Strategy** is the *direction* and *scope* of an organization over the *long term*, which achieves *advantage* in a changing *environment* through its configuration of *resources* and *competences* with the aim of fulfilling *stakeholder* expectations” (Johnson et al., 2008, p. 857, emphasis original).

Strategic management involves realizing strategies (deliberate or emergent) through planning, organizing, leading, and controlling.

Structure-conduct-performance model (SCP) is the theory that the industry structure (S), determines the firm’s conduct (C), which determines performance (P).

“**Sustainable advantage** from resources and capabilities is a *competitive advantage* that persists in the face of competitive efforts to duplicate the *value* created by a *resource* or *capability* (or set of resources or capabilities)” (Helfat et al., 2007, p. 122, emphasis original).

“**Technical fitness** (TF) denotes how effectively a *capability* performs its intended function (its quality) when normalized (divided by) by its cost” (Helfat et al., 2007, p. 122, emphasis original).

Transformational capabilities are those that impact on ordinary capabilities (i.e., LBDMC, IBDMC, and PL).

“**VRIO framework** [consists of] four questions that must be asked about a resource or capability to determine its competitive potential: the questions of value, rarity, imitability and organization” (Barney & Hesterly, 2012, p. 354).

Dedication

This work is dedicated to: my parents, Jerry and Elsie Bellner, who always taught me that I can do anything I put my mind to; my wife and children, Joan, Eric, and Megan Bellner, who are always there with love for me and each other; my grandparents, Bill and Edna Hoen, who showed me the importance of putting my best effort into all that I do in the spirit of caring for others; my uncle, Maurice Hogan, and my aunt, Donna Marie Flory, who each fostered a love for teaching and lifelong learning. Thank you all for providing a wonderful source of inspiration.

Acknowledgements

I would like to acknowledge my mentors, Professor Bill Wallace and Professor Andrew MacLennan, at Edinburgh Business School, Heriot-Watt University, along with my supervisor, Donald MacLean, Professorial Research Fellow, University of Glasgow, Adam Smith, School of Business. Thank you for your help and guidance. Thank you also to Tiffany R. Bussey, Director at the Morehouse College Entrepreneurship Center, and to my students, Austin M. Miller, and Wenbo Chen, undergraduates in Economics at The Ohio State University, and Thomas Thulesen, then a visiting scholar from Copenhagen Business School, now pursuing a Master in Management degree at London Business School. Thank you all for your useful comments and valued advice. I would also like to thank Donna Wenzel for proofreading the literature review chapters and the final draft of the thesis. To the students in the classes I taught at The Ohio State University and Qingdao University—thank you all for teaching me so much!

ACADEMIC REGISTRY

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Version: <i>(i.e. First, Resubmission, Final)</i>	First	Degree Sought (Award and Subject area)	DBA (Strategic Focus)

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- 3) the thesis is the correct version of the thesis for submission and is the same version as any electronic versions submitted*.
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Signature of Candidate:	<i>Bruce W. Bellner</i>	Date:	November 12, 2013
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Submission

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Signature of Individual Submitting:	<i>Bruce W. Bellner</i>
Date Submitted:	November 12, 2013

For Completion in the Student Service Centre (SSC)

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Chapter 1: Introduction and Overview

1.1 Introduction

This chapter provides an introduction to the research conducted in this thesis. It begins with the research overview (section 1.2) that summarizes the research conducted, derived from the critical literature gap discovered in the literature review. This is followed by the research question, aim, and objectives that address the literature gap (section 1.3), and the methods used to satisfy them (section 1.4). The significance of the research is then presented (section 1.5), and the chapter concludes with an outline of the remaining thesis chapters to follow (section 1.6).

1.2 Research Overview

The concept of dynamic capabilities (DCs) was developed in order to provide a framework to understand how firms achieve and sustain competitive advantage when faced with rapidly changing environmental conditions. It was a framework developed to build theory on firm performance, and inform managerial practice (Teece et al., 1997, p. 509). Dynamic capability (DC) is defined as the “*capacity* of an organization to purposefully create, extend, or modify its *resource base*, and consists of a patterned and somewhat practiced activity” (Helfat et al., 2007, p. 121, emphasis original).

The literature on DCs has attracted attention in the field of strategic management, and there have been many significant contributions (Teece et al., 1997; Eisenhardt & Martin, 2000; Amit & Zott, 2001; Zahra & George, 2002; Zollo & Winter, 2002); however, there is a critical literature gap with respect to research into the managerial capacity to create, extend, or modify resources (Helfat et al., 2007) during periods of significant environmental change toward achieving and sustaining competitive advantage.

Leading scholars have called for research into managerial capabilities as they relate to achieving and sustaining competitive advantage (Adner & Helfat, 2003; Helfat et al., 2007; Teece, 2007; Augier & Teece, 2009), and research into dynamic managerial capabilities (DMCs) has begun to address this, although there have been very few studies conducted. The literature review, inclusive of more than 50 studies appearing in top management journals from 1997-2013 on the subject of DCs, for example, found only four studies that researched dynamic managerial capability (DMC).

This critical literature gap is addressed here by providing empirical research into the subject of DMCs and competitive advantage. The term DMC is defined as “the *capacity* of managers to create, extend, or modify the *resource base* of an organization” and “competitive advantage holds when a *resource* or *capability* (or set of resources and capabilities) creates relatively more *value* than do comparable resources and capabilities of competing organizations” (Helfat et al., 2007, p. 121, emphasis original).

1.3 Research Question, Aim, and Objectives

The research question, aim, and objectives were derived from a review of extant literature and are reflective of the critical literature gap addressed here.

The research question is as follows:

- What DMCs are used in practice during episodes of significant external environmental change toward generating competitive advantage?

The research aim is as follows:

- The overall research aim is to build substantive theory into DMCs by answering the research question and satisfying the research objectives.

The research objectives are as follows:

- The research objectives include identifying DMCs by using and testing constructs put forth in the extant literature.
- The research objectives include classifying DMCs, as used by managers in practice, during episodes of change.
- The research objectives include assessing DMC classifications in generating competitive advantage using resource-based theory (RBT) and the VRIO model.

1.4 Research Methodology

The research methodology was designed to satisfy the research aim and objectives and answer the research question that empirically examines what DMCs are used in practice during episodes of significant external environmental change toward achieving and sustaining competitive advantage.

The multi-case study involved inductive theory building. This involved researching managers of firms using the case method (Yin, 2009). The term “case study” as used here is defined as an “intensive analysis” with the managers as the focal unit (Stake, 2008; Flyvberg, 2011).

The multi-case study was conducted with five small-to-medium enterprises (SMEs), representing an insurer, a bank, an accounting service, a real estate agency, and an investment advisor. Five cases are considered sufficient in terms of generating qualitative data (Eisenhardt, 1989).

The SMEs and the managers selected were a purposeful sample (Merriam, 2009) in that the selection criteria involved managers of SMEs that had experienced significant external environmental change, and demonstrated competitive advantage, and would therefore have a propensity for DMCs, making them useful to research.

The data collected in the multi-case study included both primary and secondary data, and relied on semi-structured interviews conducted with each of the managers of the SMEs. The interview data were supplemented with documentary evidence, such as e-mail, business reports, and news accounts.

The data were collected and analyzed using the constant comparison method (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). This involved collecting and analyzing data, comparing these with other data, and comparing all with the literature to establish patterns, develop themes, and build theory (Glaser & Strauss, 1967).

The results from the case study were used to formulate propositions tested in a survey. The survey questionnaire was sent to managers of firms in the finance and insurance and real estate sectors. The respondent data were compared to the case study findings in order to build theory.

The research conducted used a phenomenological approach in that it consisted of quasi-judicial sense making of qualitative, case-based data, as derived primarily from semi-structured interviews, and was further developed with the use of a survey questionnaire in order to build theory.

1.5 Research Significance

“There is nothing more practical than good theory,” wrote Lewin (1945, p. 129). The research conducted on managerial capabilities is significant in that it informs both theory and practice because it exploits a critical gap in the extant literature using and testing and developing constructs that are readily adaptable to strategic management.

The research problem addressed here is critical because “without considering whether and how executives act in ways that purposefully create, extend, and modify its [the firm’s] resource base in a value creating manner, discussion of dynamic capabilities

risks remaining in the abstract, removed from the lifeblood of organizational life” (Helfat et al., 2007, p. 46).

1.6 Outline of Thesis

The research conducted in this thesis contains the following chapters:

Chapter 1: Introduction and Overview

The chapter provides an overview of the chapters to follow and highlights the critical areas of the research on DMCs, including the research problem as derived from the literature review; the research question, aim, and objectives; an overview of the methodology used; and research significance.

Chapter 2: Literature Review and Synthesis

The chapter provides a review of extant DC literature inclusive of the literature of the strategic management paradigms that are influential to it. This is followed by a review of the studies conducted on DMCs. The literature gap is shown, and is followed by the literature synthesis with the research question, aim, and objectives.

Chapter 3: Research Design and Methodology

The chapter describes the research design and methodology used to satisfy the research aim and objectives and answer the research question. This includes assessment of research paradigms, the methodology chosen, developing the sample design, providing details of the data collection processes, and ethical considerations.

Chapter 4: Data Collection and Analysis: Case Study

The chapter describes the data collection and analysis for the case study. The types of data collected are discussed and the process flow model is shown. Then the chapter shows where and how DMCs were identified, then classified, and assessed in terms of generating competitive advantage.

Chapter 5: Data Collection and Analysis: Survey Study

The chapter describes the data collection and analysis for the survey study. The process is outlined first, followed by a report of a pilot study. The formulation and testing of propositions follows, then the data generated from the survey is presented and assessed.

Chapter 6: Contributions to Theory and Practice

The identification, classification, and assessment of DMCs in terms of the ability to generate competitive advantage are presented in this chapter, as are the important

contributions to theory and practice from the thesis research for those involved in the field of strategic management.

Chapter 7: Results and Conclusions

The results and conclusions chapter begins with a review of the research question, aim, and objectives. This is followed by the research results from the case study and survey results. The limitations and areas for additional research are discussed, and the final conclusions are then presented.

1.7 Summary

This chapter has provided an introduction to the research on DMCs. It has given an overview to the research, the literature gap, the research question, aim, and objectives and the methodology used to satisfy them, the research significance, and also an outline of the thesis chapters to follow.

Chapter 2: Literature Review and Synthesis

2.1 Introduction

This chapter provides the literature review relevant to the subject of DMCs. The literature of strategic management has conceptualized that performance (i.e., competitive advantage) is determined by two factors: (1) industry effects and (2) firm effects. Industry effects relate to the underlying economic structure of the industry, while firm effects relate to managerial actions. Empirical research has shown the industry a firm is in determines 20% of profitability, but firm effects account for up to 55%, with the remaining 25% accounted for by other variables such as business fluctuations and unexplained variance (Wernerfelt, 1989; Rumelt, 1991; McGahan & Porter, 1997; Misangyi et al., 2006; Rothaermel 2013, 2015).

The following literature review includes a review and critique of the influential literature streams (section 2.2) that are relevant with respect to industry and firm analysis, including the industrial organization (IO) model, which focuses on the industry forces, and the resource-based view (RBV), which focuses on the importance of internal resources and capabilities of the firm. The DC literature (section 2.3), which was originally positioned relative to the IO and RBV literatures, is then reviewed, followed with the DMC literature, which is derived from the DC literature (section 2.4). The literature review includes identification of the critical literature gap (section 2.5) with respect to DMCs that exists. The literature review and synthesis with the research question, aim, and objectives is then presented (section 2.6).

2.2 Influential Strategy Paradigms

There are two influential paradigms (Akwei, 2007; Wang & Ahmed, 2007; Barreto, 2010) that seek to explain how strategic management can be used in firms toward achieving and sustaining competitive advantage that prefaced the DC approach: the IO model, which focuses primarily on (external) industry structure; and the RBV, which focuses on (internal) resources and capabilities of firms. The RBV was positioned in the literature relative to the IO model, which came before it, and the DC approach was positioned relative to the RBV, building on earlier resource-based theory (RBT).

2.2.1 Industrial Organization Approach

The IO approach examines the structure of, and boundaries between, firms and markets, and builds on the theory of the firm (Tirole, 1988). The approach has intellectual roots in writings of Mason (1939, 1949) and Bain (1956, 1968), whose works were drawn on to develop a general model of how industries are organized, and whose work became of interest to academicians and practitioners later in the field of strategic management, as some industries appeared to be more profitable than others.

The IO literature was originally developed in response to neo-classical economic theory to some extent, and was then adapted to the field of strategic management. The IO approach, as referred to in the context of strategic management, therefore, uses theory developed in the field of economics as applied for use in business and corporate strategy. The approach is predicated on the idea that strategy “should be based on the market structure in which firms operate” (Mintzberg et al., 1998, p. 100).

The literature has put forth ideas developed in response to the economics of perfectly competitive market structures (Schmalensee, 1987), as to include real-world imperfectly competitive ones. This included monopolistically competitive markets (Chamberlin, 1933; Robinson, 1933) in which product differentiation was possible, as well as markets characterized as oligopoly and monopoly, where above normal economic profits could be earned as economic rent to the entrepreneur net of opportunity cost, due to such things as barriers to entry and exit.

The IO approach uses theory as developed in applied microeconomics to model supply/demand and to assess internal firm organization and market strategy. It has included industry concentration studies. Game-theoretic approaches to strategic interaction of firms have been developed. The approach includes developments in transaction cost economics (Coase, 1937), and uses research on the analysis of asymmetric information, adverse selection, moral hazard, and principal-agent problems (Stigler, 1961; Akerlof, 1970; Spence, 1973). The literature is further inclusive of research into how market structure could be influenced by public policy, given that policies dealing with antitrust law (Posner, 2001), taxes and subsidies, and price regulation could impact an industry.

The IO approach as it relates to the field of strategic management considers these areas as influencing competitive advantage. By obtaining information regarding, for

example, demand and supply conditions, market structure, and public policy, a manager theoretically could develop conduct commensurate with strategy (e.g., such things as pricing ability, research and development [R&D], and marketing decisions would be better informed), and the resultant competitive strategy would therefore use these tools toward profit maximization in a given industry. This logic describes what is referred to within the IO framework as the structure-conduct-performance paradigm (SCP). The SCP logic establishes a link between developments in the field of IO, and principles of strategic management.

The SCP paradigm asserts that market performance is derived from market conduct (strategy), which in turn is dependent on market structure. It was adapted to strategic management by Porter (1980), in the influential book *Competitive Strategy: Techniques for Analyzing Industries and Competitors* whose “five forces” model is essentially a modified version of the IO and SCP principles (Thomas & Pollock, 1999; Porter, 1981). The forces include the (1) threat of new entrants, (2) rivalry among existing firms, (3) threat from substitute products or services, and the relative bargaining power of (4) buyers, and of (5) suppliers (Porter, 1980). The framework is useful in analyzing competitive rivalry and the attractiveness of a particular market, and it provides ways in which the strategist can analyze an industry in terms of profit potential.

Figure 2.1 Porter’s Five Forces



Source: Adapted from Porter (1980).

2.2.1.1 Limitations to the IO/SCP Approach

The IO/SCP approach, including the forces model, has been and continues to be influential in the field of strategic management, yet the IO/SCP approach brings with it some limitations. For example, the writings that underpin the original IO framework were written for purposes other than strategic management (e.g., to provide economic models on market structures, and/or inform public policy). This has led to some misperceptions, and misplaced criticism of the IO paradigm, as well as the IO literature having to be “translated” into the literature of strategic management.

A further criticism is that the models used in the IO approach are designed to establish a statistically meaningful relationship between industry structure and market power, and so the various industry structure measures used in the models are exogenous (e.g., of, relating to, or developing from external factors), and industry structure is seen to impact on firm performance, but not the other way around—a limitation to the approach addressed with the research conducted here, given that the IO framework does not develop the idea of internal resources and capabilities as impacting on firm performance. Industry-level versus firm-level effects, as noted above, are both relevant to achieving and sustaining competitive advantage, and studies have found both industry effects (Schmalensee, 1985; McGahan & Porter, 1997) and firm-level effects relevant to performance (Hansen & Wernerfelt, 1989; Rumelt, 1991; Mauri & Michaels, 1998; Caloghirou et al., 2004).

The research conducted for this thesis recognizes the importance of the former, yet acknowledges that “the focus of strategy analysis” has “shifted from the sources of profit in the external environment to the sources of profit within the firm” as “[i]ncreasingly the resources and capabilities of the firm [are] regarded as the main source of competitive advantage and the primary basis for formulating strategy” (Grant, 2010, p. 16). The literature of the RBV and RBT examine firm-level effects of using resources and capabilities. The RBV was positioned relative to the IO/SCP literature and is examined next.

2.2.2 Resource-Based View

The resource-based view (RBV) was put forth originally by Wernerfelt (1984) and popularized by Barney (1991). It is inclusive of other, earlier work in the field of strategic management with regard to distinctive competencies of the firm (Selznick, 1957; Ansoff, 1965; Andrews, 1971). The RBV focuses on internal resources and capabilities as critical in achieving and sustaining competitive advantage. Penrose (1959), whose work has been very influential in shaping the RBV, posited, “the resources with which a particular firm is accustomed to working will shape the productive services its management is capable of rendering” (p. 5). The RBV provides a framework, discussed in the following sections, that has shown empirically that internal resources and capabilities are sources of competitive advantage in firms. The DC and DMC literature streams have built on the RBV. The constructs and definitions from the RBV literature used here are presented in the table below.

Table 2.1 RBV Constructs and Definitions

RBV Construct	Construct Definition
Resource-based view (RBV)	The “RBV [is] a model of firm performance that focuses on the resources and capabilities controlled by a firm as sources of competitive advantage” (Barney & Hesterly, 2012, p. 352).
Resources	“[R]esources [are] the tangible and intangible assets that a firm controls, which can be used to conceive and implement its strategies” (Barney & Hesterly, 2012, p. 352).
Capabilities	“[C]apabilities [are] a subset of a firm’s resources, defined as tangible and intangible assets, that enable the firm to take full advantage of other resources it controls” (Barney & Hesterly, 2012, p. 347).
Resource base	The “[r]esource base of an organization includes tangible, intangible, and human assets (or resources), as well as capabilities that the organization owns, controls, or has access to on a preferential basis” (Helfat et al., 2007, p. 122).
Competitive advantage	“Competitive advantage holds when a <i>resource</i> or <i>capability</i> (or set of resources and capabilities) creates relatively more <i>value</i> than do comparable resources and capabilities of competing organizations” (Helfat et al., 2007, p. 121, emphasis original).
Sustained competitive advantage	“[S]ustained competitive advantage [is] a competitive advantage that lasts for a long period of time; [and is] an advantage that is not competed away through strategic imitation” (Barney & Hesterly, 2012, p. 353).

2.2.2.1 Resource Classifications

The firm’s resources can be classified into four broad categories, which include (1) financial, (2) physical, (3) individual, and (4) organizational resources (Becker, 1964; Williamson, 1975; Tomer, 1987; Barney, 1991). The firm’s resource base includes both resources and capabilities (Helfat et al., 2007). A distinction can be made between resources and capabilities in that resources have been described in terms of what a firm has, and capabilities in terms of what it can do (Grant, 2010), although a capability is considered a resource in the broad sense of the term. Examples are provided in the table below.

Table 2.2 Types of Resources

<i>Tangible Resources</i>	
Financial	<ul style="list-style-type: none"> • Firm's cash and cash equivalents • Firm's capacity to raise equity • Firm's borrowing capacity
Physical	<ul style="list-style-type: none"> • Modern plant and facilities • Favorable manufacturing locations • State-of-the-art machinery and equipment
Technological	<ul style="list-style-type: none"> • Trade secrets • Innovative production processes • Patents, copyrights, trademarks
Organizational	<ul style="list-style-type: none"> • Effective strategic planning process • Excellent evaluation and control systems
<i>Intangible Resources</i>	
Human	<ul style="list-style-type: none"> • Experience and capabilities of employees • Trust • Managerial skills • Firm-specific practices and procedures/culture
Innovation and Creativity	<ul style="list-style-type: none"> • Technical and scientific skills • Innovation capacities
Reputation	<ul style="list-style-type: none"> • Brand name • Reputation with customers for quality and reliability • Reputation with suppliers for fairness, non-zero-sum relationships
<i>Organizational Capabilities</i>	
<ul style="list-style-type: none"> • Firm competences or skills the firm employs to transfer inputs to outputs • Capacity to combine tangible and intangible resources, using firm processes to attain desired end 	
Examples	
<ul style="list-style-type: none"> • Outstanding customer service • Excellent product development capabilities 	<ul style="list-style-type: none"> • Innovativeness or products and services • Ability to hire, motivate, and retain human capital

Sources: Adapted from Barney (1991); Grant (2010); Dess et al. (2011); Barney and Hesterly (2012); and Hitt et al. (2013).

2.2.2.2 The VRIO Model

The RBV is underpinned by two critical assumptions. They are (1) resource heterogeneity, or the idea that different firms have access to and possess different bundles of resources and capabilities, and (2) the notion of resource immobility, or the fact that some resource and capability differences may be long lasting because it is costly for other firms without these resources and capabilities to develop or acquire them.

The research conducted for this thesis focuses empirically on the relationship between DMCs and competitive advantage. Competitive advantage is derived from resources that are valuable, rare, imperfectly imitable, and organized (VRIO). These are key “attributes of firm resources” that “can be thought of as empirical indicators of how heterogeneous and immobile a firm’s resources are and thus how useful these resources are for generating sustained competitive advantage” (Barney, 1991, p. 106).

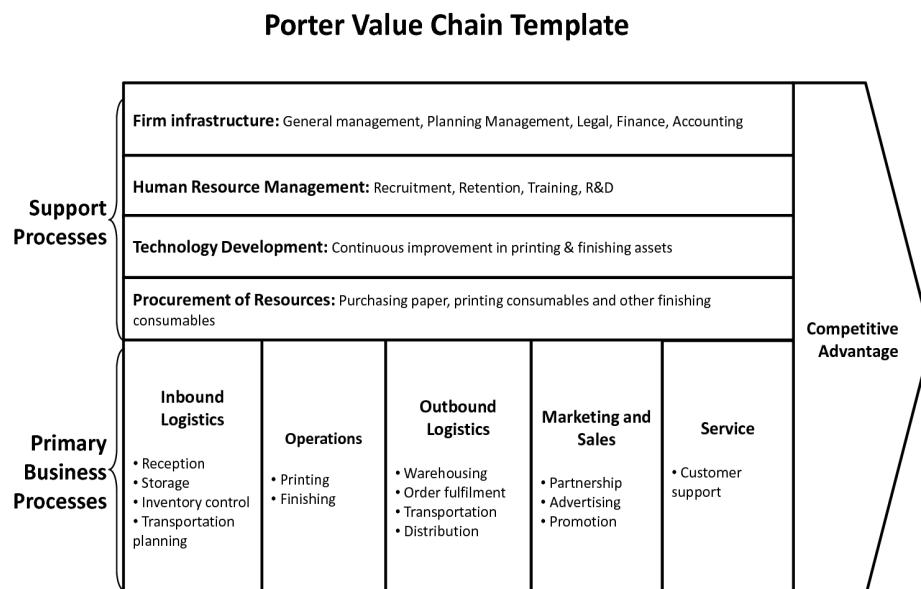
The VRIO framework asks four questions in order to assess the competitive potential of a resource or capability and is used to assess DMCs in this thesis:

- (1) “**The Question of Value:** Does a resource enable a firm to exploit an environmental opportunity, and/or neutralize an environmental threat?”
- (2) “**The Question of Rarity:** Is a resource currently controlled by only a small number of competing firms?”
- (3) “**The Question of Imitability:** Do firms without a resource face a cost disadvantage in obtaining or developing it?”
- (4) “**The Question of Organization:** Are a firm’s other policies and procedures organized to support the exploitation of its valuable, rare, and costly-to-imitate resources?”

Source: Adapted from Barney and Hesterly (2012).

First, the question of value examines whether resources enable a firm to exploit an opportunity or neutralize a threat; if so, they are valuable and considered strengths; if not, they are considered weaknesses. The question of value may be hard to answer sometimes because it may be difficult to know whether using particular resources enables the firm to exploit external opportunities or neutralize external threats. In this situation, value chain analysis (Porter, 1985) can be conducted in order to better understand the value of resources and capabilities in converting inputs (e.g., resources) into outputs (e.g., goods and/or services), and critical activities that relate to reconfiguration of resources (Table 2.2). The strategist can then focus on value-creating primary and support activities, in which the firm can address strengths or weaknesses in any one or combination of activities (Barney, 1991).

Figure 2.2 Porter’s Value Chain



Source: Adapted from Porter (1985).

Second, the question of rarity is one that examines whether the resource is being controlled by a small number of firms. Barney and Hesterly (2012, p. 76) noted that “as long as the number of firms that possess a particular valuable resource or capability, is less than the number of firms needed to generate perfect competition dynamics in an industry,” then it is a resource or capability that “can be considered rare,” and it is also a “potential source of competitive advantage.”

Third, the question of imitability examines whether firms without a resource face a cost disadvantage in obtaining the resource. Imitability can take the form of duplication or substitution. If a competitor can duplicate the resources and capabilities used, or if a competitor can produce a substitute good or service, the competitive advantage to the original firm would be temporary, especially if the price of the substitute good or service is less, as this would cause demand to decrease for the good or service imitated.

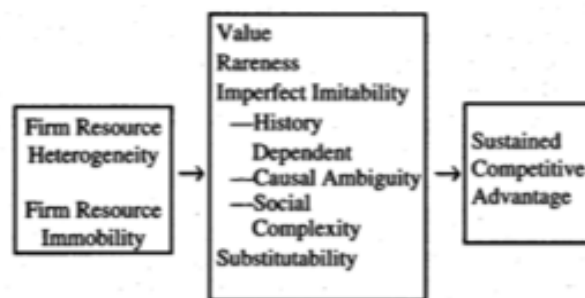
The firm’s resources and capabilities may be imperfectly imitable due to what are called isolating mechanisms (Rumelt, 1984; Mahoney & Pandian, 1992; Peteraf, 1993) that inhibit the competition from duplicating the underlying competitive advantages they generate (Rumelt, 2011, p. 175). Isolating mechanisms include such things as unique historical conditions (Dierickx & Cool, 1989), first-mover advantages (Lieberman & Montgomery, 1988), and path dependence (Arthur, 1994).

The firm’s resources and capabilities can also be imperfectly imitable due to causal ambiguity (Reed & DeFillippi, 1990), occurring when the source of the firm’s competitive advantage is unknown (Lippman & Rumelt, 1982; Peteraf, 1993). Causal ambiguity stems from the fact that it may not be just one or even a few resources and capabilities that generate competitive advantage. There may be literally hundreds or thousands of organizational attributes, which are bundled together in such a way as to generate these advantages.

Resources and capabilities may also be imperfectly imitable due to social complexity, which is when the source of competitive advantage may be identified, (e.g., corporate culture), but it may be very difficult for firms that lack the specific resource or capability to replicate it (Barney, 1986; Teece, 1987; Winter, 1987), due to the myriad social interactions used in the development and use of the resource. Social complexity includes the interpersonal relations among managers or employees in a firm (Hambrick, 1987) and such things as trust between management and employees (Amit & Schoemaker, 1993), as well as other costly to imitate social resources.

Fourth, the valuable, rare, and inimitable resources and capabilities must be properly organized. This involves establishing the strategy/structure relationship as relevant in the allocation of scarce resources (Kay, 2011) in order to seize the competitive potential they generate. This therefore involves establishing criteria that relate to the firm's mission and vision, the internal and external environ, and alignment of strategy in terms of critical activities that are needed to align it with the organizational design and structure (Rothaermel, 2013).

Figure 2.3 Barney's RBV and VRIO Relationship



Source: Adapted from Barney (1991).

Thus, the VRIO questions provide a framework for assessing the likelihood of resources and capabilities toward achieving and/or sustaining competitive advantage in firms. If a resource or capability is not valuable, it is a weakness. If it is valuable, but not rare, then the firm can achieve at least competitive parity using it, but if it is both valuable and rare, the firm can achieve a temporary competitive advantage. If however, it is also inimitable and also exploited by the organization, the competitive implications of using the resource or capability are a more sustainable competitive advantage.

Table 2.3 Application of VRIO

Application of VRIO					
Valuable?	Rare?	Costly to Imitate?	Exploited by the Organization?	Strength or Weakness	Competitive Implications/ Economic Profit
No	-	-	No	Weakness	Disadvantage/ Below Normal
Yes	No	-		Strength	Parity/ Normal
Yes	Yes	No		Strength and Distinctive Competence	Temporary Advantage/ Temporarily Above Normal
Yes	Yes	Yes	Yes	Strength and Sustainable Distinctive Competence	Sustained Advantage/ Above Normal

Sources: Adapted from Barney (1991) and Barney and Hesterly (2012).

2.2.2.3 Criticisms of RBV

The RBV is one of the most influential strategic management paradigms, and informs managerial theory and practice. Many significant contributions have been made (Wernerfelt, 1984; Barney, 1991, 2001a, 2001b; Mahoney & Pandian, 1992; Peteraf, 1993; Teece et al., 1997; Priem & Butler, 2001a, 2001b; Helfat & Peteraf, 2003; Hoopes et al., 2003; Newbert, 2007). Meta-analysis research conducted has shown support for the RBV to the extent that organizations that possess strategic resources achieve positive performance (Crook et al., 2008, p. 1141).

The RBV influence is based, in part, on the precept that the “core message is appealing, easily grasped, and easily taught” (Kraaijenbrink et al., 2010, p. 350), yet this also provides a basis for criticisms leveled against the RBV framework. Porter (1994, p. 445) for example, noted that, “at its worst the resource-based view is circular. Successful firms are successful because they have unique resources. They should nurture these resources to be successful.” Priem and Butler (2001b, p. 58) have put forth similar criticisms, referring to aspects of the RBV as being tautological, criticizing the VRIO criteria.

“Our argument is that the RBV statement ‘if a resource is valuable and rare, then it can be a source of competitive advantage’ is necessarily true by logic (i.e., a tautology) if ‘valuable’ and ‘competitive advantage’ are defined in the same terms. For example, if valuable resources are defined as those increasing efficiency and/or effectiveness, and competitive advantage is defined as achieving increases in efficiency and/or effectiveness, a tautology exists.”

Barney (2001a) responded with “the fact Priem and Butler are able to restate parts of the 1991 argument in ways that make it tautological is not the same thing as demonstrating that the argument is, in fact, tautological” and it “is important to recognize that at this definitional level, all strategic management theories are tautological in the way Priem and Butler describe” (p. 41), while Makadok (2001b) noted the general inefficacy of targeted retrospective criticisms of certain aspects of the RBV, given a much wider and robust literature.

There are additional criticisms, however, that center on the idea that the RBV is less effectual as a dynamic framework (Eisenhardt & Martin, 2000). Priem and Butler (2001a) wrote that although there have been dynamic approaches to the RBV emphasizing change over time (citing Penrose, 1959; Wernerfelt, 1984; Dierickx & Cool, 1989), “much of the subsequent literature has been static in concept” (p. 33), and

Kraaijenbrink et al. (2010) contended that the RBV could be made into a more “viable theory of competitive advantage, especially if is moved into a more genuinely dynamic framework” (p. 349). (A more “dynamic” framework with respect to the DC and DMC literature is presented in the following section.)

The DC, and subsequent DMC literature builds on the RBV, which provides a cogent framework that includes important insights on the link between a firm’s resources and capabilities, and how these resources and capabilities can be evaluated in terms of the firm’s ability to achieve and sustain competitive advantage using them (i.e., the VRIO framework), as is done here. The RBV literature does however, need to develop empirical research with respect to the endogenous creation of new resources by firms, and the capacities (e.g., managerial) used to do so. Thus, there are aspects of the RBV that can be built upon. For example, what the RBV does not get at specifically is how ordinary resources and capabilities are impacted by what are called dynamic capabilities and dynamic managerial capabilities.

2.3 Dynamic Capabilities

The section begins with a general overview of DC research (section 2.3.1), followed by how DCs have been defined (section 2.3.2), and the definitions put forth and used in this thesis. The conceptual and empirical studies that have appeared in top management journals from 1997-2013 are then reviewed (section 2.3.3). This is followed by a discussion of the intellectual core DC research (section 2.3.4). The limitations to the DC literature are presented (section 2.3.5), including as they relate to DMCs. The literature on DMCs is discussed in the following section and then synthesized with the research question, aim, and objectives as put forth in the first chapter of this thesis.

2.3.1 Overview

In their seminal article, *Dynamic Capabilities and Strategic Management*, Teece et al. (1997) stated “the fundamental question in the field of strategic management is how firms achieve and sustain competitive advantage” (p. 509). They posited the answer lies in the DC approach. The framework they developed was a response, in part, to the literature on strategic management, which they noted was “replete with analysis of firm-level strategies for sustaining and safeguarding extant competitive advantage, but has performed less well with respect to assisting in the understanding of how and why certain firms build competitive advantage in regimes of rapid change” (p. 516).

The literature on DCs is expansive, and it reflects earlier writings that helped influence it. The literature includes ideas on entrepreneurial capitalism, “creative destruction” and innovation (Schumpeter, 1934, 1942); the importance of firm-level resources and growth of the firm (Penrose, 1952, 1959); competences (Selznick, 1957; Learned et al., 1965); bounded rationality (Simon, 1947, 1955; March & Simon, 1958); organizational learning (Argyris & Schön, 1978); “dynamic manufacturing” and organizational learning (Hayes et al., 1988); evolutionary theories of economic change (Nelson & Winter, 1982); developing strategic capabilities (Prahalad, 1983); the RBV of the firm (Wernerfelt, 1984; Barney, 1991); technological innovation and technological change (Teece, 1986, 1988); invisible assets (Itami & Roehl, 1987); core competences (Prahalad & Hamel, 1990); core capabilities and core rigidities (Leonard-Barton, 1992); and architectural competence (Henderson & Cockburn, 1994).

In their article on DCs, Teece et al. (1997) noted the importance of developing further empirical research on the subject. Since then, many significant contributions have been made (Helfat, 1997; Eisenhardt & Martin, 2000; Amit & Zott, 2001; Galunic & Eisenhardt, 2001; Makadok, 2001a; Rindova & Kotha, 2001; Wright et al., 2001; Daneels, 2002; Zahra & George, 2002; Zollo & Winter, 2002; Adner & Helfat, 2003; Benner & Tushman, 2003; Helfat & Peteraf, 2003; Verona & Ravasi, 2003; Winter, 2003; Menguc & Auh, 2006; Helfat et al., 2007; Rothaermel & Hess, 2007; Teece, 2007, 2009; Ambrosini & Bowman, 2009; Di Stefano et al., 2010; Kor & Mesko, 2013).

2.3.2 Definitions of DCs and DMCs

According to the *Oxford American Dictionary* (Ehrlich et al., 1980) the term “dynamic” is an adjective, meaning “of force producing motion (as opposed to static)” (p. 200) and the term “capability” is a noun that means “competent” and “having a certain ability or capacity” (p. 91). The literature on DCs has produced many interpretations as to what DCs are. The following definitions are representative of the literature:

“Dynamic capabilities are the subset of the competences/capabilities which allow the firm to create new products and processes and respond to changing market circumstances” (Teece & Pisano, 1994b, p. 6).

Dynamic capabilities are the “firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece et al., 1997, p. 516).

“The firm’s processes to use resources—specifically the processes to integrate, reconfigure, gain and release resources—to match and even create market change; dynamic capabilities thus are the

organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die” (Eisenhardt & Martin, 2000, p. 1107).

“A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness” (Zollo & Winter, 2002, p. 340).

“[O]ne can define dynamic capabilities as those that operate to extend, modify or create ordinary capabilities” (Winter, 2003, p. 991).

“[T]he abilities to reconfigure a firm’s resources and routines in the manner envisioned and deemed appropriate by its principal decision maker(s)” (Zahra et al., 2006, p. 918).

“Dynamic capability is the *capacity* of an organization to purposefully create, extend, or modify its *resource base*, and consists of a patterned and somewhat practiced activity” (Helfat et al., 2007, p. 121, emphasis original).

“Dynamic managerial capability refers to the *capacity* of managers to create, extend, or modify the *resource base* of an organization” (Helfat et al., 2007, p. 121, emphasis original).

“For analytical purposes, dynamic capabilities can be disaggregated into the capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise’s intangible and tangible assets” (Teece, 2007, p. 1319).

“Dynamic capabilities are an organization’s abilities to renew and recreate its strategic capabilities to meet the needs of a changing environment” (Johnson et al., 2008, p. 107).

“The ability to sense and then seize new opportunities, and to reconfigure and protect knowledge assets, competencies, and complimentary assets with the aim of achieving sustained competitive advantage” (Augier & Teece, 2009, p. 412).

“A dynamic capability is the firm’s potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base” (Barreto, 2010, p. 271).

The definitions refer to competences, capabilities, processes, resources, routines, and also the ability to sense and shape opportunities and threats, as well as to maintain competitiveness, to be able to reconfigure assets with an aim of sustainable competitive advantage, and to be able to systematically solve problems. The myriad definitions of DCs have produced difficulties in researching them.

The definitions used by Helfat et al. (2007), as developed by senior scholars in the field of strategic management, with respect to both DCs and DMCs, are used here. They avoid the tautologies inherent in some and/or the vagueness of others, are cogent, operational, have been supported in the DC literature, and reflect the most recent

developments in it (Sirmon & Hitt, 2009). The definitions have been tested successfully in the research conducted for this thesis at a theoretical level, and importantly, are readily adaptable to managerial practice (Martin, 2011).

2.3.3 Conceptual and Empirical Studies

The conceptual and empirical studies reviewed for this thesis are represented in the table below. The articles were searched for the terms dynamic capabilities and/or dynamic managerial capabilities in the title or abstract. The search involved the use of the database *Business Source Complete*, which is considered the most comprehensive database for business publications, with more than 1,300 academic journals, and it is updated daily. There were approximately 557 scholarly (peer-reviewed) journal articles that appeared on the subject of DCs or DMCs from 1997-2013. (The year 1997 was when the seminal article by Teece et al. (1997) appeared, and the literature re-review and synthesis was completed during 2013.)

The articles in the table below represent articles that appeared in Grade Four academic journals (Harvey et. al., 2010). These are top tier journals, reflecting the highest quality academic business research in the categories of general management, management science, organization science, and strategic management. They include the *Academy of Management Review*, *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Management*, *Journal of Management Studies*, *British Journal of Management*, *Management Science*, *Organization Science*, and the *Strategic Management Journal*.

There were 80 articles appearing in these journals from 1997-2013 and 50 of them are represented below, including the intellectual core. The 50 articles in the table below are inclusive of 28 empirical studies, 21 conceptual studies, and 1 simulation study, and represent the DC and DMC literature to date. Note that the literature review was not limited to the publications or articles represented in the table below, and the review process included a variety of other sources that have informed the research question, aim, and objectives as shown in the references section. They include other journal articles from peer-reviewed journals that are not Grade Four, (such as Grade Three journals) and also relevant books and articles such as published by senior scholars in the field of strategic management, as well as working papers and doctoral level dissertations.

Table 2.4 DC Research from 1997-2013

<i>Author(s)/ Date</i>	<i>Type of Study</i>	<i>Sample/ Data Source</i>	<i>Key Issue(s) Examined</i>	<i>Results/ Conclusions</i>
Adner & Helfat (2003)	Empirical	30 companies from the U.S. petroleum industry 1977-1997; archival data from the <i>Wall Street Journal</i>	DMCs	Corporate strategy and manager's decisions significant regarding firm performance; introduced concept of DMCs underpinned by managerial human capital, managerial social capital, and managerial cognition.
Amit & Zott (2001)	Empirical	59 American and European e-businesses; case studies	Theoretical foundations of value creation	"[E]fficiency, complementarities, lock-in, and novelty" are four interdependent dimensions for value creation potential (p. 494).
Aragón-Correa & Sharma (2003)	Conceptual		Role of firm's resources and capabilities in proactive environmental strategy	Link between DC of proactive environmental strategy and competitive advantage may not be positive depending on general business environment; recommended continuous "outside-in" learning to reduce uncertainty (p. 84)
Argote & Ren (2012)	Conceptual		Microfoundational aspects of DCs include integrating knowledge assets	Noted "transactive memory" is a "microfoundation of dynamic capabilities" and that a "system for collectively encoding, storing, and retrieving knowledge can facilitate the combinative integration and renovation of an organization's knowledge assets" (p. 1375)
Augier & Teece (2009)	Conceptual		Role of managers in business strategy and economic performance	DC framework invites further research into entrepreneurship, organizational learning, and role of managers in enterprise performance.
Barreto (2010)	Conceptual		Review of DC literature	Conceptualized dynamic capability as an aggregate multidimensional construct
Benner & Tushman (2003)	Conceptual		How process management practices affect firm DCs	DCs rooted in exploitative and exploratory activity; ambidextrous organizations allow process management activities and exploratory activity to coexist (p. 239)
Daneels (2010)	Empirical	Smith Corona 1980-2001; case study using archival data, 17 management interviews	How Smith Corona tried to alter its resource base	Disconnect between what resources could actually render, and what managers thought they could render—highlighting "resource cognition as missing element in DC theory" (p. 31)
Dixon et al. (2010)	Conceptual		Stages of organizational transformation	"[I]nter-relationships between leadership, organizational learning, DCs and performance important" (p. 416); different management styles required over transformation process (p. 431)
Døving & Gooderham (2008)	Empirical	254 Norwegian small-firm accountants; survey	DCs as antecedents of scope of related diversification	DCs of heterogeneous human capital, "internal development routines" and alliances with "complimentary service providers" had a "distinct impact on scope of services" (p. 841)
Drnevich & Kriauciunas (2011)	Empirical	192 Chilean businesses; survey	Conditions under which ordinary and DCs contribute to higher relative firm performance	Environmental dynamism negatively affects contribution of ordinary capabilities and positively affects contribution of DCs relative to performance.
Eisenhardt & Martin (2000)	Conceptual		Characteristics of DCs	DCs are "specific and identifiable processes" that have "commonalities across firms" and differ depending on environment; "learning mechanisms" guide DC evolution (p. 1105); DCs "necessary, but not sufficient" for competitive advantage (p. 1117)
Eisenhardt et al. (2010)	Conceptual		Microfoundational link from organization, strategy, and DCs to performance	Microfoundational link centers on how tension managed between efficiency and flexibility—leaders balance between these using heuristics-based simple rules, multiple environmental realities, and higher order expert cognition (p. 1263)
Galunic & Eisenhardt (2001)	Empirical	Fortune 100 corporation; case study	How DCs that reconfigure division resources operate	Described links among modular structure, DCs, culture, managerial roles, and notion of a "dynamic community" (p. 1229)

<i>Author(s)/ Date</i>	<i>Type of Study</i>	<i>Sample/ Data Source</i>	<i>Key Issue(s) Examined</i>	<i>Results/ Conclusions</i>
Gilbert (2006)	Empirical	A newspaper organization; case study	Newspaper organization's response to digital publishing	"[C]ompeting frames of threat and opportunity" (p. 150) shape response to discontinuous change.
Helfat (1997)	Empirical	26 largest U.S. energy firms 1976-1981; archival	Role of complimentary technical knowledge and physical assets in DC accumulation	"Dynamic capabilities enable firms to create new products and processes and respond to changing market conditions" (p. 339).
Kale & Singh (2007)	Empirical	175 large U.S. firms engaged in alliances; survey, archival	Developing alliance capability and success	Positive relation exists between learning capabilities and overall success in alliances
Karim (2006)	Empirical	250 firms from U.S. medical industry 1978-1997; archival	Antecedents of DCs	Acquired and internally developed units serve different roles in process of change; reconfiguration seen as beneficial
Kim & Mahoney (2010)	Conceptual		Implications of defining resources and capabilities as property rights	Contracting processes allow firms to sense and seize new opportunities
King & Tucci (2002)	Empirical	174 firms in the disk drive industry 1976-1995; archival	Experience and managerial choice vis-à-vis DC creation and entry into new market niches	Sales experience in one market niche provided a competitive advantage in new market niches and encouraged managers to enter them
Kor & Mahoney (2005)	Empirical	60 technology-based entrepreneurial firms; archival	How firms develop and maintain DCs	Increased investments in marketing over time is a source of competitive advantage and managers' firm-specific experience has positive relation with R&D and economic returns
Kor & Mesko (2013)	Conceptual		DMCs and configuration and orchestration capabilities	CEO's DMCs with senior executive managerial capabilities "drive top management's ability to revitalize the firm's dominant logic and to achieve evolutionary fit" (p. 233)
Lampel & Shamsie (2003)	Empirical	Hollywood film industry 1941-1948, sample of 400 films; archival	Capabilities and new organizational forms	"[M]obilizing and transforming capabilities play crucial role in transforming resource bundles into feature films" (p. 2189).
Makadok (2001a)	Conceptual		Resource picking and capability building	Developed model predicting two rent-creation mechanisms (resource picking and capability building) complimentary in some circumstances, substitutes in others (p. 387)
Malik & Kotabe (2009)	Empirical	115 emerging market manufacturing firms in India and Pakistan; survey	DC development mechanisms	"[O]rganizational learning, reverse engineering and manufacturing flexibility" identified as three DC development mechanisms (p. 421)
Marcus & Anderson (2006)	Empirical	108 grocery chains from U.S. retail food industry 1997; survey	Social responsibility; competitive advantage	DCs affect firm competence in "supply chain management (a business competency)" not environmental management "(a social competency)" (p. 19)
Martin (2011)	Empirical	6 firms in software industry; case study interviews, archival	DMCs and multibusiness teams	Executive leadership groups play "essential role in adapting the organization by collectively sensing, seizing, and reconfiguring resources and capturing product-market opportunities as they emerge" (p. 118).
Ng (2007)	Conceptual		Resource based approach to unrelated diversification	Unrelated diversification explained by "DCs, absorptive capacity, and weak ties" and organizations can diversify more broadly than predicted by earlier literature (p. 1481)
Pablo et al. (2007)	Empirical	Regional Canadian health authority; case study	Internal DC of learning through experimenting	Developing DC involves identifying, enabling, and managing tension between local initiatives and organizational needs (p. 687)
Peteraf et al. (2013)	Conceptual		Integrating DC concepts from intellectual core	To understand DC requires understanding dynamic bundles
Rindova & Kotha (2001)	Empirical	Yahoo! and Excite; case studies	How form, function, and competitive advantage coevolves	Concept of "continuous morphing" described ongoing transformation toward competitive advantage (p. 1263).

<i>Author(s)/ Date</i>	<i>Type of Study</i>	<i>Sample/ Data Source</i>	<i>Key Issue(s) Examined</i>	<i>Results/ Conclusions (cont'd)</i>
Rosenbloom (2000)	Empirical	NCR Corporation; case study	Important role of managers in DCs	Managers can provide impetus to actualize latent DCs
Rothaermel & Hess (2007)	Empirical	81 global pharmaceutical companies 1980-2001; archival	Building DCs	"Antecedents to innovation found at individual, firm, and network levels" (p. 898)
Salvato (2003)	Empirical	Two Italian SMEs; case studies	Micro-strategies in firm evolution	Adaptive evolutionary processes rooted in micro-strategies; "leaders purposefully guide evolutionary processes" (p. 105)
Salvato (2009)	Empirical	Alessi; case study	Evolution of capabilities	Micro-activities are central in shaping content of product development capability and its dynamic adaptation
Schreyögg & Kliesch-Eberl (2007)	Conceptual		Organizational capabilities	"Capability monitoring" important in internal and external environments (p. 926)
Shamsie et al. (2009)	Empirical	Hollywood film industry 1936-1965, sample of 7,124 films; archival	Capabilities, strategies, and performance	Processes of replication and renewal strategies enhance DCs; success tied to differentiation, resource availability, and demand (pp. 1440, 1450)
Sirmon & Hitt (2009)	Empirical	284 firms in regional banking industry in U.S.; archival	DMC and AO	"Resource management via AO" by managers "vital for superior performance" (p. 1375)
Slater et al. (2006)	Empirical	380 marketing executives from manufacturing and service firms; survey	Strategy formation capability and performance	"To achieve superior performance, managers must take strategic orientation into account when developing strategy formation and implementation capabilities" (p. 1229).
Song et al. (2005)	Empirical	466 respondents from U.S. joint ventures 1990-1997; survey	Marketing and technological capabilities	Effect of interaction between marketing and technology capabilities on performance significant in highly technologically turbulent environments (p. 261)
Tecce (2007)	Conceptual		Disaggregating DCs; sustainable advantage	DCs can be disaggregated into sensing and seizing opportunities (p. 1319); DCs, competitive advantage and orchestration skills related (p. 1341)
Tecce (2012)	Conceptual		DCs of executives	In large or small firms, "entrepreneurial (managerial) capitalism is required to establish and sustain superior financial performance"
Teece et al. (1997)	Conceptual		Framework to analyze wealth creation and capture	Extended RBV and popularized the DC concept; competitive advantage rests on "processes, positions, and paths" (p. 509)
Winter (2003)	Conceptual		Different classes of capabilities	DCs distinguished from ordinary capabilities; firms can use "ad hoc problem solving" instead of DCs (p. 993)
Witcher & Chau (2012)	Empirical	Auto manufacturer	Varieties of capitalism and implications for strategic management post financial crisis	Suggest outside-in approach to strategic management may be dominant in liberal economies, inside-out approach may be more appropriate in coordinated ones
Zahra & George (2002)	Conceptual		Absorptive capacity (ACAP) and competitive advantage	ACAP moves from potential to being realized through social interaction mechanisms (p. 192)
Zahra et al. (2006)	Conceptual		Problems with DC literature; theoretical and practical import of DCs	DCs separate from substantive capabilities, environmental conditions and performance outcomes; stressed importance of strategic decision maker (p. 951)
Zollo & Winter (2002)	Conceptual		Mechanisms through which organizations develop DCs	"Experience accumulation, knowledge articulation, and knowledge codification" important to DC process (p. 339)
Zott (2003)	Simulation		DCs and differential firm performance within industry	Timing, cost, and learning foster performance differences among firms with similar DCs (pp. 107-109)
Zúñiga-Vicente & Vicente-Lorente (2006)	Empirical	134 Spanish banks 1983-1997; archival	Strategic change and survival in turbulent environments	Positive effects found with respect to "strategic moves" and survival in turbulent environments (p. 485)

The review of the scholarly (peer-reviewed) articles appearing in the top management journals in the table above was used in order to further discussion of the DC and DMC literature in the following sections. This includes the discussion of the intellectual core ideas, as well as the limitations with the DC literature, which culminate in the discussion of the critical literature gap exploited by the research on DMCs.

2.3.4 Intellectual Core Research

In an article deconstructing DCs by bibliographic investigation, Di Stefano et al. (2010) described what they refer to as the “intellectual core” of DC research (p. 1192). The intellectual core consists of the top 40 articles on DCs based on citations. The top 10 articles include the work of: (1) Teece et al. (1997); (2) Eisenhardt and Martin (2000); (3) Zahra and George (2002); (4) Zollo and Winter (2002); (5) Amit and Zott (2001); (6) Makadok (2001a); (7) Helfat (1997); (8) Winter (2003); (9) Mahoney (1995); and (10) Benner and Tushman (2003). The top three articles (receiving over 50% of the total citations) are profiled below.

In their article *Dynamic Capabilities and Strategic Management*, Teece et al. (1997, p. 516) defined DCs as “the firm’s ability to integrate, build, and reconfigure internal and external competences” in order to manage through periods of rapid change. Their article was the most frequently cited on the list of intellectual core articles (with 30% of the total citations), and, according to *Science Watch* which monitors citations in business and economics journals, and the article was also the most cited article overall in the top hundred academic journals in business and economics worldwide, for the ten-year period from 1995-2005. In it, the authors contended the following:

“The dynamic capabilities framework analyzes the sources and methods of wealth creation and capture by private enterprise firms operating in environments of rapid technological change. The competitive advantage of firms is seen as resting on distinctive processes (ways of coordinating and combining), shaped by the firm’s (specific) asset positions (such as the firm’s portfolio of difficult-to-trade knowledge assets and complementary assets), and the evolution path(s) it has adopted or inherited (Teece et al., 1997, p. 509).”

Their article suggested that wealth creation in rapidly changing environs was dependent on refining internal processes (e.g., at the managerial and organizational level, inclusive of enhancing technological processes). They noted the critical importance of finding opportunity and aligning strategy with organizational structure in order to seize these opportunities. The authors positioned this new DC concept against

the IO/SCP paradigm, which they conceptualized as “strategizing” in contrast with the RBV and DC paradigms as “economizing” frameworks.

In the second most widely cited article entitled *Dynamic Capabilities: What Are They?* Eisenhardt and Martin (2000) found that DCs are neither vague nor tautological and consist of identifiable processes and routines in firms such as strategic decision-making that they called best practices. They made a distinction between markets that were moderately dynamic and those that are highly dynamic, and contended that DCs represent routines in less dynamic environs with more predictable outcomes, but are “simple, highly experiential and fragile processes with unpredictable outcomes” in highly dynamic markets (p. 1105).

They found some DCs integrate resources, others reconfigure resources within firms, and yet others “are related to the gain and release of resources” (p. 1108). They argued that, although DCs are idiosyncratic in detail, they have commonalities across firms, and, because DCs have these commonalities, their functionality can theoretically be duplicated across different firms. Their important findings contended that the value of DCs for generating competitive advantage does not lie with the capabilities themselves, but rather with the new resource configurations DCs create and, therefore, “dynamic capabilities are necessary, but not sufficient, conditions for competitive advantage” (p. 1106).

The third most commonly cited article is by Zahra and George (2002), who wrote *Absorptive Capacity: A Review, Reconceptualization, And Extension*. Absorptive capacity (ACAP) was originally defined as “the firm’s ability to recognize the value of new, external information, assimilate it, and apply it to commercial ends” and was viewed as critical with respect to innovative capabilities in firms (Cohen & Levinthal, 1990, p. 128). Zahra and George (2002) built on Cohen and Levinthal’s model, positioning ACAP within a DC framework and defined ACAP as “organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability” (p. 186).

The remainder of the top 10 articles forming the intellectual core include Zollo and Winter (2002), who conceptualized knowledge and experience as mechanisms through which DCs are developed; Amit and Zott (2001), who conducted an empirical analysis of e-business and established four interdependent dimensions for value creation potential; Makadok (2001a), who noted the importance of resource picking and

capability bundling as rent-creation mechanisms; Helfat (1997), who in an empirical analysis of the energy sector found DCs enable firms to create processes and products in changing markets; and Winter (2003), who established “classes” of capabilities making an important distinction between ordinary capabilities and DCs. Rounding out the top 10 are articles by Mahoney (1995) (the only article in the intellectual core focusing on managerial capacities vis-à-vis firm resources), who discussed the importance of the “management of resources” as they relate specifically to the “resource of management” (p. 91); and Benner and Tushman (2003), who found that process management practices affect firm DCs.

Thus, DCs have been defined, conceptualized, and represented in top management journals, including the articles that make up the intellectual core research, providing a rich body of work that has been conducted into the subject since Teece et al. (1997) popularized the DC concept and called for more research into it. Nevertheless, the articles published since have resulted in a “complex, and somewhat disconnected, body of research” (Barreto, 2010, p. 257). The limitations to the DC literature are discussed in the following section.

2.3.5 Limitations to the DC Literature

The DC literature has been criticized for being “riddled with inconsistencies, overlapping definitions and outright contradictions” (Zahra et al., 2006, p. 917). The definitions and conceptualizations of DCs have been faulted with having tautologies (Priem & Butler, 2001b; Zollo & Winter, 2002). The DC approach has been referred to as “vague and elusive” and “resistant to observation and measurement” (Kraatz & Zajac, 2001, p. 653). Winter (2003) observed that, “many strategy scholars remain skeptical about the value of the concept” (p. 991).

The limitations to the DC literature stem from how DCs have been conceptualized in the literature in certain critical areas. These areas include how DCs are (1) created and/or developed, their (2) nature and/or specific role, (3) overall purpose (if any), (4) the relevant context in which they occur (i.e., environmental conditions), (5) heterogeneity assumptions, and (6) performance outcomes (Barreto, 2010). Each of these areas is discussed in the following sections.

First, the *nature* of DCs has been described as competences, and as capabilities (Teece & Pisano, 1994a, 1994b) or abilities (Teece et al., 1997; Zahra et al., 2006; Johnson et al., 2008; Augier & Teece, 2009), and also described as processes and as

routines (Eisenhardt & Martin, 2000), as activities (Zollo & Winter, 2002) and also as potential (Barreto, 2010).

There is an important distinction made here though, which is that DCs are not ordinary processes or routines, and that “operational” and/or “ordinary” capabilities differ from “dynamic” ones (in agreement with Winter, 2003; Zahra et al., 2006; Helfat et al., 2007). To avoid defining DCs as capabilities (a tautology) and to acknowledge that DCs and DMCs differ from ordinary capabilities (and thus can impact on them), the nature of DCs and DMCs is referred to as “capacities” here, as in the definition put forth by Helfat et al. (2007) above.

Second, the *role* of DCs has been described as creating new products and processes (Teece & Pisano, 1994a, 1994b); reconfiguring competences (Teece et al., 1997); changing resources and capabilities (Eisenhardt & Martin, 2000; Winter, 2003; Helfat et al., 2007); and solving problems (Barreto, 2010). The role of DCs in this thesis refers to the configuration of resources, as impacting on other resources and capabilities, in agreement with Winter (2003, p. 991), who distinguished “ordinary capabilities or ‘zero-level’ capabilities,” described as those that “permit a firm to make a living in the short term” from dynamic capabilities (p. 991), which is analogous to Helfat et al. (2007), who later made a distinction in a similar fashion between “operational capability” and “dynamic capability” (p. 122). These distinctions are supported by the research conducted here.

Third, the *purpose* of DCs has been conceptualized in the extant literature as responding to changing markets (Teece & Pisano, 1994a, 1994b); matching and creating market change (Eisenhardt & Martin, 2000); improving effectiveness (Zollo & Winter, 2002); maintaining competitiveness (Teece, 2007); and meeting the needs of a changing environment (Teece et al., 1997; Johnson et al., 2008). This is a fundamental limitation with the DC literature, because defining a DC/DMC in terms of a firm’s ability to deal with rapidly changing environments can confuse the construct with its proposition, given that the term “dynamic” connotes constant change, and the ability to deal with constant change given constant change is circular. The use of a stated overall purpose is seemingly redundant, if not tautological, and so is avoided here.

Fourth, the *relevant context* refers to the type of external environment considered. Several studies suggest that DCs are more valuable in “regimes of rapid change” Teece et al. (1997, p. 509), while other studies distinguish degrees of change, or leave out the

relevant environmental context altogether. The environmental context, regarding the research conducted for this thesis, relates directly to periods of significant change in the external environment. Given managers from the finance, insurance, and real estate sectors inform this study, the relevant context pertains to such phenomena as the recent financial crisis and Great Recession of 2007-2009.

Fifth, the assumptions of *heterogeneity* in the literature involve discussion of the so-called commonalities paradox. The debate centers on whether or not DCs are unique to a particular firm, or if commonalities exist across firms. Some studies stress idiosyncrasies, others commonalities, some bridge the two. The purpose of this research was not to address the commonalities paradox specifically. Nevertheless, different managers in different firms were studied, and insights were provided regarding commonalities of DCs (e.g., common features), although DMCs are idiosyncratic in detail because they are based on capabilities of specific individuals.

Sixth, *outcome* refers to the consequences of DCs in terms of performance. The literature has described DCs in terms of having a direct relation with competitive advantage (Teece et al., 1997), and an indirect one. For example, Eisenhardt and Martin (2000) stated that DCs may be “necessary, but not sufficient, conditions for competitive advantage” (p. 1106). The problem is that DCs “have been conceptualized and assessed in such ways that it makes it difficult to separate their existence from their effects” (Akwei, 2007, p. 29). The research conducted here does not equate DMCs with competitive advantage, but tests them using the VRIO model, a qualitative descriptor, because DMCs are behavioral and cannot be directly measured quantitatively using typical financial metrics.

An additional limitation with the DC literature involves the criticism that it tends toward the conceptual, and lacks empirical studies. The empirical studies that have been done have tended to be industry and/or firm specific (Akwei, 2007; Wang & Ahmed, 2007). As such, the literature has called for empirical work across different firms in different industries (Adner & Helfat, 2003; Wang & Ahmed, 2007). This limitation is addressed here in that the managers who participated are from different firms, and in somewhat related, but different sectors. These sectors include accounting, banking, insurance and investment firms (in the finance and insurance sector), and real estate firms, as per the NAICS (North American Industrial Classification System), formerly the SIC (Standard Industrial Classification) system.

The use of SMEs addresses another limitation with the DC literature, in that few studies on the subject of DCs have used them. The literature has recognized that additional empirical work using SMEs is called for. Zahra et al. (2006, p. 921), for example, wrote that “most research and theory building has focused on established companies” and has ignored “SMEs,” which is “puzzling” given that SMEs need “DCs that allow them to survive,” and to “reap the benefit of their innovation” (citing Sapienza et al., 2006). The multi-case study specifically addresses this limitation, because it was conducted with managers of SMEs (i.e., with less than 250 employees), and the respondents to the survey questionnaire also represented SMEs, (and larger firms as well).

The final limitation addressed here relates specifically to the subject of this thesis. The DC literature has tended toward organizational assessment (Adner & Helfat, 2003), and this is a critical limitation, in that the focus has been on the *organization*—not the *individuals* in it. Indeed, this limitation has been a primary contributor to the other limitations discussed here. The subject is, after all, based on capabilities, which can be derived only from individual efforts. The literature has largely focused on *what* DCs are at the organizational level—as opposed to *how* they are used by managers. The strategist (i.e., manager) has been given “short shrift” and has largely been forgotten in the process (Helfat et al., 2007), but the DMC literature has begun to address this.

2.4 Dynamic Managerial Capabilities

The following sections provide an overview to the DMC concept (section 2.4.1), followed by the discussion of DMC research (section 2.4.2).

2.4.1 Overview

Dynamic managerial capability is the research focus of this thesis as it “refers to the *capacity* of managers to create, extend, or modify the *resource base* of an organization” (Helfat et al., 2007, p. 121, emphasis original). The DMC research to date has involved positioning DMCs as the analog to the more organizational DC literature as noted above (Adner & Helfat, 2003) because it involves understanding the capacities of individual managers. There have been few studies conducted into DMCs—only four have focused on them in Grade Four business journals from 1997-2013 as presented in Table 2.4 above. These articles are discussed next.

2.4.2 DMC Research

The DMC concept originated with Adner and Helfat (2003) in their article entitled *Corporate Effects and Dynamic Managerial Capabilities* published in the *Strategic Management Journal*. Their research involved an empirical analysis of 30 companies from the U.S. petroleum industry from 1977-1997, and used archival data from the *Wall Street Journal* to assess managerial capabilities.

Their article defined DMCs as “capabilities with which managers build, integrate, and reconfigure organizational resources and competences” positioning DMCs as an analog to “more organizational ‘dynamic capabilities’” (p. 1012). Their definition reflects, and is compatible with the one used here, which defines DMCs as “capacities” to reconfigure resources in terms of creating, extending and/or modifying them—reflecting later literature (Helfat et al., 2007), and avoiding criticisms of defining capabilities as capabilities (Barreto, 2010), and distinguishing DMCs as capacities, which the research conducted in this thesis recognizes as impacting on “ordinary” capabilities (Winter, 2003).

They proposed that DMCs have key underlying attributes that are “managerial human capital, managerial social capital, and managerial cognition” (p. 1013), as shown in the figure below, which shape the resource and capability base of an organization. Each is described next.

Figure 2.4 Adner and Helfat’s Underlying Attributes of DMCs



Source: Adapted from Adner and Helfat (2003).

2.4.2.1 Managerial Human Capital

Managerial human capital includes the skills, knowledge, and experience possessed by the manager of the organization. Adner and Helfat (2003, p. 1020) referenced Becker (1964), and noted that managerial human capital requires “investment in education, training, or learning more generally,” which includes on the job training, and involves

experiential learning (e.g., that which is based on prior work experience). Managerial human capital is an attribute of DMCs useful in understanding the heterogeneity of managerial capacities because managers differ in their skills, knowledge, and experience. Managerial human capital is also associated with differences in firm performance (Bailey & Helfat, 2003).

2.4.2.2 Managerial Social Capital

Managerial social capital refers to networks of relationships among managers and the people they are in contact with. The idea of social capital as it applies in the social sciences is that this type of capital (e.g., social networks) has value. It is analogous to other resources that create value (i.e., physical capital and/or human capital). Managerial social capital includes formal and informal networks, which can manifest inside and outside of the organization (Adler & Kwon, 2003). Adner and Helfat (2003) found that internal ties can help managers to network and obtain information (citing Burt, 1992) and external ties (e.g., directorships) can lead to improved performance (citing Gelatkanycz & Hambrick, 1997).

2.4.2.3 Managerial Cognition

Cognition refers to the “process by which sensory input is transformed, reduced, elaborated, stored, recovered, and used” (Neisser, 1967, p. 4). It involves mental processing, that uses abilities such as perceiving, thinking, reasoning, learning, and understanding, and involves problem solving and decision-making (Walsh, 1995; Elstein & Schwartz, 2002). Managerial cognition as defined in their article “refers to managerial beliefs and mental models that serve as the basis for decision making” (Adner & Helfat, 2003, p. 1021) and is used to evaluate future alternatives and consequences (March & Simon, 1958; Cyert & March, 1963), is subject to bounded rationality (Simon, 1947, 1955), and is critical in shaping strategy.

Adner and Helfat’s work is foundational with regard to the study of DMCs because their research showed that DMCs have the underlying attributes that involve managerial human capital, managerial social capital, and managerial cognition. Their research showed that corporate strategy and the decision-making process, which is sensitive to the need for change, helps to explain variances in profitability in firms and, importantly, that “corporate strategy does in fact matter,” and “corporate managers matter” (p. 1023). They called for additional research into DMCs, including underlying attributes of them

and also how DMCs affect strategy and strategic change, and suggested that additional research include both quantitative and qualitative assessment.

Sirmon and Hitt (2009) wrote *Contingencies Within Dynamic Managerial Capabilities: Interdependent Effects of Resource Investment and Deployment on Firm Performance* published in the *Strategic Management Journal*. Their research empirically assessed resource investment and deployment effects on performance using archival data on 284 firms in the regional banking industry within the U.S. Their study highlighted the need to understand how managers effectively utilize resources to affect performance.

Sirmon and Hitt found the DMC concept as developed by Adner and Helfat (2003) has helped address how managers use resources relative to performance, but that there is critical omission in the literature in that asset orchestration (AO)—which is “central” to the DMC perspective, is “rarely investigated” (citing Helfat et al., 2007), and noted more AO studies are needed as this area is “a central component of dynamic managerial capabilities and of resource management” that “highlights the importance of integrating (matching) resource investment and deployment decisions” (p. 1375).

The results of their study showed that when managers deviate from rivals with respect to investing in human/physical capital, performance might suffer, and therefore a proper fit between investment and deployment is needed. They found that understanding how managers conduct AO is something that affects the firm’s success, and thus practitioners need to understand and develop these skills to optimize performance. In the article, they called for additional research to be conducted into how managers orchestrate assets to compete.

Martin (2011) wrote *Dynamic Managerial Capabilities and the Multibusiness Team: The Role of Episodic Teams in Executive Leadership Groups* published in *Organization Science*. The study used an inductive approach and this involved a constant comparison analysis of case study data that examined general managers (GMs) of six firms in the “dynamic” software industry. The study focused on the empirical assessment of executive leadership, researching the relation between business unit GMs, and firm performance.

Martin’s study used constructs developed in Helfat et al. (2007), and made the distinction between an “operational” capability and a “dynamic” one. The former is a capability used to make a “living in the present” and is impacted by a DC. This is

analogous to the distinction made by Winter (2003) between “ordinary” and “dynamic” capabilities—a distinction supported in this thesis. Martin also used the concepts of technical and evolutionary fitness and Teece’s (2007, 2009) taxonomy to disaggregate DCs, and thus a precedent was established in that these constructs were used to research DMCs, as is done in this thesis.

Martin’s (2011, p. 5) research showed that executive leadership groups played a critical role in sensing and seizing opportunities and managing threats in a purposeful way, and that it is this “managerial *intent* [that] influences organizational outcomes (citing Augier & Teece, 2009)” which differs from organizational routines, and that DMCs “differ from ad hoc problem-solving behaviors” because “they contain elements of patterned and practiced behaviors that must be repeated to be sustained (citing Winter, 2003).” The research further found DMCs (1) improved information flow, (2) reduced barriers within an organization, and, importantly, (3) enhanced innovation. The article called for additional research into DMCs, given the lack of theoretical and empirical knowledge about them, especially in periods of significant change.

Kor and Mesko (2013) wrote *Dynamic Managerial Capabilities: Configuration and Orchestration of Top Executives’ Capabilities and the Firm’s Dominant Logic*, published in the *Strategic Management Journal*. This article was discovered and reviewed as a part of the literature re-review and synthesis. The article is important to the research conducted for this thesis because it used the similar conceptualizations used here. For example, the definition of DMC used was as in Helfat et al. (2007), and also similar constructs were used with respect to disaggregating DMCs. The conceptual measuring construct of evolutionary fitness was also discussed in their article.

The important ideas in Kor and Mesko’s article include that there are critical linkages with DMCs and the firm’s dominant logic (Prahalad & Bettis, 1986) because managerial human capital and managerial social capital, and cognition (Adner & Helfat, 2003) “give rise to managers’ dominant logic, which in turn is linked to the firm’s dominant logic” (Kor & Mesko, 2013, p. 241). The article develops another area of interest relevant to the research conducted here in that their study posits that CEO’s engage in AO and shape their executive’s learning and adaptation capacities such as by impacting on their absorptive capacities (Cohen & Levinthal, 1990; Zahra & George, 2002).

Their findings discuss the feedback effects involved. For example, the search, selection and configuration/coordination activities that include the AO of senior executive capabilities by a CEO can produce a positive feedback effect, which in turn, strengthens the CEO's DMCs. It is these feedback effects that complete the "interplay" between DMCs and the "firm's dominant logic" (Kor & Mesko, 2013, p. 241). These ideas are fully compatible with the constructs used to identify (i.e., AO) and classify DMCs in this thesis (i.e., LBDMC, IBDMC) and, interestingly, the author's call for additional research to be conducted on business executives, such as when they create a "positive team environment" as was done in this thesis with regard to the construct PL.

2.5 Literature Gap

The DC literature is limited in that it has tended to focus on the firm as opposed to its employees (Adner & Helfat, 2003) and the manager has largely been overlooked (Helfat et al, 2007) as a result. Despite the fact that the DC literature is a growing one (Barreto, 2010), there is a critical gap in the literature with respect to research into the subject of DMCs and managerial capacities to reconfigure the resource base. It is significant that of the 50 studies that focused on DCs from 1997-2013 appearing in top management journals, only four dealt specifically with dynamic managerial capabilities although another study referenced them (Salvato, 2009) and they were also referenced in an influential text on DCs (Helfat et al., 2007). Because the literature has called for additional research into DMCs (Adner & Helfat, 2003; Helfat et al., 2007; Sirmon & Hitt, 2009; Martin, 2011), this involves researching managerial capacities used in creating, extending, or modifying the resource base (Adner & Helfat, 2003; Helfat et al., 2007), and the relation with value creation and capture as during regimes of rapid change.

The discovery of the critical literature gap regarding the subject of DMCs has led to the observation that there are other cracks and crevices in the empirical literature that need attention. These areas relate directly to how DCs, and by extension DMCs, have been identified, classified, and, critically, how DMCs relate to generating competitive advantage, as no empirical studies have examined these areas holistically, despite the studies of DCs conceptualizing they generate advantage. The critical literature gap is addressed through empirical identification of DMCs used in periods of rapid change, by then classifying them, and by measuring these classifications in terms of the ability to

achieve and/or sustain competitive advantage using them—helping bridge the gap between the RBV and DC literatures.

The research helps fill other gaps as they relate. For example, a methodological gap exists in that the literature has called for more research into DMCs using case-based and survey-based data analysis by the originators of the DMC concept (Adner & Helfat, 2003). The literature review showed few studies using either, because many studies are conceptual, and that none of the 50 studies on DCs reviewed above have used both methods, as is done here (Table 3.1).

The literature has also referenced the “dearth” of studies using SMEs (Zahra et al., 2006, p. 920), and has called for additional empirical research using SMEs, given that the literature has produced few studies using them. (None of the studies of DMCs used them—they have examined large oil companies [Adner & Helfat, 2003], regional banks [Sirmon & Hitt, 2009], and multibusiness firms in the software industry [Martin, 2011] for example.) Because studies have also tended to be industry (or firm) specific, the literature has called for more research across different firms in different industries (Wang & Ahmed, 2007). (The research conducted here addresses this gap by researching firms in three different types of industries—finance, insurance, and real estate.)

By focusing on these gaps, the research conducted for this thesis addresses the confusion in the literature with respect to how DCs have been characterized (e.g., their nature, role, purpose, outcome, as described in the limitations section 2.3.5 above). The approach to filling the critical literature gaps is reflected in the stated research question, aim, and objectives, set forth in the following section.

2.6 Literature Synthesis with the Research Question, Aim, and Objectives

Given the literature review, which has included an overview of the dominant strategic management paradigms, including the RBV and DC approaches, and the analysis of the limitations to the literature, followed by the discovery of the critical gaps in the literature that are being exploited by the research conducted here, the research question, aim, and objectives can now be presented within the context of these findings.

To recap, briefly, the DC literature, including the intellectual core research, has acknowledged the importance of the “resource of management” vis-à-vis the “management of resources” (Mahoney, 1995), including use of managerial capabilities

(Teece et al., 1997; Sirmon & Hitt, 2009, Daneels, 2010). The literature has recognized that the manager has largely been forgotten (Helfat et al., 2007; Sirmon & Hitt, 2009).

The logic of DMCs has begun to address this (Sirmon & Hitt, 2009), although very few empirical studies have been done, and the literature has called for further research into the subject (Adner & Helfat, 2003; Helfat et al., 2007; Sirmon & Hitt, 2009; Kor & Mesko, 2013). To answer the call means that managerial capacities to create, extend, and/or modify resources need to be assessed (Helfat et al., 2007; Martin, 2011).

The extant literature has recognized the importance of DCs, especially in periods of significant change in the external environment (Teece et al., 1997, Eisenhardt & Martin, 2000). The literature also has stated the relevance of achieving and sustaining competitive advantage in firms regarding DCs, as they are integral to wealth creation and capture (Teece et al., 1997; Augier & Teece, 2009).

Nevertheless, the literature has yielded very few empirical studies synthesizing these areas. There are no studies that have been conducted in the literature developing the research question, aim, and objectives as is done here. The research conducted for this thesis is original. It considers the critical literature gap and the related limitations. It therefore addresses these areas with the stated research question, aim, and objectives.

2.6.1 The Research Question

The research *question* posits what DMCs are used by managers in practice during episodes of significant external environmental change toward generating competitive advantage. The question involves three critical areas, namely, the specific kinds of managerial capabilities, the environment, and how the capabilities relate to competitive advantage.

2.6.2 The Research Aim

The research *aim* is to build substantive theory on DMCs by answering the research question and accomplishing the research objectives. To build substantive theory is to make use of qualitative and quantitative data in order to establish a rich data set, through the process of identification of patterns and themes such as from the case study data (see Chapter 4). The development of substantive theory into DMCs in support of the research aim is underpinned with the research objectives. (Note that at the time of writing the literature review chapter, the research objectives were being investigated. The objectives below are presented vis-à-vis the wider literature therefore in Chapter 6.)

2.6.3 The Research Objectives

The research *objectives* were designed to satisfy the research aims and answer the research question. The research objectives include (1) identifying DMCs by using and testing constructs put forth in the extant literature in order to do so, (2) classifying DMCs in order to show what DMCs managers used in practice, and (3) assessing DMCs in generating competitive advantage using the VRIO model. (For a comprehensive listing of key terms and concepts, please refer to the Glossary at the beginning of the thesis, and for an overview of the approach to identifying, classifying, etc., please see Appendix C.)

2.6.3.1 Objective to Identify DMCs

The objective to identify DMCs uses and tests constructs found in the literature, and this includes the definitions as above of DMC and AO, the conceptual yardsticks that help measure technical (TF) and evolutionary fitness (EF) of the capability (Helfat et al., 2007), and Teece's (2007) disaggregation technique. (Theoretical and practical implications of the identification of DMCs, inclusive of the critical discussion of the wider literature, are presented in detail in Chapter 6 and Chapter 7.)

2.6.3.2 Objective to Classify DMCs

The emergent classifications of DMCs that were discovered as a result of the research reflect the literature they represent. The important emergent DMC classifications found in the cases (see for example, Table 4.4) include learning and innovation-based DMCs as well as participative leadership. These classifications were a part of an inductive and iterative approach to theory building. As such, the relevance of these constructs with respect to the extant literature was unknown at the time of the literature review when this chapter was written. A comprehensive discussion of the classifications as they relate to the extant literature is therefore presented in Chapter 6 (in particular section 6.2).

2.6.3.3 Objective to Link DMCs and Competitive Advantage

The literature has not been able to draw a line from DMCs to achieving and sustaining competitive advantage in firms. Instead, it has postulated that this relation exists (either directly or indirectly) but has missed an opportunity to use resource-based theory (which was designed specifically to evaluate the competitive advantage of resources and

capabilities—dynamic or otherwise). Indeed, the DC and RBV literature streams are not mutually exclusive. In many respects, they are mutually interdependent. Because the resource base by definition includes capabilities, resource-based theory (i.e., VRIO) can be used to evaluate them by asking the questions of value, rarity, imitability, and organization, as is presented in the literature review above (section 2.2.2 and Table 2.3) and also shown effective in later chapters (sections 4.5, 6.2, and 7.3) in tying DMCs to achieving and sustaining competitive advantage in firms.

2.7 Summary

This chapter has provided a review of the extant literature on DCs inclusive of studies on DMCs. The literature review has provided background on influential strategy paradigms that have influenced the DC literature; shown how DCs have been defined and conceptualized; provided a review of critical conceptual and empirical studies (including the intellectual core research); discussed the limitations inherent in the DC literature; shown where the relevant literature gap exists; and synthesized the results of the literature review with the research question, aim, and objectives. The following chapter discusses the research design and methodology that is used to satisfy the research aim and objectives and answer the research question.

Chapter 3: Research Design and Methodology

3.1 Introduction

The research design is “a *logical plan for getting from here to there*, where *here* may be defined as the initial set of research questions to be answered, and *there* is some set of conclusions (answers) about these questions” (Yin, 2009, p. 26, emphasis original). The research methodology is defined as “the procedural framework within which the research is conducted” (Remenyi et al., 2005, p. 285). It is “an operational framework within which the facts are placed so that their meaning can be seen more clearly” (Leedy, 1989, p. 98).

The following sections describe the research design and methodology used in this thesis to get from “here” to “there.” They include discussion of research paradigms relevant to business and management research (section 3.2). The research methods including the multi-case study and survey methods are then presented (section 3.3), and shown to be compatible with the methods used in the extant DC literature (section 3.4). The research setting and context are then described (section 3.5), the sample design previewed (section 3.6), and the research ethics are discussed (section 3.7).

3.2 Research Paradigms

A research paradigm includes underlying assumptions such as the intellectual structure and/or framework upon which research and development of the field of inquiry is based (Kuhn, 1970). It is a general perspective, a way of breaking down the complexity of the real world (Patton, 1990). It is an interpretive framework guided by beliefs about how things can be understood and studied (Guba, 1990). In business and management research, there are two dominant paradigms. They are referred to as positivism and phenomenology (Roberts et al., 2003; Remenyi et al., 2005).

3.2.1 Positivism

Positivism, referred to as logical positivism “implies that the researcher is working with an observable social reality and that the end product of such research can be the derivation of laws or law-like generalizations similar to those produced by the physical or natural scientists” (Remenyi, 1995, p. 10). Positivism is primarily deductive (Popper, 1959) with typical research questions asking “how much?” and/or “how many?” The

positivist approach is often based on hypothesis testing. The scope is reductionist with the observer removed from the sample.

“Positivism was adopted by Comte (1798-1857) to express the idea that phenomena were real, certain, and precise” (Remenyi et al., 2005, p. 287). The philosophy lends itself to research using quantitative analysis; data are collected from a relatively large and random sample based on the population. The objective often is to perform calculations based on statistical analysis in order to make inferences about the population. The results generated may be more definitive than those produced using a purely phenomenological framework (Roberts et al., 2003).

3.2.2 Phenomenology

Phenomenology is defined as a “theoretical point of view that advocates the study of direct experience taken at face value; and one sees behavior as determined by the phenomena of experience rather than by external, objective and physically described reality” (Cohen & Manion, 1994, p. 29). Phenomenology is primarily inductive, with typical research questions asking “how?” and “why?” and/or “what?” The phenomenologist seeks to understand and explain phenomena based around human action. It is the paradigm used in the research conducted for this thesis.

Phenomenology as a framework is more holistic and less reductionist, and, as such, it does not make inferences regarding the population as a whole. The approach is more process oriented, often exploratory, with qualitative data collected from a smaller sample group. The researcher may interact with the group, and is not as detached from it as the positivist. The results tend to be more indicative. The results can be used to generate theory, which can be tested using a more positivistic approach (Roberts et al., 2003).

3.3 Research Methods

The research methods outlined below include both a multi-case study (section 3.3.1) and survey study (3.3.2) used in the data collection and analysis.

3.3.1 Case Study Method

A case study is a process and record of research in which detailed consideration is given to a particular matter. The case study method was used to research DMCs in five SMEs. The focus of the analysis was the managers of these SMEs, with the expressed research

aim to inductively build theory on DMCs that involved empirically investigating how managers created, extended, or modified resources (Helfat et al., 2007) in their firms.

The use of the case method fits with the research design and methodology used in this thesis in order to empirically investigate DMCs. As Yin (2009) noted “case studies are the preferred method when (a) ‘how’ or ‘why’ questions are being posed, (b) the investigator has little control over events, and (c) the focus is on a contemporary phenomena with a real-life context” (p. 2).

The managers were the unit of analysis, and the SMEs they represented were an insurer, a bank, an accounting service, a real estate agency, and an investment advisor. The data collected consisted of mainly primary data in the form of semi-structured interviews (Appendix B) conducted with each of the managers, and was supplemented with secondary data (e.g., annual reports).

Marshall and Rossman (2006) noted the semi-structured interview provides insight into individual experience and “focuses on the deep, lived meanings that events have for individuals, assuming that these meanings guide actions and interactions” (p. 105). The semi-structured interview questions used in the case study centered on researching the critical aspects of DMCs, and finding what DMCs managers used in practice.

This involved asking managers questions that centered on how they created, extended, or modified their resource bases during episodes of significant external environmental change, and what managerial search and selection processes were involved, including resource configuration, deployment, and implementation, with further questions ascertaining technical and/or evolutionary fitness of the capability.

The data were analyzed using the constant comparison method, which compares data in and across cases and with the literature to build theory (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). The process of establishing patterns through constant comparison and triangulation of sources to build theory from the data, fits with the quasi-judicial explanation building and phenomenological approach described above.

The case study method was designed to ensure the overall reliability and validity (Yin, 2009) of the research. This included using multiple sources of evidence, and maintaining a case study database (e.g., a comprehensive digital database that included transcribing and coding all of the data), and establishing a chain of evidence by linking the questions, evidence, and conclusions together in reporting the findings.

The use of the multi-case study as done here is supported in the theoretical literature on method (Remenyi et al., 2005; Stake, 2006; Merriam, 2009; Yin, 2009). The number of cases (five managers/SMEs) used is supported in the theoretical literature as well. Eisenhardt (1989), for example, noted that, although there is no ideal number of cases, “between four and ten cases usually works well” (p. 545).

The use of the case method is supported in DC research (see Table 3.1 below), although only one DMC study used it (Martin, 2011). The method has been used successfully in a doctoral thesis on DC creation (Akwei, 2007). The originators of the concept of DMC have called for additional research using case studies (Adner & Helfat, 2003).

3.3.2 Survey Method

A survey is defined as a “collection of a large quantity of evidence, usually numeric, or evidence that will be converted to numbers, normally by means of a questionnaire” (Remenyi et al., 2005, p. 290). The use of the survey is appropriate for answering “how much?” or “how many?” type questions, and therefore is an approach fitting within a more positivistic framework, and can be used to test propositions or hypotheses.

The survey method was used with the case method in this thesis. After the results were derived from the case studies, a survey study was conducted in order to build on them. The survey was first piloted through successive iterations to ensure reliability. The first one used a Likert (1932) type scale because it is commonly used in research questionnaires (Albaum, 1997).

The survey was thus pretested by practitioners and critiqued by academicians, and developed into the one used (Appendix F). The survey method is supported in DC research. Of the 50 studies shown in Table 2.4 above, eight relied on survey data in their analysis and the method has also been used successfully in a doctoral thesis on measuring DCs (Atkinson, 2009).

3.4 Methodological Approaches Used in DC Research

The extent to which the methods used in this thesis are based on existing ones supported in the extant literature is significant. Of 50 studies on DCs from 1997-2013 appearing in top tier Grade 4 management journals, 10 studies used the case method, eight used the survey method, and seven used interview data. The studies from the literature review shown in the table below used either case or survey data. The research conducted for

this thesis used both in order to strengthen the research results in accordance with the stated research aim and objectives. The methodological approach used in DC research by leading scholars in the field is represented in the table below.

Table 3.1 Methodological Approaches used in DC Research and this Thesis

<i>Author(s)/Date</i>	<i>Case Method Used</i>	<i>Interviews Used</i>	<i>Survey Data Used</i>
Amit & Zott (2001)	*		
Daneels (2008)			*
Daneels (2010)	*	*	
Døving & Gooderham (2008)			*
Drnevich & Kriauciunas (2011)			*
Galunic & Eisenhardt (2001)	*	*	
Gilbert (2006)	*	*	
Kale & Singh (2007)			*
Malik & Kotabe (2009)			*
Marcus & Anderson (2006)			*
Martin (2011)	*	*	
Pablo et al. (2007)	*	*	
Rindova & Kotha (2001)	*		
Rosenbloom (2000)	*		
Salvato (2003)	*	*	
Salvato (2009)	*	*	
Slater et al. (2006)			*
Song et al. (2005)			*

Thus, the use of the methods adopted for the thesis are fully supported in the DC literature, as well as the theoretical literature on methodology, which has been consulted in terms of how to properly conduct inductive, qualitative research, and deductive quantitative research (Popper, 1959; Glaser & Strauss, 1967; Eisenhardt, 1989; Miles & Huberman, 1994; Remenyi, 1995; Huberman & Miles, 2002; Roberts et al., 2003; Malhotra & Peterson, 2005; Remenyi et al., 2005; Grover & Vriens, 2006; Malhotra, 2006; Stake, 2006; Eisenhardt & Graebner, 2007; Golden-Biddle & Locke, 2007; Merriam, 2009; Yin, 2009; Cooper & Schindler, 2011), the former of which is used here within the phenomenological framework.

3.5 Research Setting and Context

The research context and setting for the multi-case study involved managers of SMEs from the finance and insurance and real estate sectors. The managers/SMEs selected for the case study are of a purposeful sample (Merriam, 2009) in that the sample selection criteria included managers that have been in their roles for many years, have experienced significant environmental changes, and have demonstrated competitive advantage in their firms over time. Thus, according to the literature, they would have a propensity for DMCs.

The finance and insurance and real estate sectors are highly dynamic, and the managers that informed the study would have experienced significant change in the external environment (i.e., the recent financial crises and severe recession, referred to as the Great Recession of 2007-2009). This research setting was therefore valuable in obtaining insight into how the managers configured (created, extended, and/or modified) their resource bases, inclusive of managerial search and selection processes, toward achieving and sustaining competitive advantage in this environment.

The candidate had worked previously in the financial services sector for many years and has therefore a theoretical sensitivity to the industry. Theoretical sensitivity refers to the personal quality of the researcher as it relates to the understanding of the meaning and subtlety of data, and the insight with which a researcher comes to the research situation due to the amount of experience and expertise gained from working in the sector (Glaser, 1978). Theoretical sensitivity enables recognition of important data enhancing the ability to formulate conceptually dense theory.

This includes the notion of “mode 2” research (MacLean et al., 2002), and incorporating practice-oriented grounding of data. As Golden-Biddle and Locke (2007) noted, “when authors portray a detailed familiarity with the field setting and its members, they are establishing themselves as authentic or field-knowledgeable storytellers” and those with a background in the field of study, “convey certain details and understandings of the field obtainable only by having ‘been there’” (p. 77).

Having been a practitioner, conducting research in this area incorporated an element of “reflexivity” (Gibbons et al., 1994), with the researcher as “reflective practitioner” (Schön, 1983), recognizing “[r]eflection is an important human activity in which people [i.e., the managers/the candidate] recapture their experience think about it, mull it over and evaluate it” (Boud et al., 1985, p. 19), enhancing the ability to deconstruct a respondent’s narrative (Boje, 2001) with the ability to discern meaning as a peer within a “community of practice,” learning, and constructing meaning and identity (Wenger, 1998).

3.6 Sample Design

The sample design included five case studies (Chapter 4) of managers selected as a purposeful sample from SMEs in the finance and insurance and real estate industries, relying on primarily interview data with the managers of the firms (six managers were interviewed in person). The survey study (Chapter 5) involved a pilot that was sent to 30

managers in large and small firms (in the same industries), and there were 10 respondents. Both the case studies and pilot survey were a part of a regional sample. The final survey used in the main study included 101 surveys sent to managers in large and small firms. The population was drawn from the finance and insurance and real estate sectors. A professional survey service was used (section 5.5) in which the candidate created custom filters prior to sending the survey (i.e., the respondent had to be a manager, within the above sectors, within the United States). The response rate ranged from 64 to 101 answered questions, a minimum response rate of 63.4%.

3.7 Ethical Considerations

Ethical considerations are an important aspect of the research design and methodology and were observed at all stages of the research process. They involved acting honestly and professionally and with the utmost integrity throughout the research process. This included using research data fairly and responsibly, taking care not to include personal views or biases so as to avoid influencing the results, maintaining impartiality, and processing only valid data and developing only those results that could be fully supported by it.

Ethical considerations regarding the participants in the study involved communicating in verbal and in written form (Appendix A) that their confidentiality would be respected, they would remain anonymous, their participation was totally voluntary, and that they could withdraw from the study at any time for any reason. The participants held right of first refusal regarding their personal information being published, although none of those participating in the research was expected to be adversely affected as a result of participation.

3.8 Summary

The chapter detailed the research design and methodology. This included discussion of the research paradigm used, referred to as phenomenology. The research methods used to collect data, including the case and survey methods, were established. This was followed by the assessment of the methodological approaches previously used in DC research, as published in top management journals, to be compatible with those used here. The research setting and relevant context and the sample design were described, followed by the ethical considerations with respect to conducting the research. The data collection and analysis chapters for the multi-case and survey studies are presented next.

Chapter 4: Data Collection and Analysis: Multi-Case Study

4.1 Introduction

The chapter begins with the description of the data collection and analysis process taken for the research (section 4.2). This is followed by the identification of DMCs (section 4.3). DMCs are classified (section 4.4), and competitive advantage of DMCs (section 4.5) presented.

4.2 Data Collection and Analysis Process

The data collection and analysis consisted of the multi-case study (Stake, 2006) of five SMEs, focusing on the managers of these firms and how they created, extended, and modified their resource base during periods of rapid change in order to compete. The data included, but was not necessarily limited to, the primary and secondary data as (section 4.2.1, Table 4.1), derived from the collection and analysis process (section 4.2)

4.2.1 Types of Data Collected

Table 4.1 Primary and Secondary Data Collected

<i>Business/ Corporate Structure/ Employees</i>	<i>Main Informant(s)/ Years in Business</i>	<i>Primary Data Collected</i>	<i>Secondary Data Collected</i>
Insurance Agency/ Limited Liability Company (LLC) started in 1935; four locations; 170 employees	Principal (Manager)/ Active in insurance profession since 1970	Semi-structured interview data, phone conversation, e-mails	Documents and analysis providing information from internal and external sources (e.g., websites, local, national and international media)
Accounting Firm/ Locally owned and operated LLC since 1969; one location; 19 employees	President and CEO/ Started firm in 1969 Tax Manager/ Active in accounting profession since 1970	Semi-structured interview data, phone conversation, e-mails, informal discussion with employees of the firm	Historical information, news items, company website information, client testimonials
Bank/ Chartered in 1911; bank-holding company corporate structure; stock publicly traded over-the-counter bulletin board (OTC BB); 11 branch locations; 145 employees	President and CEO/ With the bank since 1999, started and managed own business prior to that	Semi-structured interview data, phone conversation, e-mails, clients of the bank	Financial information, news and market data, press releases, corporate profile information, peer review analysis, Director biographies, third-party analyst reports, historical information, client testimonials
Investment Advisor/ Financial consulting group started by current President/Owner in 1984 locally owned and operated LLC; one location; five employees	President/Owner/ Active in financial consulting/investment advising since 1972	Semi-structured interview data, phone conversation, e-mails	Ratings agencies, online company information, book on informant, local news media, information from meetings, client testimonials, local governmental agencies
Real Estate Agency/ Business founded in 1973, franchise established in 1986 as locally owned and operated corporation; two locations; 90 employees	General Manager/Owner Active in real estate profession since 1992, starting as consultant, active as manager for over 25 years starting with Fortune 100 company	Semi-structured interviews, phone conversation, e-mails, informal discussion with agents/employees of the firm	Real estate university information that managers and agents attend, other local and national company data including website information and business documents

4.2.2 Data Collection and Analysis Flow Model

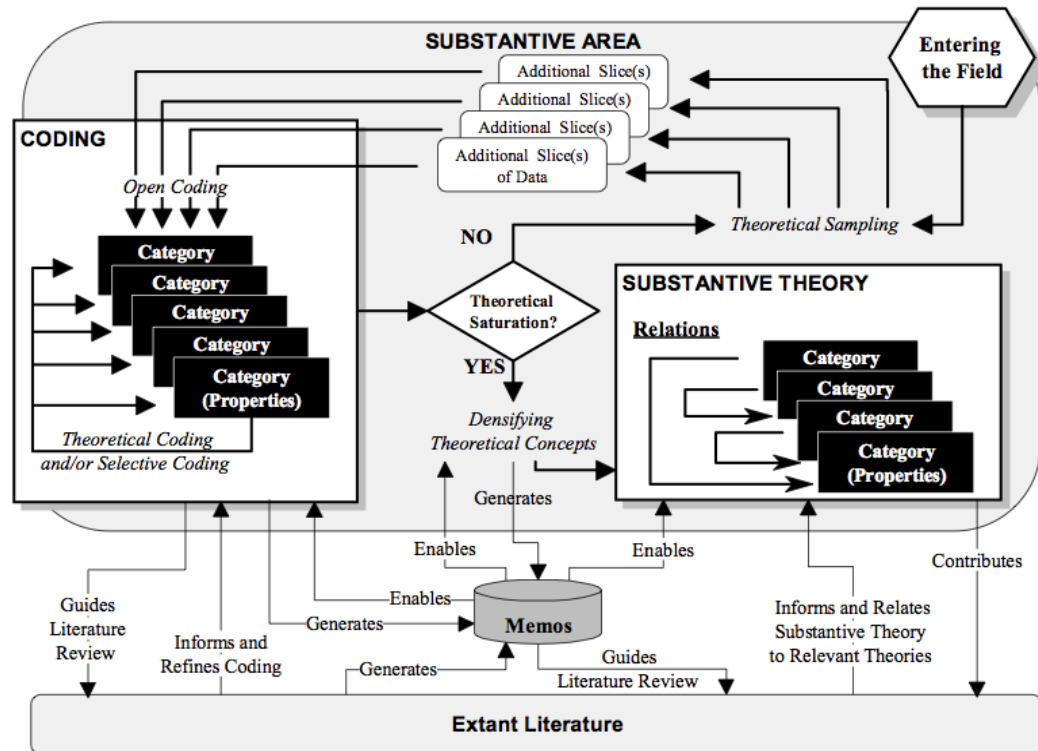
To explain iterative method in a clear and accurate way that “happens sequentially, serendipitously and scheduled” (Glaser, 1998, p. 1) is a challenge (Fernández, 2004, 2005). Nevertheless, the process as followed here involved a systematic approach to the data collection and analysis as outlined in Figure 4.1. The flow diagram was adapted from Fernández (2004, 2005), which is a modified version of one produced earlier (Lehman, 2001), and it also reflects a similar model used in Ph.D. dissertation on how DCs are created (Akwei, 2007).

The flow model details critical areas that make up the data collection and analysis process as was used here. This includes developing the substantive area of the research, entering the field, theoretical sampling, coding (e.g., open, axial, selective, and theoretical coding was used), developing data categories, the use of memos, the constant comparative approach to the collection and analysis of data, showing relations between the data categories, reaching the point of data saturation, and the development of substantive theory.

The data collection and analysis preparation began prior to entering the field with consideration given to research ethics and the logistics of data collection, inclusive of the digital recording, transcription, and coding of semi-structured interview data, preliminary data collection, and case selection (Eisenhardt, 1989). A literature review was conducted prior to entering the field. The preliminary literature review established a critical literature gap, which became the substantive area of the research—namely; DMCs. Entering the field followed the initial preparation process.

Entering the field is the “first research action to be conducted in the context where the phenomenon is found” (Fernández 2004, p. 85). The managers representing a purposeful sample from the five SMEs were contacted via phone and e-mail, and each received a letter of introduction to the research (Appendix A). Upon obtaining agreement from each of them that they would participate in the research, dates were set to visit their offices. This process was initiated during the completion of the research proposal in late 2010, and fieldwork took place mainly during 2011 and 2012, with each of the managers interviewed in their offices, and relevant data collected. The process is presented in the sections to follow (and also in the Appendixes C, D, and E).

Figure 4.1 Data Collection and Analysis Process Flow Diagram



Source: Adapted from Fernández (2004, 2005).

The data collection and analysis process used what is referred to as “theoretical sampling” (Figure 4.1). Theoretical sampling is defined as the process of selecting “incidents, slices of life, time periods, or people on the basis of their potential manifestation or representation of important theoretical constructs” (Patton, 2002, p. 238). It is best used when the research goal involves theory and concept development, with the objective to develop theory and concepts connected to, grounded in, and/or emergent from real life events and circumstances (Cohen & Crabtree, 2006).

The process was iterative, with theoretical concepts emerging from the data, and with the goal of developing a rich understanding (Miles & Huberman, 1994) and building a “thick description” (Geertz, 1973). The process involved what is referred to as open coding, axial coding, selective coding, and theoretical coding, and the use of theoretical memos throughout the process, coupled with a constant comparative analysis, until finally data saturation was reached and substantive theory developed. The constructs used, and the applications from the case study are provided in Table 4.2.

Table 4.2 Construct Reference and Multi-Case Application

<i>Construct Reference</i>	<i>Multi-Case Application</i>
Substantive area: refers to what is being researched.	DMCs and how managers create, extend and modify resources.
Data: facts and/or statistics collected for analysis.	Primary and secondary data, with a focus on semi-structured interviews. The extant literature.
Coding: refers to the process of developing data concepts and/or categories for analysis.	The types of coding used included open, axial, selective, and theoretical coding.
Memos: write-up of ideas and observations during the data collection and analysis.	This included writing down thoughts (e.g., field notes) throughout the entire process, (e.g., keeping data notebooks).
Constant comparative analysis: refers to comparing the data within and across cases and to the literature.	Comparing incidents and categories of data, integrating concepts, delimiting data, and generating theory.
Open coding: refers to the first and unrestricted pass at coding data.	Establishing case study “episodes” or incidents describing what was going on.
Axial coding: refers to establishing linkages and connections in the data.	Developed constructs that helped (1) identify, (2) classify, and (3) examine DMCs in terms of generating advantage.
Selective coding: involves delimiting the data to core variables.	The important classifications of what DMCs managers used.
Theoretical coding: involves synthesizing the coding and generating propositions.	Propositions were formulated based on the classifications of DMC.
Theoretical saturation: the point at which no new data categories are emerging.	The constant comparative analysis that lead to the final classifications of DMC.
Substantive theory: is theory applicable to a particular area, as opposed to so-called grand theory.	Found what DMCs are used in periods of change in order to compete.

The constructs above were used in the data collection and analysis process. The following sections show the linkages between the constructs used, emergent data themes, and the multi-case study outcomes and results. The multi-case study included three critical steps in accordance with the research objectives that involved (1) identifying DMCs, (2) classifying them, and (3) assessing the likelihood of achieving and/or sustaining competitive advantage using them. Each of the “steps” (i.e., the process was not always sequential) is outlined below with illustrations provided from the multi-case study.

4.2.3 Steps in the Data Collection and Analysis Process

The first step allowed for the identification of DMCs, and involved the process of analyzing primary and secondary data, including an emphasis on semi-structured interview data, which was recorded, transcribed, and coded line-by-line. The data were coded using numbers, letters, symbols and words in order to group them into meaningful categories. The overall process involved what is referred to as open or substantive coding, which refers to the first and unrestrictive pass at coding qualitative

data. The term “coding” as used here simply refers to the process of developing data concepts and/or categories for analysis.

The semi-structured interviews were important in identifying DMCs. The interview questions (Appendix B) asked managers to discuss their most important resources, and how they were used to help them achieve their goals. They were asked to think of a significant change in the business environment, describe it, and explain what they did in response. They discussed how they changed their resource base, the types of resources involved, and what the “before” and “after” picture looked like. They were asked questions regarding how they decided what resources and capabilities to change, the processes involved, how they went about searching for opportunities and selecting them, the actions they took with respect to implementation, and whether the change gave them any advantage competitively.

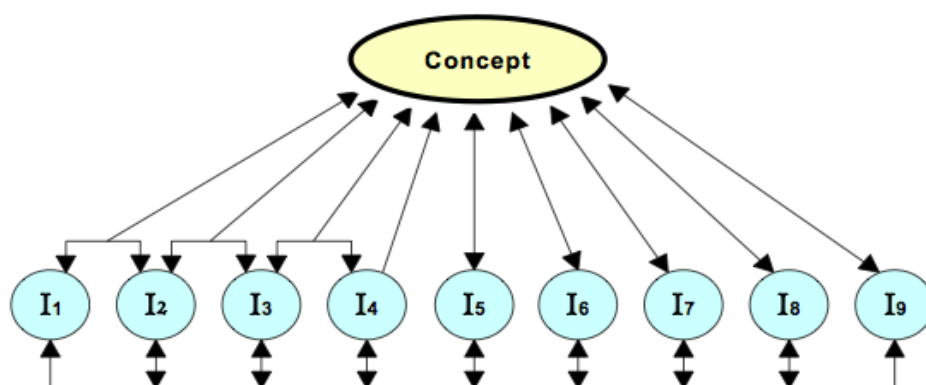
The managers discussed significant incidents and gave specific examples in which they reconfigured their resource base, given significant change to the external environment in order to compete. These incidents are referred to here as case study “episodes.” The initial coding of the data included naming the episodes, using the informants’ own description of what was happening when possible. This was also done in order to code the phenomena in a way that would make it accessible to study, and so each episode was named in a way that described what it was about. For example, the “aggregator model,” and “a joint venture with a community bank” and “entrepreneurial management” are examples of episodes from the cases conducted with the insurer and banker respectively.

Constant comparative analysis was used to assess data from these case study episodes, both in and across cases, and the data were compared and contrasted to the DC literature continuously, cycling back and forth. The identification of DMCs initially involved looking at where managerial capabilities were used in case episodes and determining where, when, and how managers created, extended, and/or modified resources, as well as the managerial search, selection, and configuration and/or coordination of resources involved. The instances where this occurred were then coded as including these activities as part of the open coding process. The open coding process was followed by use of axial coding (Strauss & Corbin, 1990, 1998), which established additional linkages in the data.

The constant comparative analysis and axial coding process established links between each of the constructs from the literature and case study data (Appendix C). The use of a combination of constructs as put forth in the DC literature, and adapted to the study of DMCs here, helped provide a sufficiently robust mechanism to define and identify it. The constructs are collectively referred to here as *first-order* constructs. The literature has defined DMC, and has noted AO is a part of it (Helfat et al., 2007), and conceptualized that “sensing” and “seizing” is also a DC (Teece, 2007), and also a DMC (Martin, 2011), and that “ordinary” capabilities (Winter, 2003) achieve technical fitness, and DCs can achieve evolutionary fitness (Martin, 2011).

The first-order constructs that emerged and that were used, developed, and tested are: DMC, AO, technical fitness, (TF) and evolutionary fitness (EF), as in Helfat et al. (2007), with Teece’s (2007) disaggregation (TD) of DCs for analytical purposes used. These constructs were empirically developed in order to identify DMCs. The use of the first-order constructs answers calls from the literature to do so, and makes an original contribution. Each of the constructs can be imagined as an “indicator” in the figure below (e.g., I1, I2, I3). When multiple indicators (i.e., first-order constructs) were found in a case episode, the episode was assessed further. When it was found that a given episode included each of the first-order constructs, this provided the necessary evidence to establish that the phenomenon under study represented DCs/DMCs.

Figure 4.2 The Concept Indicator Model



Source: Adapted from Glaser (1978).

Thus, where a case episode included each of the first-order constructs, it was considered to be an area that contained sufficient evidence of a DMC, and then subject to further analysis. The concept indicator model in Figure 4.2 provides a visual illustration of how critical indicators, (e.g., first-, second-, and third-order constructs)

were used to establish the core concepts developed and discovered in the data collection and analysis process (e.g., DMC identification, classification, and/or competitive advantage). The identification of DMCs using first-order constructs is illustrated in Table 4.3 using data from case episode 3C, in which the manager of the insurer used DMCs in a joint venture with a community bank.

Table 4.3 Identification of DMCs: Constructs and Case Illustrations

<i>First-Order Constructs</i>	<i>Construct Definition</i>	<i>Illustration from Case Episode</i>
DMC	“Dynamic managerial capability refers to the <i>capacity</i> of managers to create, extend, or modify the <i>resource base</i> of an organization” (Helfat et al., 2007, p. 121, emphasis original).	The joint venture created new resources (e.g., a “virtual agency” was set up), which extended the resource base of the insurer to also include resources of the bank (e.g., bank employees generating new referral business for the insurer).
AO	“Asset orchestration refers to managerial search, selection, and configuration/coordination of resources and capabilities” (Helfat et al., 2007, p. 121).	The managerial search and selection involved finding the right joint venture partner and conducting the requisite due diligence, as the manager of the insurer pointed out that banks and insurance agencies typically do not “mix well.” The configuration and coordination involved orchestration of resources (e.g., IT, financial) including capabilities (e.g., marketing, sales).
TD	“For analytical purposes, dynamic capabilities can be disaggregated into the capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and when necessary, reconfiguring the business enterprise’s intangible and tangible assets” (Teece, 2007, p. 4).	The manager of the insurer senses opportunity in the form of a joint venture and seizes this opportunity. The venture helps achieve competitive advantage by generating new market demand using a referral mechanism (e.g., a “virtual agency” that was created). The venture involved resource reconfiguration. The manager orchestrated intangible assets such as human capital in the form of knowledge and sales expertise (both at the bank, whose employees generate referrals, and at the insurer, whose experts will place coverage), and also managed reconfiguration of tangible assets (e.g., technological, financial).
TF	“Technical fitness denotes how effectively a <i>capability</i> performs its intended function (its quality) when normalized (divided by) by its cost” (Helfat et al., 2007, p. 122, emphasis original).	The manager of the insurer stressed every line item regarding income and expenses was examined in detail in order to determine where both firms needed to be to make a strong profit, with pro forma projections for \$10.5 million of new revenue. The joint venture allows the insurer to make a living in the present and the capability is technically fit.
EF	“Evolutionary fitness refers to how well a <i>dynamic capability</i> enables an organization to make a living by creating, extending, or modifying its <i>resource base</i> . Influences on evolutionary fitness include <i>technical fitness</i> , competition, and market demand” (Helfat et al., 2007, p. 121, emphasis original).	The joint venture satisfies the ongoing need for organic growth for each of the entities. The joint venture increases the number of demanders for insurance products, generating new revenue streams. The venture helps both firms adapt to changing market conditions and capture new business.

The second step involved classification of DMCs. The constant comparative analysis continued after DMCs were identified in case incidents or episodes, as new data were analyzed, and previously collected data reassessed as new insights emerged. The primary and secondary data collected were re-reviewed (e.g., transcribed interviews, field notes kept in research binders, business documents, etc.) and compared and contrasted with studies conducted on DCs and DMCs (e.g., books, and scholarly

journal articles including the intellectual core DC literature). This involved going over data already coded at an earlier stage, re-coding it, and also coding newly gathered data, continuously developing linkages and grounding theory in data, and establishing the emergent DMC classifications, as in Table 4.4 (see also Appendix D and E).

Table 4.4 Classification of DMCs: Constructs and Case Illustrations

<i>Second-Order Constructs</i>	<i>Construct Definition</i>	<i>Illustrations from Case Episodes</i>
LBDMC	<p>Learning-based dynamic managerial capability (LBDMC) refers to the capacity of managers to use the acquisition of knowledge (tacit or intuitive and explicit knowledge) or skills through experience, practice, or study, or by being taught, in order to create, extend, or modify the resource base of an organization.</p> <p>LBDMC includes managerial “know-how,” and goes beyond “problem solving,” and is used to transform the “system as it exists.” It involves lifelong learning and fostering learning in the organization.</p>	<p>In one episode, the GM of the real estate agency reflected that the ability to manage the franchise “comes from layers and layers of knowledge over years,” that included learning from others that were successful in the field of business management, leadership, strategy, and motivation.</p> <p>In another episode, the President of the investment firm had to call each of the firm’s clients and explain to them that what had worked for 37 years no longer did, and that based on fundamental and technical analysis, that a total restructuring of the investment portfolio was called for.</p>
IBDMC	<p>Innovation-based dynamic managerial capability (IBDMC) refers to the capacity of managers to make changes to something established (e.g., by introducing new ideas, methods, products and/or services) in order to create, extend, or modify the resource base of an organization.</p> <p>It involves the process of translating ideas or inventions into goods/services that create value that customers will pay for. The idea of entrepreneurial management is an important aspect of IBDMC.</p>	<p>In one episode, the CEO of the bank stated, “I’m a little unique in that I have not been a career banker, ...I’m an entrepreneur” and introduced the first mobile device banking applications in the local market.</p> <p>In another episode, the manager of the insurance agency said, “I love innovative things where you can capture market share which was simply not identified” in developing a technology for generating demand in the form of a virtual insurance agency web portal with a local bank.</p>
PL	<p>Participative leadership (PL) is when the manager allows employees to be engaged in the strategic process of the firm and to be involved in the decision-making it entails. It is more of a democratic, as opposed to autocratic approach to leadership (e.g., employees are a valued part of the team).</p> <p>The notion that employees can actively participate in the managerial process, and in so doing help realize personal and firm goals, is a critical component of PL.</p>	<p>The investment advisor stressed employees have got to be included “in the mix” and given autonomy to do what needs to be done. “If you’re looking at how some survive the years and others don’t, again I’ve worked with the others—the CEO was ‘the CEO’ and there’s this class distinction within the company.” Many local firms have gone out of business, because, “it’s not always the market, a lot of times it’s the internal structure”—employees are not part of the “team.”</p>
ABDMC	<p>“Acquisition-based dynamic [managerial] capability [ABDMC] is a form of <i>relational capability</i> that refers to the capacity [of managers] to use business acquisitions to obtain new resources and capabilities” (Helfat et al., 2007, p. 121, emphasis original).</p>	<p>The insurer offered that the sheer size of the organization he joined as a result of an acquisition, created all kinds of opportunities, such as having in-house legal counsel, a dedicated HR professional at the disposal of clients, and having loss control experts available at very little notice.</p>
RC	<p>“Relational capability [RC] is a type of <i>dynamic</i> [managerial] <i>capability</i> that refers to the <i>capacity</i> of the [manager] firm to purposefully create, modify or extend the firm’s <i>resource base</i>, augmented to include the resources of partners” (Helfat et al., 2007, p. 122, emphasis original).</p> <p>RCs involve formal or informal alliances including partnerships, acquisitions and/or joint ventures, for example.</p>	<p>The insurer noted that “the little guys [were] getting squished out” of the business given the dynamics of the market. The solution was to create a new resource called an aggregator that allowed the smaller firms to band together and consolidate their volume, attracting larger insurance providers whose resources they could then use.</p> <p>The relational capability has 600 members across six states, with 8 to 10 new agencies being added per month, and generates revenues of over \$35 million in new business annually.</p>

The results showed what DMCs the managers of the SMEs used in periods of significant change in order to be competitive. These emergent DMC categories were then subject to selective coding (Glaser, 1998), which involved systematically subjecting the emergent categories of DMC to further constant comparative analysis. The process gradually generated what are referred to as *classifications* of DMCs here.

The emergent classifications, also referred to as *second-order* constructs, are defined as learning-based dynamic managerial capability (LBDMC), innovation-based dynamic managerial capability (IBDMC), participative leadership (PL), relational capability (RC) and acquisition-based dynamic managerial capability (ABDMC). They represent core capabilities used by each of the managers in the case study episodes during significant change in order to be competitive. The constructs RC and ABDC were developed in Helfat et al. (2007), and are applied to DMCs here. The constructs LBDMC, IBDMC, and PL were developed by the candidate, and represent an original contribution.

The third step involved determining the competitive potential of the DMC. This process involved analyzing whether or not the instances of DMC classified as LBDMC, IBDMC, PL, ABDMC, and RC from each of the case study episodes were likely to achieve and sustain competitive advantage in the firms. This included using resource-based theory established in the VRIO model.

Table 4.5 Competitive Advantage of DMCs: Constructs and Case Illustrations

<i>Third-Order Constructs</i>	<i>Questions</i>	<i>Illustration from Case Episode</i>
V	“ The Question of Value: Does a resource enable a firm to exploit an environmental opportunity, and/or neutralize an environmental threat?”	The joint venture allowed the firms to exploit an opportunity to sell insurance and capture fee income during a down market environment (recession 2007-2009), and a period of low interest rates (neutralizing a threat).
R	“ The Question of Rarity: Is a resource currently controlled by only a small number of competing firms?”	The insurer and community bank controls the “virtual agency” and the resource is unique to these two firms. The tangible/intangible resources, which underpin the joint venture and the “virtual” agency, are rare.
I	“ The Question of Imitability: Do firms without a resource face a cost disadvantage in obtaining or developing it?”	Firms would face a disadvantage in that the resource cannot be bought, and to develop it would be cost prohibitive as the insurer has bundled the capacity with others not available to rival firms (e.g., global alliances regarding insurance providers).
O	“ The Question of Organization: Are a firm’s other policies and procedures organized to support the exploitation of its valuable, rare, and costly-to-imitate resources?”	The policies and procedures that the insurer and bank have developed allow a seamless referral generating system, designed to capture a market that is estimated to bring in \$10.5 million in net new revenue to the firms.

The classifications of DMC in each of the case episodes were assessed in terms of their potential for achieving and sustaining competitive advantage using Barney and

Hesterly's (2012) VRIO model (as discussed in Chapter 2). When a DMC was considered valuable, rare, inimitable, and had been adopted throughout the organization, it was considered likely to achieve and sustain competitive advantage. In Table 4.5, the variables from the VRIO model are referred to as the *third-order* constructs. The illustrative data is from the aforementioned case episode that involved a joint venture between the insurer and a community bank, which is expected to help the insurer achieve and sustain competitive advantage.

Thus, the information in the section above provided the details of the data collection and analysis process for the multi-case study (additional case data is provided in Appendix D and E). The steps involved in data collection and analysis that are relevant to developing theory on DMCs were established. The steps involved identifying, classifying, and determining competitive advantages of managerial capabilities. The approach is now developed further in the following sections in greater detail.

4.3 Identification of DMCs

Recall that the identification process involved assessing case episodes and determining where (1) managers created, extended, and modified resources, (2) where managerial search, selection and configuration, and coordination of resources and capabilities (AO) was involved, (3) where this included managers "sensing" and "seizing" opportunities and managing threats (TD), and also whether the capacity exhibited (4) technical (TF) and (5) evolutionary fitness (EF).

The multi-case study yielded 18 episodes, or incidents. There were 16 specific case episodes where DMCs were manifest. The episodes are represented in Table 4.6. In the table, the first column shows the SME from the case study. (The four-digit descriptor was a part of the original open and axial coding process as discussed in section 4.2, and in Appendix C.) The second column refers to each specific case episode (labeled 1A through 18R). The remaining columns show where each of the first-order constructs was present (or, as in case episodes 6F and 7G, where DMC was *not* present).

The following illustration is from the multi-case study and shows where DMC was first identified. In case episode 2B, referred to as the "Aggregator Model," the manager of the insurer reconfigured resources, which involved creating a new resource and extending the resource base of the manager's agency (and other agencies too). The process involved AO, TD, and the capability achieved EF. The discussion of this

episode in the following sections provides an illustration of how DMCs were identified, classified, and assessed in terms of competitive advantage.

Table 4.6 DMC—Identification

<i>Case Study</i>	<i>Case Study Episodes</i>	<i>First-Order Constructs</i>				
		<i>DMC</i>	<i>AO</i>	<i>TD</i>	<i>TF</i>	<i>EF</i>
Insurance Agency 4.4.1.2	(1A) The Ability to Anticipate	*	*	*	*	*
4.4.1.3	(2B) The Aggregator Model	*	*	*	*	*
4.4.1.4	(3C) Joint Venture with a Community Bank	*	*	*	*	*
4.4.1.5	(4D) Perpetuation Planning	*	*	*	*	*
4.4.1.6	(5E) A Strategic Alliance and New Global Markets	*	*	*	*	*
4.4.1.7	(6F) The Future as an Opportunity	-	-	*	-	-
Accounting Firm 4.4.2.2	(7G) Audit Insurance: Operational or Dynamic Capability?	-	-	-	-	-
4.4.2.3	(8H) Relational Capability with an Investment Service	*	*	*	*	*
Bank 4.4.3.2	(9I) People Portfolio: Investing in Human Capital	*	*	*	*	*
4.4.3.3	(10J) Entrepreneurial Management	*	*	*	*	*
4.4.3.4	(11K) The Performance Culture Model	*	*	*	*	*
Investment Advisor 4.4.4.2	(12L) Lifestyle Planning Capability	*	*	*	*	*
4.4.4.3	(13M) Relational Capability with an Investment Company	*	*	*	*	*
4.4.4.4	(14N) Strategic Portfolio	*	*	*	*	*
4.4.4.5	(15O) Participative Leadership Capability	*	*	*	*	*
Real Estate Agency 4.4.5.2	(16P) Business Development Capability	*	*	*	*	*
4.4.5.3	(17Q) A Relational Capability with the Parent Firm	*	*	*	*	*
4.4.5.4	(18R) Learning-Based Capacity	*	*	*	*	*

4.3.1 Illustration of Identification of DMCs

The Principal (manager) of the insurance agency headed a trade association called the agent's resource committee, described as the major "think-tank" in the insurance business. The association represents 1,600 businesses at the local level, and is also the largest single component of the national insurance association. It is comprised of approximately 25 individuals, none of whom can volunteer for the role because they are handpicked based on their ability to identify visionary needs. The manager stressed that the ideas of the committee members are valued and there is an attempt made to resist what is wrong with an idea, and assume if someone in the group advanced one that it must have basic merit. Instead of "rolling boulders in the pathway," they seek creative ways to develop them, analogous to an appreciative inquiry approach (Kinni, 2003).

One of those ideas regarding the “hard market” that started in the 1990s involved “the realization that smaller member [insurance] agencies, made up of five or six individuals, doing \$200,000 to \$300,000 in revenue, were losing market share due to the evolution of the markets” and that there were waves of consolidations with “the little guys getting squished out.” The manager thought about ways in which this could be avoided. The solution came from a sub-committee headed by “two of us” in which the manager had the idea that involved creating “an aggregator, that allows these smaller guys to band together, [and] consolidate their volume.” The aggregator would “attract large carriers like Traveler’s or CNA or Chubb who may demand \$1.5 million per month,” in volume, because “maybe these smaller insurers are in smaller communities that don’t allow for that volume, and therefore couldn’t access these carriers.” The aggregator would therefore enable them to capture revenues heretofore unavailable.

The strategic planning used to develop the aggregator involved a critical assessment of what went wrong with other aggregators. The manager researched them carefully and noted they all began to fail at some point. Primarily this was due to how they were designed with respect to the incentive structure regarding remuneration of members. For example, the commissions were structured in a way that led smaller carriers to place the riskier insurance inside the aggregator, and place less risky coverage outside the aggregator in order to attain higher revenues. The result was a viscous cycle, which led to higher loss ratios, the loss of revenue streams, and the subsequent waning of interest from larger carriers to participate. The members therefore experienced erosion of resources and declining profits. The manager described this in terms of the “adverse selection” effect.

The manager’s research provided a blueprint for a new and innovative model. A committee of seven unpaid volunteers was assembled and charged with strategic planning in the areas of marketing, finance, HR, accounting, and governance. Unique approaches to commission structures that included higher commissions to member firms when a predetermined sales target was hit, and funding the aggregator through a limited public offering that raised a million dollars, were put in place to avoid “adverse selection.”

The aggregator was subsequently up and running prior to the estimated seven-month time frame established, it has achieved and surpassed original pro-forma financial estimates, and has continued to grow and attract new members. For example, the

aggregator generated \$1 million in net income in the fiscal year ending in 2010, and was generating more than \$35 million in business on an annual basis. As of 2011, there were more than 600 agencies participating, across six states, with additional member agencies being added at a rate of 8 to 10 per month. The Principal of the insurance agency has since been asked to act as a consultant to the insurance industry in developing the aggregator model across other regions.

In episode 2B, DMCs were identified using the first-order constructs. In the specific example, the manager reconfigured the resource base—purposefully extending and modifying it—creating a totally new resource. The process involved AO, and the requisite managerial search, selection and configuration, and coordination activities, which were critical in bringing the new resource online (e.g., selecting and coordinating the proper resources in terms of marketing and HR).

The development and utilization of the aggregator involved “sensing” and “seizing” opportunities and managing threats. The manager saw the waves of consolidations during the “hard market” and sensed and then seized the opportunity to develop a new resource, and subsequently managed the economic threats in helping smaller carriers band together, in a purposeful way that was designed to overcome the critical failures of the other aggregator models.

The aggregator capability that was developed is technically fit. It “makes a living” as a functional entity in the markets it serves (e.g., with 600 member agencies across six states), performing effectively from a cost-benefit perspective (e.g., it has achieved accounting and economic profits), and it is therefore more valuable than an operational or “ordinary” capacity, and it is also an evolutionary and dynamic one—because the old model was completely transformed into something new, in order to survive and grow in difficult markets.

4.4 Classification of DMCs

The emergent classifications of DMCs were resultant from a rigorous approach to continuously assessing “who, what, when, where, why, how and with what consequences” (Strauss & Corbin, 1998, p. 22). The data were subject to the constant comparative analysis, which compared data in and across cases and with the literature to build theory (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). The process involved establishing patterns and developing themes as outlined in section 4.2 above, and shown in Appendix C.

The important classifications and the frequency of their occurrence within each of the 16 case episodes are shown in Table 4.7. In the table, the first column identifies the case study in which a particular classification of DMC was manifest, with each of the DMC classifications shown as headings (e.g., LBDMC, IBDMC, etc.), along with the corresponding case episode in which they were detected. (For example, case episodes 2B and 3C in the table presented below refer to the “Aggregator Model” and the “Joint Venture with a Community Bank” from Table 4.6 above.)

Table 4.7 DMC—Classification

<i>Case Study</i>	<i>Second-Order Constructs</i>				
	<i>LBDMC</i>	<i>IBDMC</i>	<i>PL</i>	<i>ABDMC</i>	<i>RC</i>
Insurance Agency	(2B), (3C), (4D)	(2B), (3C), (5E)	(2B)	(4D)	(1A), (2B), (3C), (4D), (5E)
Accounting Firm	(8H)	-	-	-	(8H)
Bank	(9I), (10J), (11K)	(10J)	(9I), (11K)	-	(3C)
Investment Advisor	(12L), (14N)	(12L)	(15O)	-	(13M)
Real Estate Agency	(16P), (18R)	-	(18R)	-	(17Q)

In the multi-case study, there were 11 instances in which LBDMC was classified, five where IBDMC was found, five episodes that involved PL, and nine in which the managers established relational capabilities (ABDMC is considered an RC). The insurer used DMCs in five different episodes, the accountant in one, the banker in three, the investment advisor in four, and the realtor in three.

The managers of the insurance agency and the bank used LBDMC in three different case episodes. The investment advisor and realtor used LBDMC in two episodes and the manager with the accounting firm in one. With respect to IBDMC, the insurer used it in three episodes, the bank and investment firm managers in one, and PL was used by each manager, aside from the accounting firm, and each of the managers also established an RC (the insurer established five, and was also the only manager demonstrating ABDMC).

The analysis further showed that each manager used DMCs in different combinations. For example, the manager of the insurer used DCs in combination with each other in four different episodes, as did the bank CEO (the RC with the insurer provides an interesting nexus, where DCs were actually developed and shared by two of the managers, in different firms in the multi-case study). The managers of the investment service, real estate agency, and accounting firm each had one DMC

combination within their firms. These DMC combinations are referred to here as portfolios.

4.4.1 DMC Portfolios

DMC portfolios involve using two or more DMC classifications together in order to create, extend, and/or modify resources. The idea of dynamic portfolios is analogous to the language of finance in that it invokes the idea of a range of investments in assets that are managerial capabilities, which are referred to as *competitive intangibles*. The portfolios are groupings of these managerial capabilities. These portfolios were developed by each of the managers of the SMEs, and they represent the DMCs that managers used during periods of rapid change in order to compete. The portfolios were inclusive of LBDMC, which, significantly, was a capability that was used with the other DCs a total of nine times (and it was the only DMC which each manager used with another DC in the case study); IBDMC was used with other DCs in five cases; PL with other DCs four times, and RC was also used in combination with other capabilities five times (six when the RC between the bank and insurer is added to the total).

4.4.2 Illustration of Classification of DMCs

The case episode 2B referred to as the “aggregator” in previous sections helps illustrate the classification process, and how the Principal of the insurer used DMCs vis-à-vis a portfolio of competitive intangibles. In that episode, the manager used LBDMC, IBDMC, PL, and established an RC (this was the only episode from the case study in which each of the classifications was manifest).

LBDMC was used in the development and operation of the aggregator. The capacity of the manager to use knowledge and skills through experience and “know how” (e.g., more than 40 years in the insurance business), and research (e.g., researching the other models and determining their strengths and weaknesses) was critical. LBDMC was evident in bringing the aggregator online (e.g., the manager had researched what had gone wrong with previous models, and found a new opportunity to counter the economic threats), which impacted and facilitated innovation-based capabilities (e.g., having researched the existing aggregator models, and studied what went wrong with them, the manager fundamentally changed the system in an innovative way).

The manager of the insurer made changes to the established model (e.g., by introducing new ideas, methods, and services) using a participative approach, and used

what was learned through experience to innovate and change the “system” as it exists using DMCs, analogous to the idea of double-loop learning (Argyris & Schön, 1974, 1978).

The use of these individual capacities impacted on ordinary or operational capabilities at the organizational level (e.g., the insurer’s ability to place insurance coverage with larger carriers was enhanced). This extended the insurer’s resource base (e.g., by pooling resources, including the buying power of 600 agencies), and this involved using new and innovative processes and procedures (e.g., innovative funding of the aggregator, as developed through learning about how the funding of other models failed; the resultant LPO that raised \$1 million; the subsequent use of tiered commission structures in order to avoid the adverse-selection inherent in the other aggregator models).

The aggregator model represents an evolutionary innovation, brought about by advances in processes, and positions, and modification of path-dependent routines. The innovation involved entrepreneurial management and asset orchestration, with respect to the managerial search and selection and the configuration and coordination of resources and capabilities, inclusive of the capabilities of the participating executives that the manager assembled together in setting up the aggregator. This further impacted on learning-based capacities (e.g., in the form of adapting innovations to key areas such as finance, marketing, accounting, and management of the aggregator).

The manager of the insurer demonstrated the ability to take ideas and convert them into value-added services to meet the needs of a changing market. This involved comingling learning and innovation-based capacities, and participative leadership skills that facilitated the development and operation of the aggregator. It involved the behavioral DMCs that the manager of the insurer used (i.e., LBDMC, IBDMC, and PL), which were instrumental in establishing the relational capabilities that are the physical manifestation of their use to some extent in this case. These behavioral capabilities are considered essential. They are transformational. (These ideas are discussed in further detail in the results and conclusions chapter.)

The orchestration of resources and capabilities, including tangible and intangible assets (e.g., financial capital, physical capital, human capital) through the use of learning and innovative-based capacities, coupled with a participative leadership approach (e.g., the “ideas” committee), have facilitated the operation of a critical

relational capability that is the aggregator model. The RC was successfully developed into the new aggregator model—conceptualized here as the manifestation of a portfolio of competitive intangibles. These DMCs were used to impact on ordinary capabilities. The capacity the manager used to purposefully create, modify, and extend the insurance agency's resource base, augmented to include the resources of others (e.g., the alliance of 600 member firms), helped member firms survive and grow through time, in episodes of significant change, achieving advantage.

4.5 Competitive Advantage of DMCs

The classifications of DMCs discussed in the previous section, which are LBDMC, IBDMC, PL, and RC, needed to be assessed in terms of achieving and/or sustaining competitive advantage in accordance with the stated research aim and objectives. The problem was that the DC literature had not produced a mechanism to do this with. The VRIO model, used to measure competitive advantage, has been foundational to the RBV literature. Nevertheless, it has not been used to assess DCs even though literature has called for its usage (Helfat et al., 2007; Barreto, 2010). (To date, there are no empirical studies assessing classifications of DMC using VRIO as is done here.)

VRIO was designed specifically in order to assess resources and capabilities. Recall that the framework uses four questions about a resource or capability to determine its competitive potential—value, rarity, imitability, and organization. If a capability was valuable, rare, costly to imitate, and exploited by the organization, it could provide a sustainable competitive advantage. If it was only valuable, the firm could achieve competitive parity using it. If it was valuable and rare, and could be imitated, then the firm would be expected to have a temporary competitive advantage only (Barney & Hesterly, 2012, p. 84).

The classifications of DMCs derived from the multi-case data were assessed using VRIO as shown in Table 4.8. The following capabilities used by the managers led to achieving and sustaining competitive advantage in their firms: LBDMC, IBDMC, PL, and RCs enabled the insurer; LBDMC, IBDMC, and PL enabled the banker (although the RC with the insurer did so too, it was not a part of the data derived from case study of the bank); and LBDMC and PL enabled the realtor. Not all of the capabilities managers used in the case episodes, led to sustainable competitive advantage, as discussed below.

For example, the accounting firm had established an RC (episode 8H) that was not necessarily rare, and could be imitated by rivals. This would be an example of a capability that would not be expected to deliver a sustainable advantage to the firm. Recall that if the capability is valuable, but not rare, then it helps the firm achieve competitive parity (the capability is analogous to one that is ordinary, and technically fit, and not achieving economic rent). If a resource is valuable and rare, a firm has achieved a competitive advantage, but others can imitate what is being done, so the advantage is temporary. But if a capability is valuable, rare, inimitable, and adopted throughout an organization, it is a source of a sustained competitive advantage.

In Table 4.8, the data show that each of the case episodes was assessed using the VRIO framework. The first column represents the SME/manager from the multi-case study. The remaining columns represent the DMC classifications. The case episodes are labeled 1A through 18R, as shown previously. The four classifications of DMCs were often used in combination with each other, collectively, as a portfolio of competitive intangibles. For example, in the aggregator model, as described in case episode 2B, the manager of the insurer used LBDMC, IBDMC, PL, and RC in order to achieve and sustain competitive advantage. The questions from the VRIO model are presented in the following sections, using illustrative data from case episode 2B.

Table 4.8 DMC—Competitive Advantage

<i>Case Study</i>	<i>Application of VRIO</i>				
	<i>LBDMC</i>	<i>IBDMC</i>	<i>PL</i>	<i>ABDMC</i>	<i>RC</i>
Insurance Agency	VRIO (2B)	VRIO (2B), (3C), (5E)	VRIO (2B)	VRIO (4D)	VRIO (1A), (2B), (3C), (4D), (5E)
Accounting Firm	VO (8H)	-	-	-	VO (8H)
Bank	VRO (9I), VRIO (11K)	VRO (10J), VRIO (11K)	VRO (9I), VRIO (11K)	-	VRIO (3C)
Investment Advisor	VRO (12L), (14N)	VRO (12L)	VO (15O)	-	VRO (13M)
Real Estate Agency	VRIO (16P), (18R)	-	VRIO (18R)	-	VO (17Q)

4.5.1 The Question of Value

The question of value: The question of value is answered in the affirmative. By creating a network of more than 600 agencies, across six states, with the ability to place coverage with larger carriers, a new and unique market opportunity was developed. The

aggregator generated increased demand for member services in the markets served, increasing revenues and income. This mitigated threats that were present in the “waves of consolidations” that were taking place during the recessions in the 1990s and 2000s, including the recession of 2007-2009, when smaller agencies were getting out of the market altogether.

4.5.2 The Question of Rarity

The question of rarity: If the market structure is perfectly competitive, the resource is not rare. Perfect competition dynamics are not present, however. A perfectly competitive market is one in which there are numerous sellers, there is unrestricted entry and exit, no ability to set price, no product differentiation, and long-run economic profit cannot be had (Miller, 2014). This is not the case here, because the aggregator (by design) operates in an imperfectly competitive market structure, (e.g., there is restricted entry into the aggregator, and the aggregator has earned above normal economic profits through time, net of opportunity costs). The aggregator is considered rare. It is unique in the markets it serves.

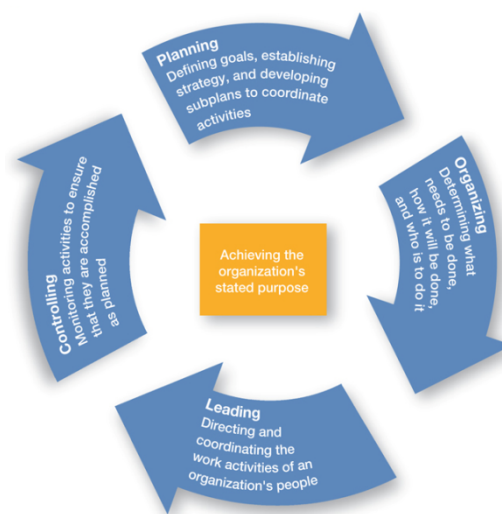
4.5.3 The Question of Imitability

The question of imitability: The aggregator model as a resource and capability is inimitable in that firms have not been able to duplicate it or offer substitutes for it. This is due to the fact that the resources and capabilities (i.e., DMCs) are imperfectly imitable due to isolating mechanisms (Rumelt, 2011) such as causal ambiguity and social complexity. Causal ambiguity occurs when the source of the firm’s competitive advantage is unknown (Peteraf, 1993), and stem from the DMCs used. (The most imperfectly inimitable resource is an individual, and the capabilities they possess.) The capabilities exhibit commonalities, yet are idiosyncratic in detail (Eisenhardt & Martin, 2000). The would-be imitators do not possess, for example the managerial “know how” or “know why” embedded in the LBDMC used by the manager (such as the knowledge and experience gained in researching other aggregators, and the understanding of the moral hazard inherent in them). That the aggregator is inimitable is also a function of social complexity (Conklin, 2006). True, the source of the competitive advantage (e.g., the aggregator) is identifiable to would-be imitators. Nevertheless, would-be imitators are at a competitive disadvantage because it is difficult for non-member firms that lack the specific resources and capabilities that comprise the aggregator to replicate them.

4.5.4 The Question of Organization

The question of organization: To organize is to arrange into a structure. It is one of the functions of management (Fayol, 1916) that involve planning, organizing, leading, and controlling (Robbins et al., 2013). The organization involved the manager of determining what needed to be done, how, and who would do it. It involved dynamic capabilities (i.e., managerial learning-based) impacting on ordinary ones in reconfiguring resources to generate a new organizational capacity. This involved use of both formal and informal management controls. The formal mechanisms included such things as reporting activities (e.g., accounting, finance, and marketing), set forth in the business plan, which are more analogous with ordinary capabilities. Informal controls are more intangible and socially complex (i.e., dynamic) and, in the case of the aggregator, include such things as a culture of participative leadership facilitated by the manager, as illustrated in the “ideas to innovation” approach that gave rise to the aggregator at its inception.

Figure 4.3 Functions of Management



Source: Adapted from Robbins et al. (2013).

4.6 Summary

The sections above describe the data collection and analysis from the research conducted for the multi-case study. As shown in these sections, in accordance with the research aim and objectives, DMCs were identified, classified, and discussed in terms of achieving and sustaining competitive advantage in regimes of rapid change. Additional

data from the multi-case study is provided in Appendix B (semi-structured interview questions), Appendix C (constructs and linkages), Appendix D (sample case data), and Appendix E (a sample audit trail). The data collection and analysis for the survey study is provided in the next chapter.

Chapter 5: Data Collection and Analysis: Survey Study

5.1 Introduction

The following sections constitute the data collection and analysis for the survey study. They include the collection and analysis process (section 5.2), the pilot study report (section 5.3), formulation of propositions (section 5.4), and investigation of the propositions based on the survey data (section 5.5).

5.2 Data Collection and Analysis Process

The data collection and analysis for the survey study was derivative of the processes used for the case study as above, and consisted of building on the results from the case study. The process involved taking the results from the multi-case study that produced classifications of DMCs, and formulating propositions, because the classifications represent DMCs used by managers in their firms in periods of rapid change in order to generate competitive advantage.

The data collection and analysis processes and outcomes for the survey study are provided in detail in subsequent sections in this chapter. The process included piloting the survey with respondents from the finance and insurance and real estate sectors, and using a focus group to comment on the survey (e.g., academicians, practitioners), and subsequently redesigning it. The surveys produced quantitative and qualitative data subject to analysis in the following sections (see also Appendix F and Appendix G).

5.3 Pilot Report

The data collection and analysis phase of survey-based research typically begins with pilot testing (Cooper & Schindler, 2011). A pilot study can provide useful information that informs the research (Yin, 2009; Cooper & Schindler, 2011) and allows for adjustments to be made (Roberts et al., 2003; Remenyi et al., 2005). The pilot survey used a Likert (1932) type scale, which is one of the most widely used survey formats (Albaum, 1997; Malhotra & Peterson, 2005). The first part of the pilot survey provided an introduction to the research for the reader, and also defined key terms that were used, such as “resource” and “resource base” and “competitive advantage.” The second part of the survey had respondents rank preferences on a scale as follows: (1) strongly disagree, (2) disagree, (3) disagree somewhat, (4) neither agree nor disagree, (5) agree somewhat, (6) agree, and (7) strongly agree.

The survey was piloted with managers from the finance and insurance and real estate sectors, who were selected at random. They were part of a regional sample, reflecting the sample used in the multi-case study. The managers were contacted by phone and e-mail, and asked if they would participate. If they indicated in the affirmative, they were sent a follow-up e-mail, and/or contacted by phone, and received a letter of introduction along with the survey. A total of 30 surveys were sent out to gain insight into the process. There were 10 managers who responded, yielding a response rate of 30%, with $n = 5$ responses from the finance and insurance sector and $n = 5$ from the real estate sector. In addition, the respondents had more than 20 years of experience, on average (Table 5.1), and would have therefore experienced periods of significant change to the external environment.

Table 5.1 Pilot Survey Respondent Data

<i>Survey</i>	<i>Type of Business</i>	<i>Position Held</i>	<i>Years in Mgmt</i>	<i>Number of Employees</i>
1	Real Estate	EVP	33	60
2	Accounting	Pres	43	19
3	Real Estate	COO	17	125
4	Real Estate	Pres/Owner/Broker	23	155
5	Real Estate	Pres/Owner	18	35
6	Investments	Pres/Director	4	4
7	Banking	BA Manager	10	10,000+
8	Banking	IT	20	10,000+
9	Real Estate	Owner	15	45
10	Insurance	Agent	19	2

In the pilot survey, managers were asked about each DC, and whether they used it to reconfigure resources (the outcome represented in part A) in periods of rapid change (part B), and whether it achieved advantage (part C). For example, 1A below equates with using LBDMC to reconfigure resources, 1B in periods of rapid change, 1C in generating advantage. The second set (2A through 2C) with IBDMC; the third with PL, the fourth with RCs.

The pilot survey data as shown in Table 5.2 below reveal the respondents average use of LBDMC ($\bar{\chi} = 6.3$), followed by IBDMC ($\bar{\chi} = 5.9$), PL ($\bar{\chi} = 5.9$), and RC ($\bar{\chi} = 4.8$). The RC average was lower, in part due to two respondents from firms with 10,000+ employees less in agreement with using it, and also because a manager of an insurance agency stated that she has little or no autonomy over resources, as resource allocation decisions are made from home office. The data show a positive correlation between the individual dynamic managerial capabilities and using them in periods of significant change toward achieving and sustaining competitive advantage.

Table 5.2 Pilot Survey Sample Data

<i>Survey</i>	<i>1A</i>	<i>1B</i>	<i>1C</i>	<i>2A</i>	<i>2B</i>	<i>2C</i>	<i>3A</i>	<i>3B</i>	<i>3C</i>	<i>4A</i>	<i>4B</i>	<i>4C</i>
1	6	5	5	6	5	5	5	5	5	5	5	5
2	7	6	7	6	6	7	7	6	6	6	6	6
3	6	5	6	6	5	7	6	6	6	6	5	6
4	7	6	6	6	6	6	6	5	6	6	6	6
5	7	7	7	6	6	6	5	6	6	5	5	5
6	7	7	5	7	7	5	7	7	5	7	7	5
7	6	6	5	6	6	5	6	5	5	4	4	4
8	7	7	7	7	6	6	6	6	6	1	1	1
9	7	7	7	7	7	7	5	4	5	7	7	7
10	3	3	2	2	3	2	6	3	4	1	3	3
$\Sigma\chi$	63	59	57	59	57	56	59	53	54	48	49	48
$\bar{\chi}$	6.3	5.9	5.7	5.9	5.7	5.6	5.9	5.3	5.4	4.8	4.9	4.8

Where: $\Sigma\chi$ = sum of all data values

N = number of data items in the population

n = number of data items in the sample

$\bar{\chi}$ = mean

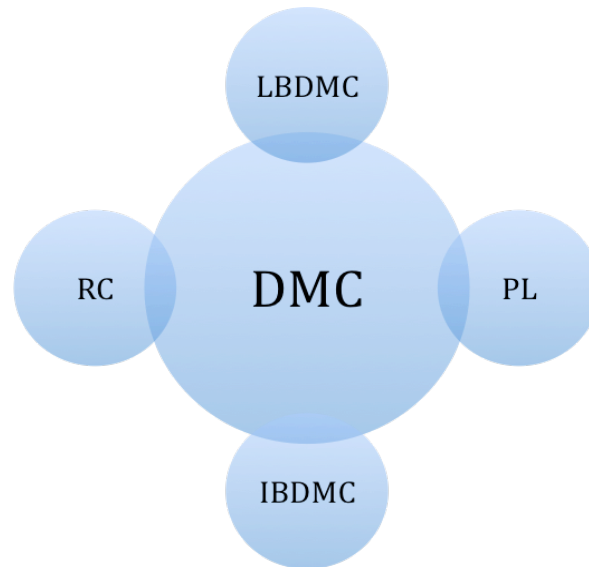
The use of the Likert-type survey was determined to be problematic however, due to the observation that respondents may be predisposed to agree, and that there was “one best answer.” The new survey questionnaire had to be designed to factor out potential bias, including acquiescence (Watson, 1992), and social desirability (Messick & Jackson, 1961). The survey subsequently went through successive iterations, which involved thoroughly testing “question content, wording, sequence, form and layout, question difficulty, and instructions” (Malhotra, 2006, p. 91).

The process involved interviewing two survey respondents after they completed the pilot, and e-mailing managers follow-up questions. Feedback was obtained from professors and undergraduate students in business and economics, the candidate’s supervisor, a statistician, a former editor of an academic journal, and a professional survey service. Consideration was given to such things as the complexity and duration of the survey, its layout and content, and target audience. Forced-choice questions with fixed categories were used in place of the open-ended questions, and the use of matrix questions, ranking questions, and text boxes were carefully designed to limit respondent fatigue and improve response rates. (The survey questionnaire adopted is in Appendix F.)

5.4 Formulation of Propositions

Recall the research question posited what are the DMCs that managers use in practice during episodes of significant external environmental change toward generating competitive advantage? The answer included the classifications of DMCs, (e.g., managers used LBDMC, IBDMC, PL, and RC) represented in Figure 5.1 below.

Figure 5.1 DMCs Managers Used



The survey study involved formulating and testing propositions related to the important classifications of DMCs in the figure above in order to learn more about them. The survey (Appendix F) asked managers to (1) rank DMC classifications in terms of their importance, (2) discuss joint-usage of the capabilities, and also (3) to discuss how the capabilities affect each other. The propositions below were therefore developed to build on the DMC classifications derived from the case study, and reflect the stated research aim to build substantive theory into DMCs.

5.4.1 Proposition I: Ranking of DMCs

Managers value certain capabilities as more important than others in periods of rapid change in order to achieve and sustain competitive advantage.

5.4.2 Proposition II: Joint Use of DMCs

Managers use certain capabilities jointly with other capabilities in periods of rapid change in order to achieve and sustain competitive advantage.

5.4.3 Proposition III: Development and Operation of DMCs

Managers use certain capabilities in the development and operation of other capabilities in periods of rapid change in order to achieve and sustain competitive advantage.

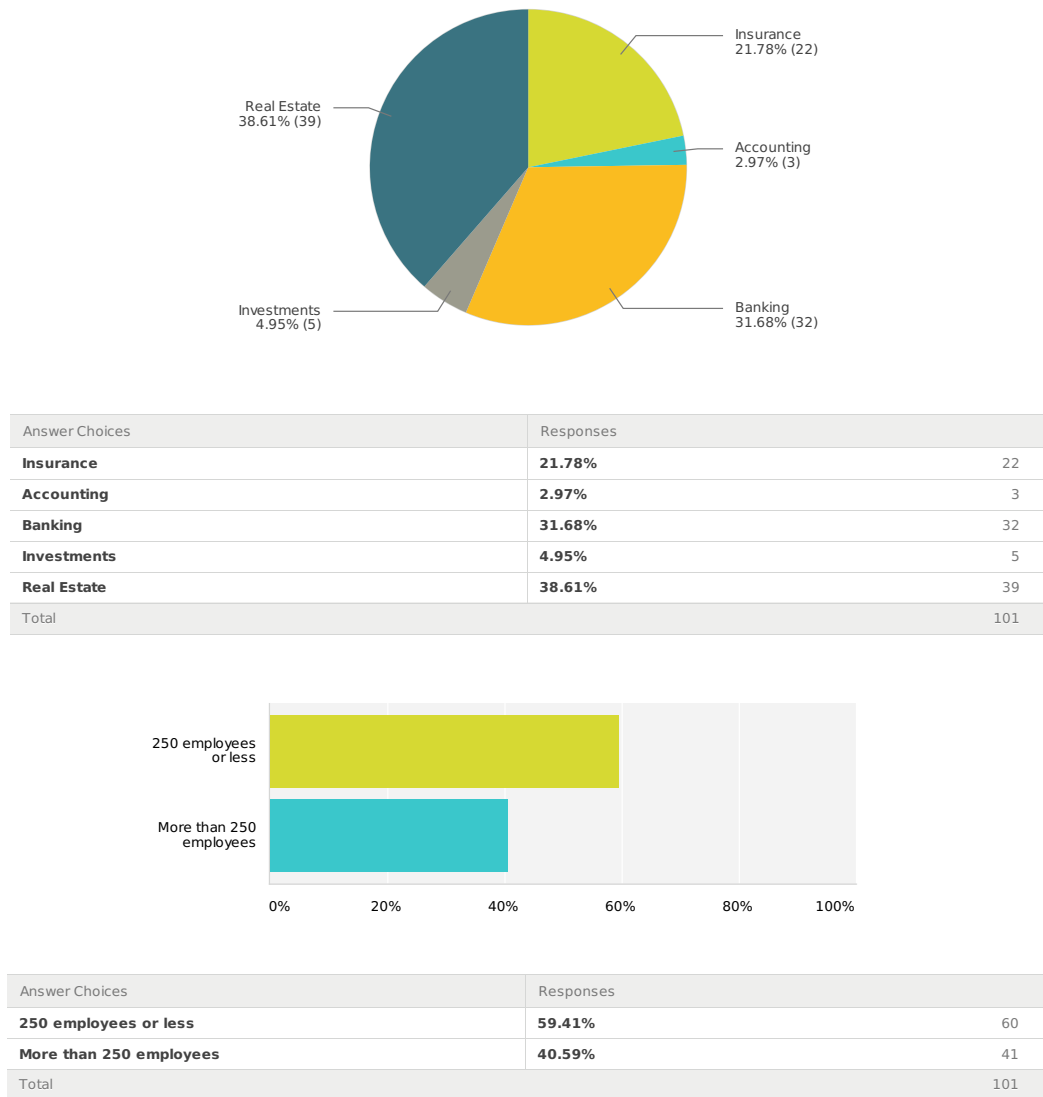
5.5 Investigation of Propositions

The survey was administered through a software as service (SaaS) company called SurveyMonkey, which is a cloud-based web survey company founded in 1999. The

company has 15 million customers, inclusive of all of the Fortune 500 companies, with a pool of 30 million potential respondents, according to the company website. The survey questionnaire was e-mailed to managers in the finance and insurance and real estate sectors segmented by NAICS codes (North American Industry Classification System).

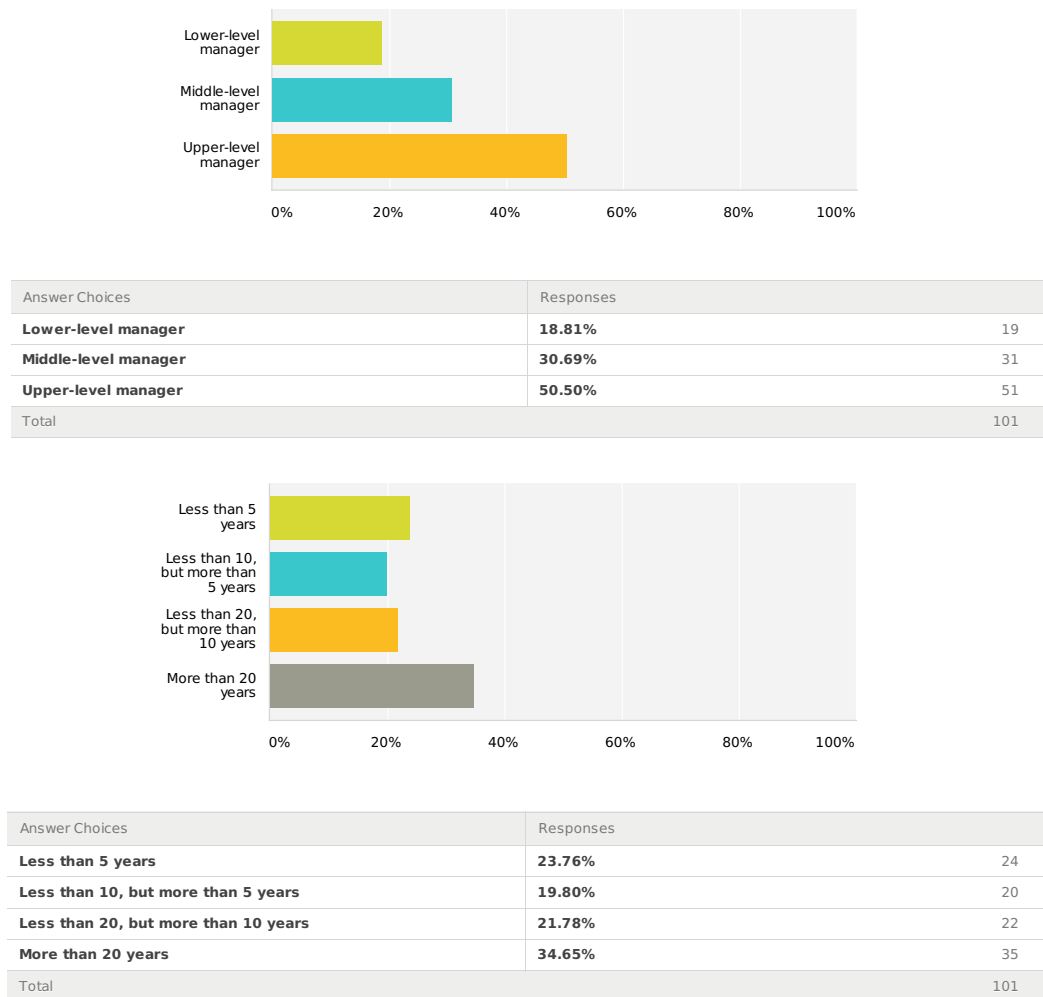
A total of 101 surveys were sent to managers in large and small firms, and responses ranged from 64 answered questions to 101 answered, (a response rate of 63.4% to 100%). The respondents were segmented by sector, as shown in the pie chart below, with the data regarding the size of the firm shown as well. There were 39.60% respondents from the finance sector, 21.78% from the insurance sector, and 38.61% from the real estate sector, with $n = 60$ of the respondents from SMEs (e.g., firms with 250 employees or less), and $n = 41$ respondents from larger firms.

Figure 5.2 Survey Data Representing Industry and Firm Size



There were $n = 101$ total respondents to the questions regarding sector and size of firm, level of management, and tenure. As shown below, there were $n = 82$ in mid- to upper-level management, and $n = 77$ that were in management for more that five years. This included 56.43% of respondents in management longer than 10 years, and 34.65% in management for more than 20 years. More than one-half of the respondents were upper-level management, and more than four-fifths were mid-level and above. Half of the respondents had been in management more than 10 years, and greater than a third had been in management more than 20 years. Thus, the respondents provided a survey sample that was qualified to discuss capabilities used in periods of rapid change in order to compete.

Figure 5.3 Survey Data Representing Level of Management and Tenure



The survey instructed managers to read definitions of key terms and concepts used. These key terms and concepts were tested extensively in the pilot study in order to facilitate clear and accurate assessment, and the definitions of each of the classifications were provided. Recall the survey questions (Appendix F) consisted of having respondents (1) rank the classifications in importance, (2) discuss joint-usage of the capabilities, and (3) determine whether any of the capabilities played a key role in the development and operation of the others.

There were $n = 64$ managers who answered this series of questions (and $n = 37$ who skipped them). In terms of ranking the capabilities according to their level of importance during periods of rapid change in achieving and sustaining competitive advantage (with 1 = most important, 2 = second most important, etc.), respondents selected as the most important IBDMC, followed by LBDMC, PL, and RC; the second most important capability was PL (also the third), and RC rated fourth most important in the categories, shown in Figure 5.4 below.

In terms of joint-usage of capabilities in Table 5.5, managers responded for each DMC classification either “yes” or “no” as to whether they used it with another to configure the resource base in order to compete. IBDMC was ranked first, followed by LBDMC, PL, and RC. With respect to how the capabilities affect each other, respondents indicated that each DMC classification could play a role in development and operation of the other DMCs in Table 5.6. The data show that IBDMC ranked first, PL second, LBDMC third, and RC fourth.

Figure 5.4 Ranking Capabilities

	1	2	3	4	Total
Learning-based dynamic managerial capability	30.36% 17	26.79% 15	21.43% 12	21.43% 12	56
Innovation-based dynamic managerial capability	36.36% 20	30.91% 17	21.82% 12	10.91% 6	55
Participative leadership	23.21% 13	32.14% 18	26.79% 15	17.86% 10	56
Relational capability	18.03% 11	18.03% 11	24.59% 15	39.34% 24	61

Figure 5.5 Joint Usages of Capabilities

	Yes	No	Total
Learning-based dynamic managerial capability	77.59% 45	22.41% 13	58
Innovation-based dynamic managerial capability	82.14% 46	17.86% 10	56
Participative leadership	75% 45	25% 15	60
Relational capability	69.09% 38	30.91% 17	55

Figure 5.6 Capabilities Used in the Development and Operation of Others

	Yes	No	Total
Learning-based dynamic managerial capability	76.92% 40	23.08% 12	52
Innovation-based dynamic managerial capability	82.35% 42	17.65% 9	51
Participative leadership	79.63% 43	20.37% 11	54
Relational capability	73.47% 36	26.53% 13	49

The respondents to the survey provided qualitative data in the form of written responses in the text boxes as well. After ranking the capabilities in terms of their importance, the managers were asked to provide a brief rationale as to why they selected a particular capability. There were $n = 36$ (of 64) who did so. A selection of the comments is provided below.

“During periods of change the most important task is to have the creativity and entrepreneurship to recognize and respond (innovation-based capability). The next most important skill is to have the knowledge and skills to be able to act (learning-based). The organization must be motivated to sign on to the changes needed (participative), and finally, to enlist the firm’s allies (relational). You must know what to do and how to do it first. Then you must get internal, and finally, external, buy in.”

—Upper-level manager from an SME in real estate with over 10 years experience.

“I have always felt that employee engagement leads to more innovation than any other management approach,” the respondent said in selecting PL as most important. And noted that PL and IBDMC have been used together, which has “[d]ramatically changed several processes in my company that streamlined operations and saved the company on expenses.” PL also plays a key role in developing and operating IBDMC as “PL leads to employee engagement which new and innovative approaches arise.”

—Upper-level manager from an SME in insurance with over 20 years experience.

“For purposes of competitive advantage alone, IBDMC would be most important, however, for overall consistent organizational growth, LBDMC would be most important. PL and RC are each components of the other two capacities.” Regarding DCs that play a role in developing/operating others, “PL and RC can be components of LBDMC or IBDMC depending on the organizational structure and focus. LBDMC is internally focused, IBDMC is externally focused, but they are not mutually exclusive.”

—Upper-level manager from a large firm in the banking sector with over 20 years experience.

“Experience is an important element in the decision making process” the respondent noted, ranking LBDMC (1), IBDMC (2), PL (3), and RC (4) in terms of importance during periods of significant change to the external environment in achieving and sustaining competitive advantage.

—Upper-level manager from an SME in investments with over 20 years experience.

“Of course, it all depends on the situation, but it is ultimately the responsibility of the manager to identify the need and source of change...then engage the team and find out what skills/education would be needed, if any” wrote a manager who ranked IBDMC (1), PL (2), LBDMC (3) and RC (4).

—Upper-level manager from an SME in real estate with over 20 years experience.

“I believe this all interacts so closely with the other aspects that they are difficult to separate. Failure of any would have a major negative impact.”

—Middle-level manager from an SME in real estate with over 20 years experience.

The comments by the managers above were further assessed using pattern recognition software. The results of the text analysis, as shown in what is referred to as Cloud View, are provided below. The text analysis software allowed for quantitative research on open-ended questions.

The analysis shows the most important words and phrases regarding the qualitative data responses provided by the managers. The respondents were asked to provide a rationale as to why they selected a particular DMC as most important to them. Of the managers who answered the quantitative component of the question, ($n = 64$) there were 56% who provided qualitative responses ($n = 36$ responses).

The cloud software highlights what the survey service refers to as “distinguishing” rather than common words (i.e., words that make some responses different than others). The text analysis does not add up a word count, as may some pattern recognition software, rather, the focus is on what is most unique. The following example illustrates this.

“Imagine 100 people said ‘I like _____’ and the ‘I like’ was followed by 85 different names, meaning 85 people said different names, and 15 people said ‘Mary’ then the “important word in that case would be ‘Mary,’ because 15 people said that vs. 1 each of the other 85. And so “[t]his is more unique than showing the phrase ‘I like’ as important or unique” (SurveyMonkey, 2013).

In the figure below, the most unique words the managers used, as shown in Cloud View, by percentage, reflects the constructs LBDMC, IBDMC, and PL. For example, the unique words found include the terms “innovation” (19.44%), “employees” (11.11%), “knowledge” (8.33%), “decision making” (5.56%), and “experience” (5.56%), which are a critical part of these capacities.

Figure 5.7 Text Analysis Showing Most Important Words and Phrases

Decision Making Dynamic Economy
Edge Employees Experience Follow
Important Innovation
Knowledge Organization
Skills Success

5.6 Summary

This chapter provided the data collection and analysis section for the survey study, which was designed to gain more insights into the important DMC classifications derived from the multi-case study. The chapter included an overview of the data collection and analysis process, and the pilot study conducted prior to the survey. This was followed by the formulation and testing of propositions used to build on the case data in accordance with the stated research aim and objectives. The propositions posited whether certain DMCs ranked higher than others and are used jointly, and which are used in the development and operation of each other. The results showed behavioral capacities ranked higher (specifically IBDMC, LBDMC, and PL) than relational capacities as well as in terms of joint use and in the development and operation of each other. The findings from the multi-case and survey studies can now be presented in terms of the contributions they make to theory and practice in the following chapter.

Chapter 6: Contributions to Theory and Practice

6.1 Introduction

This chapter provides the contributions to theory (section 6.2) and practice (section 6.3).

6.2 Contributions to Theory

The following sections constitute the contributions to theory from the research resulting from the identification (section 6.2.1), classification (section 6.2.2), and determination of competitive advantage of DMCs (section 6.2.3). (See also Appendix D and E.)

6.2.1 DMC Identification—Contributions to Theory

Why identifying DMCs makes a theoretical contribution: The DC literature has questioned what DCs are (Eisenhardt & Martin, 2000), and whether they even exist (Winter, 2003). Therefore, developing the first-order constructs to define and identify DMCs was a critical first step, in agreement with Barreto (2010), who stressed that the importance of getting the definition(s) right “for the development of the field could not be greater because working with inappropriate constructs would render propositions on them simply irrelevant” (p. 270).

The first-order constructs developed and used in the identification process included DMC, AO, TD, TF, and EF, collectively. Although the constructs were put forth in the extant literature by senior scholars in the field of strategic management, (Helfat et al., 2007; Teece, 2007; Augier & Teece, 2009), to date these constructs have tended to be used conceptually, and lack studies testing them empirically, and there have been no conceptual or empirical studies conducted that have used these constructs in this way. The terms have not been used collectively for the purposes of identification of DMCs in any published studies.

The first-order constructs indicated where DMCs were used in 16 case episodes to purposefully create, extend, and/or modify resources. AO was an integral part of this process, in agreement with Sirmon and Hitt (2009), and also Kor and Mesko (2013), and TD was used in disaggregating DMCs, as was done in Martin’s (2011), study, in that executives were shown to “sense” and “seize” opportunities (Helfat et al., 2007; Teece, 2007) and manage threats. DMCs were further shown to impact on “ordinary” capabilities (Winter, 2003), with TF, the analog to ordinary resources and capabilities, and EF, the analog to dynamic capacities, used to make the assessment.

6.2.2 DMC Classifications—Contributions to Theory

Why the classification of DMCs makes a theoretical contribution: The emergent classifications that were discovered here make an important theoretical contribution in that DMCs have not been classified previously. Studies have tended toward *what* DCs are as opposed to *how* they are used. By classifying DMCs, the research results showed what DMCs managers used in practice in regimes of rapid change in generating competitive advantage. Specifically, managers used LBDMC, IBDMC, PL, ABDMC, and RC as a portfolio of competitive intangibles. The DMC classifications have common features, although the capabilities (individually and collectively) are unique to specific managers who used them in different ways. Certain behavioral capacities (i.e., IBDMC, LBDMC, and PL) are considered essential, and transformational (Gannon et al., 2010) in the process of generating competitive advantage, as shown in the survey study in the previous chapter. Each of the important classifications is considered next.

6.2.2.1 Theory and LBDMC

LBDMC builds on the literature stream of organizational learning, as it involved making sense of experiences (Dewey, 1933, 1938; Lewin et al., 1939) and experiential learning (Kolb, 1984), and learning cycles that involve experiencing, reflecting, thinking, and acting (Kolb & Kolb, 2008), such as when managers sense and seize opportunities and manage threats. LBDMC includes tacit knowledge (Polanyi, 1966; Nonaka & Takeuchi, 1995) and intuition (Dörfler & Ackermann, 2012), which interacts with explicit knowledge in creating new knowledge (Nonaka & von Krogh, 2009), that can sometimes be captured in communities of practice (Goffin & Koners, 2011).

LBDMC also incorporates theoretical notions of single-, and double-loop learning (Argyris & Schön, 1974, 1978), as it can impact on ordinary capabilities (as well as dynamic ones) and can change the system, as it exists. This illustrates double-loop learning. Single- and double-loop learning are often described by using an analogy with a thermostat: “[F]or example, a thermostat is defined as a single-loop learner. The thermostat is programmed to detect states of ‘too cold’ or ‘too hot,’ and to correct the situation by turning the heat on or off. If the thermostat asked itself such questions as why it was set at 68 degrees, or why it was programmed as it was, then it would be a double-loop learner” (Argyris, 1996, p. 8).

The classification of LBDMC further reflects and builds on studies from the extant DC literature, including the intellectual core. It reflects studies that have conceptualized

the importance of learning in the creation of, and development of DCs (Zollo & Winter, 2000), and those conceptualizing learning as micro-foundational (Teece, 2007), and as a “component factor” which reflects common features of DCs (Wang & Ahmed, 2007). LBDMC, by definition, includes aspects that are considered common features (e.g., experiential learning), although LBDMC is heterogeneous and unique to the manager. This supports earlier conceptualizations in the DC literature, which posit that, although a firm’s DCs exhibit commonalities, they are idiosyncratic in detail (Eisenhardt & Martin, 2000). LBDMC is further reflective of studies expressing the relevance of learning and experience in how DCs evolve (Pisano, 1994; Eisenhardt & Martin, 2000; Winter, 2003; Malik & Kotabe, 2009), and builds on them, as well as studies showing the importance of assimilating, transforming, and exploiting knowledge (Zahra & George, 2002, p. 186) and experience (Zollo & Winter, 2002, p. 339).

Given that the DC (and DMC) literature has tended toward the organization (Adner & Helfat, 2003), articles have traditionally referred to organizational learning. The research conducted here is in agreement with Simon (1991, p. 126, emphasis original) who offered that, although it is possible that “phenomena are more conveniently described in terms of organizations” that “we must be careful about reifying the organization and talking about it as ‘knowing’ something or ‘learning’ something. It is usually important to specify *where* in the organization particular knowledge is stored, or *who* has learned it.” The contribution made here is therefore one that addresses specifically “where” and “who” and also “how.”

The literature tying DMCs to managerial learning is almost nonexistent, although the originators of the concept, Adner and Helfat (2003, p. 1022), discussed the importance of “managerial cognition” and “managerial human capital.” Cognition involves the “beliefs and mental models that serve as a basis for decision-making” (citing March & Simon 1958; Cyert & March, 1963). Managerial human capital involves “learned skills that require some investment in education, training, or learning more generally” (citing Becker, 1964), and where “managers acquire knowledge, develop expertise, and perfect their abilities,” which also includes (citing Mintzberg, 1973) “learning-by-doing” (p. 1020), and this is reflective of LBDMC as developed here and as discussed in the literature review chapter. LBDMC builds on these ideas. The construct as developed in this thesis shows where it is used with other capabilities

and impacts on organizational resources (i.e., RCs) in generating advantage, for example.

Martin's (2011, p. 121, emphasis original) study of executive leadership groups referred to learning in the context of "[o]perational capabilities" that are the "capacity of an organization to exploit its resource base through learning and refining the processes, procedures, skills and incentive systems necessary to repeat, leverage, and sustain past successes" (citing Collis, 1994; Winter, 2003). The research conducted here agrees with this, and the importance of learning vis-à-vis operational capabilities. Nevertheless, a distinction is made in that LBDMC differs from what are referred to as operational capabilities. Specifically, the classification of LBDMC impacts operational or "ordinary" capabilities (Winter, 2000; 2003) that are technically fit, and helps develop them in an evolutionary way—to adapt to the changing environment.

6.2.2.2 Theory and IBDMC

The classification of IBDMC builds on earlier theory regarding the entrepreneur. The entrepreneur has been defined as one who is able to transfer resources from lower to higher productivity and yield (Say, 1803), and as one who is able to convert a new idea into a successful innovation (Schumpeter, 1942), and also as the risk taker who harmonizes the factors of production (scarce resources), and, when faced with rapidly changing environments, risk and uncertainty (Knight, 1957), must decide which paths to take in converting inputs to outputs.

IBDMC includes the notion that innovation is a specific tool of an entrepreneur used to convert a source into a resource (Drucker, 1964), and builds on earlier conceptualizations in the intellectual core DC literature with respect to Teece et al.'s (1997, p. 509) reference to the "Schumpeterian world of innovation-based competition" and the "creative destruction" of existing competences given regimes of rapid change. It includes the adaptive aspects of Helfat et al.'s (2007) notions on evolutionary fitness, and embodies Augier and Teece's (2009, p. 411) assertion that a firm's success "requires entrepreneurial management" which involves innovation coupled with the "building, maintenance and employment" of DCs in orchestrating responses to change.

The studies in the extant literature with respect to DMCs have not focused specifically on the area of managerial innovation, although Martin (2011, p. 120) referenced the importance of it, and related it with resource configuration during regimes of rapid market change, and found managers "are likely to play an increasingly

essential role in discovery, renewal and innovation in firm resource configurations as the extent of market dynamism increases (citing Brown & Eisenhardt, 1998; Eisenhardt & Galunic, 2000),” in agreement with the findings of the research here, which build on this research by empirically showing where IBDMC is critical in the orchestration process.

6.2.2.3 Theory and PL

The classification PL contributes to the theory of DCs by discussing the role of leadership because the DMC literature has not provided studies on this. Leadership is defined as the “ability to influence a group toward the achievement of a vision or set of goals” the source of this influence may be formal (e.g., provided by managerial rank), or informal (e.g., she is the “go to” person on important matter), although not all managers are necessarily leaders (Robbins & Judge, 2013, p. 368).

The managers in the multi-case study were leaders who practiced PL, allowing employees to be engaged in the critical processes of the firm involving strategy formulation and implementation, and to be involved in the decision-making it entails. The managers took more of a democratic, as opposed to autocratic approach to leadership (Lewin et al., 1939), and they valued their employees as a part of the team.

The idea of PL has its origins in the strategic management literature in what are referred to as The Ohio State University studies conducted in the 1940s and the University of Michigan studies in the 1950s. The Ohio State studies showed how leaders could satisfy common group needs, and the University of Michigan studies found that effective leaders had certain common characteristics that included demonstrating PL.

PL also reflects aspects of the Theory Y managerial approach (McGregor, 1960) that views employees as more self-motivated, in contrast to Theory X, which takes the view employees must be controlled in order to perform. The managerial approach to the former is considered to be more democratic, and the organizational structure, more organic (Burns & Stalker, 1961). The latter views the manager as more autocratic, with a greater degree of hierarchy.

Theory Y has also been integrated with Maslow’s (1943, 1954) needs hierarchy regarding employees’ self-actualization and esteem needs. And Theory Z (Maslow, 1969; Ouchi, 1981) incorporates effective leadership with employee self-fulfillment. (Thus, PL includes elements of both Theory Y and Z—recall PL allows that employees

can participate in the managerial process, and also that, in so doing, they can help realize personal and firm goals.)

In this respect, PL contains elements of transformational leadership (Burns, 1978). By definition, transformational leadership changes the status quo, and is analogous to DMC, as opposed to transactional leadership, which is analogous to ordinary capacities. Transformational leadership (Bass, 1985; Seltzer & Bass 1990) involves intellectual stimulation (fostering creativity and innovation in employees), and consideration for individual employees, is motivational, and includes idealized influence based on trust.

6.2.2.4 Theory and RCs

RCs include such things as joint ventures, alliances, and formal and informal partnerships. They also include acquisition-based DMC (ABDMC), which is considered an RC. The studies representing the extant DC literature have not referred to RCs and/or ABDMC, and so the research contributes to this area too. The importance of alliances (an RC) relative to a firm's DCs, has been discussed in a few studies, including Døving and Gooderham (2008), who showed DCs as antecedents of scope of related diversification alliances, and Anand et al. (2010), who showed the relevance of firm capabilities in forming alliances and overcoming technology gaps. The construct also reflects Kale and Singh's (2007) results that showed a positive relation exists between learning capabilities and overall success in alliances. Where the research conducted for this thesis builds on this theory involves the notions of individual managerial capacities impacting on organizational processes, positions and paths toward competitive advantage (i.e., LBDMC effecting RCs, as discussed in the results and conclusions section 7.4. below).

6.2.3 DMCs and Competitive Advantage—Contributions to Theory

Why determining the competitive advantage of DMCs makes a theoretical contribution: The DC approach was put forth originally in order to answer the fundamental question related to strategic management, that is "how firms achieve and sustain competitive advantage" Teece et al. (1997, p. 509). Yet, no studies have demonstrated a way to measure whether DCs and/or DMCs are actually achieving and/or sustaining competitive advantage. Studies have linked DCs with competitive advantage, yet they have not measured the relation empirically.

The intellectual core DC literature, has conceptualized a direct relation between DCs and performance (Teece et al., 1997; Makadok, 2001a; Zollo & Winter, 2002), and studies have also found an indirect relation (Eisenhardt & Martin, 2000; Zott, 2003; Zahra et al., 2006). However, the important links between DCs, and even more so, DMCs and competitive advantage have not been sufficiently researched. That Martin's study (2011, p. 122) found DMCs, as demonstrated by the executive leadership groups "crucial to realizing competitive advantage," is a start.

Even so, the literature has not established how to assess whether capabilities (managerial or otherwise) are likely to achieve and sustain competitive advantage (directly or indirectly). That is because these actions are not quantifiable per se. The solution developed here involves use of resource-based criteria to assess DMCs (i.e., the VRIO model). The use of RBT to assess a firm's resources/capabilities has been widely published, and the RBV is readily adaptable to the study of DMCs, as they are a part of the resource base after all.

Because DMC is an intangible asset, (e.g., a managerial behavior such as LBDMC and/or PL), financial metrics used in measuring tangible assets could not be used. The solution was to use VRIO, by empirically testing managerial capacities (more specifically bundles of them as used in a case episode). The VRIO framework was used effectively to determine whether DMCs in a given case episode would be expected to achieve and/or sustain competitive advantage.

This involved asking questions of value, rarity, inimitability, and organization, (as above in Chapter 2). The use of the VRIO model showed empirically where managers used DMCs, as in a portfolio of competitive intangibles, in generating competitive advantage—the first such study known to do so. In addition, the use of the framework further (1) answered calls from the extant literature to use it in assessing DCs (Helfat et al., 2007; Barreto, 2010) (2) helped to bridge the DC and RBV literatures (Makadok, 2001a) to some extent, and (3) showed that not all DMCs necessarily lead to sustainable competitive advantage, in agreement with Eisenhardt and Martin (2000), who found DCs (extended to DMCs here) could be necessary, although may not necessarily be sufficient in achieving and sustaining competitive advantage.

Thus, the results make a further contribution in that they support earlier theory developed in Zahra et al. (2006), who found that DCs have an indirect relation with performance, depending, in part, on how DCs impact ordinary capabilities. The results

further agree with Zott's (2003) study, which found that firms with identical DCs (extended to DMCs) might have different outcomes. (The results show it is the capability combinations and manager that matters.)

6.3 Practical Contributions

The research provides practical applications, useful to those in the field of strategic management. The sections below follow the sequence regarding the identification (section 6.3.1), classification (section 6.3.2), and competitive advantage (section 6.3.3) of these.

6.3.1 DMC Identification—Practical Contributions

Why the identification of DMCs makes a practical contribution: The first-order constructs developed in identifying managerial capabilities in this thesis (i.e., DMC, AO, TD, TF, and EF) are of use in practice. In practice, reconfiguring the resources in terms of creating, extending, or modifying them, is a critically important activity. The manager as strategist needs to understand, and assess, how and in what way resources are to be allocated, and also the requisite managerial search, selection, and configuration/coordination activity required (i.e., AO). The manager must be adept at “sensing” and “seizing” opportunities and managing threats (i.e., TD), and this involves being alert to these opportunities, and discovering them and creating them too (Alvarez et al., 2013). The manager can also determine the technical and evolutionary fitness of the resources and capabilities used in this process. Because these constructs are readily applicable to strategy and the strategic management process, the manager as strategist could use the strategy/structure framework as below to develop DCs in practice.

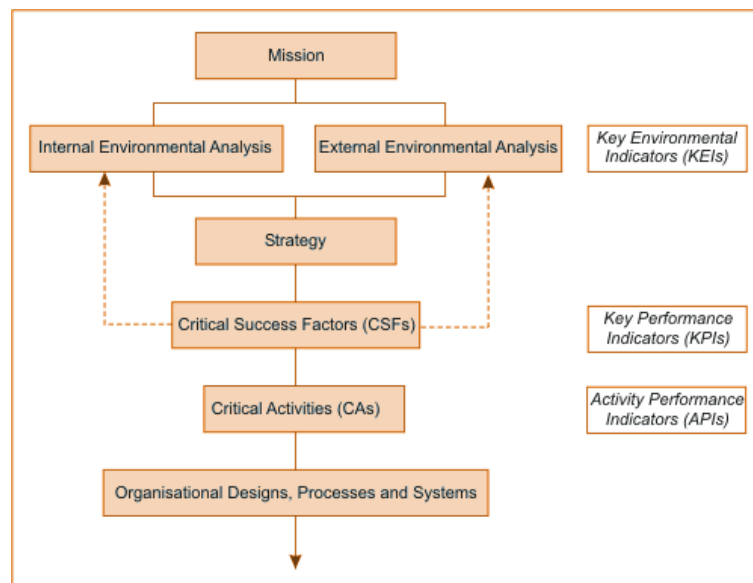
6.3.1.1 The Making Strategy Work Process

The making strategy work (MSW) framework “is a process for connecting the high-level strategic plan to the day-to-day activities critical to its delivery and identifying the changes to be made in order to deliver the strategic objectives” (Roberts & MacLennan, 2003, p. xi). The process involves critical alignment of strategy formulation, implementation, and outcome from the “boardroom” to “shop floor,” and it is fully compatible with the discussion of DMCs here. The process includes developing the firm's highest-level objectives (mission and vision) and conducting environmental analysis (internal and external), and formulating strategy (theory of how to achieve competitive advantage), and also developing critical success factors (CSFs) and critical

activities (CAs) to deliver the firm’s mission. It involves establishing the proper organizational design, inclusive of its processes and systems (Roberts & MacLennan, 2003). The MSW process is a part of the function of management (Figures 4.3 and 6.1).

The manager/strategist can develop, maintain, and utilize the DMCs by using the MSW process as a roadmap. For example, the strategic planning process involves using ordinary capabilities (such as in developing the firm’s mission statement, its vision, and in assessing the firm’s internal and external environment). The manager’s development and use of first-order constructs (such as DMC and AO) can positively impact these ordinary capabilities, as well as other capabilities (such as the firm’s critical activities (CAs) as below).

Figure 6.1 Roberts’ and MacLennan’s Making Strategies Work Process



Sources: Adapted from Roberts and MacLennan (2003) and Roberts and Pitt (1990).

The key performance indicators (KPIs) and activity performance indicators (APIs) can be measured using technical and evolutionary fitness (TF and EF) as a yardstick. TF measures whether a resource/capability allows the firm to make a living in the present, and so it can be assessed using financial data (such as conducting a cost-benefit analysis). EF is used to determine if the resource/capability helps the organization adapt to changes (and survive and/or grow), and can be measured using revenues net of tangible and intangible (i.e., opportunity) costs, in order to establish whether economic profits are possible.

Teece’s (2007) disaggregation technique involves the manager/strategist “sensing” and “seizing” opportunities and also managing threats as above (e.g., as managers did in

the case study to continually look for, and take advantage of opportunities during the recent financial crisis and recession, through continuous and ongoing environmental scanning processes). The MSW framework provides a guide for doing this in practice, such as by establishing appropriate ways in which the environment can be analyzed (e.g., in using key environmental indicators (KEIs) to assess the internal and external environment).

Thus, the MSW process is compatible with the development, use, and maintenance of managerial capacities used toward strategy formulation and implementation, inclusive of DMCs. That strategy is the firm's theory about how to gain competitive advantage (Drucker, 1994), the process involves recognition of patterns in realizing deliberate and emergent strategies (Mintzberg & Waters, 1985), and implementation (the most difficult part) is key (Roberts & MacLennan, 2003; Hrebiniak, 2005; MacLennan, 2011; Thompson et al., 2014), and DMCs can be developed further using the MSW process.

6.3.2 DMC Classifications—Practical Contributions

Why the classification of DMCs makes a practical contribution: LBDMC, IBDMC, PL, and RC, were capabilities that managers used in periods of significant exogenous change, and they were capabilities used effectively in generating competitive advantage. The manager/strategist would therefore seek ways to nurture and develop these capacities.

6.3.2.1 Developing LBDMC in Practice

LBDMC refers to the capacity of managers to use the acquisition of knowledge or skills through experience, practice, or study/being taught, in order to create, extend, or modify the resource base of an organization. It includes managerial know-how, and goes beyond mere problem solving to transform the system, as it exists (i.e., double-loop learning). It involves lifelong learning and fostering learning throughout the organization.

For example, managers can invest in their own human capital and engage in lifelong learning, such as by investing in education (e.g., executive MBA programs), and/or becoming cross-trained in different aspects of their business. They can take inventory of how they learn, and/or how their employees do so (Kolb & Kolb, 2005). The manager

can also foster a culture of learning, as was done by the managers who participated in the research (see for example, Appendix D).

Developing managerial “know-how” is important, although it is more straightforward than understanding managerial “know-why,” especially as it relates to LBDMC, because the former is more explicit, and the latter tacit. The effective transfer of tacit knowledge can be achieved, however, such as through understanding how knowledge is created (Nonaka & Konno, 1998), and through personal contact and regular interaction with employees, coupled with the effective transmission of ideas, via social networks and communities of practice (Polanyi, 1966; Schmidt & Hunter, 1993, Goffin & Koners, 2011). This can make tacit knowledge more explicit, used throughout the organization to affect change. The conversion of tacit knowledge to explicit knowledge can be very difficult, however, because it is often the case that “*we know more than we can tell*” (Polanyi, 1966, p. 4, emphasis original), especially when managerial knowledge, tacit and otherwise, comes from years of experience.

The challenge for the manager is to develop LBDMC, to impact on ordinary capabilities to facilitate the learning organization, “where people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together” (Senge, 1990, p. 3). Because, importantly, the learning organization is one “that has developed the continuous capacity to adapt and change” (Robbins & Judge, 2013, p. 595), as this is necessary for the “sustained existence” of a firm (Kim, 1993, p. 37).

Five important principles constitute a learning organization that can be developed in practice and they include: systems thinking, personal mastery, shared vision, team learning, and mental models (Senge, 2006). The basic rationale for the learning organization is that, in situations of rapid change, only the organizations that are adaptive and flexible will excel. For this to happen, it is important to “discover how to tap people’s commitment and capacity to learn at *all* levels” (Senge, 1990, p. 4, emphasis original), and this involves use of LBDMC in practice.

A learning organization is “a place where employees excel at creating, acquiring, and transferring knowledge.” This includes three building blocks that are to be developed. They include the development and maintenance of “(1) a supportive learning environment, (2) concrete learning processes and practices, and (3) leadership behavior

that reinforces learning.” Each of these areas would be subject to ongoing assessment, such as by surveying relevant stakeholders, with techniques that have been used effectively in practice (Garvin et al., 2008, p. 110).

6.3.2.2 Developing IBDMC in Practice

In terms of developing IBDMC, the strategist would enhance managerial capacities in order to make changes (such as by introducing new ideas, methods, products, and/or services), and also by developing the processes that translate ideas or inventions into goods/services that create value for which customers will pay, and developing and using entrepreneurial management to meet the needs of a changing environment.

Drucker (1985, p. 20) wrote that innovation is a tool that can be used to take advantage of change and seize it as an opportunity. Innovation “is capable of being presented as a discipline, capable of being learned, capable of being practiced” where the entrepreneurial manager needs to “purposefully search for the sources of innovation” and “know and apply the principles of successful innovation.”

Developing IBDMC in practice involves what Drucker (1985, p. 35, emphasis original) defines as “[s]ystematic innovation” which “consists of the purposeful and organized search for changes,” and “the systematic analysis of the opportunities such changes might offer for economic or social innovation” which involves exploiting “seven sources” of innovative opportunity.

The first four sources are considered internal and are visible to those in the business/industry. They are considered as “symptoms,” (such as can be gauged using KEIs in the MSW process above), that are “highly reliable indicators of changes that have already happened or can be made to happen with little effort” (Drucker, 1985, p. 35). The next three sources of innovative opportunity are external sources (i.e., change outside the firm and industry), and they also would be analyzed using KEIs (such as by continually scanning the external environment to inform strategy). The manager would spend time critically assessing the external along with the internal sources in developing, maintaining, and using IBDMC in practice:

- “*The unexpected*—the unexpected success, the unexpected failure, the unexpected outside event;
- *The incongruity*—between reality as it actually is and reality as it is assumed to be or as it ‘ought to be;’
- *Innovation based on process need;*
- *Changes in industry structure or market structure;*

- *Demographics* (population changes);
- *Changes in perception, mood, and meaning*;
- *New knowledge*” (Drucker, 1985, p. 35, emphasis original).

The development of IBDMC is relevant to large and small enterprises (despite that innovation and entrepreneurship tend to be associated with new ventures and smaller enterprises). Drucker (1985) stated the importance of the manager as entrepreneur in both large and small firms, and advised that, for a new venture, the emphasis should be on the former, but for the existing enterprise, the emphasis should be on the latter.

Augier and Teece (2009, p. 411) noted too that “[t]he dynamic capabilities framework developed in the field of strategic management highlights the growing importance of entrepreneurial management,” and that it is required for an established firm’s success, a claim supported in this thesis. The term entrepreneurship, as practiced within an existing enterprise, has been referred to as intrapreneurship in the literature (Hisrich & Peters, 2002, p. 46), although whether the term intrapreneur, or entrepreneur is used (the latter term is used here), the manager is engaged in the same activities and using the same capacities that are outlined here.

This involves developing, using, and maintaining IBDMC and establishing a culture of innovation. Culture has been defined as the “values, beliefs, and norms that guide behavior” in the firm (Barney & Hesterly, 2012, p. 348), and a “system of shared meaning held by members that distinguishes the organization from other organizations” (Robbins & Judge, 2013, p. 671), and also as “what we are” and “how we do things.” Research has shown that corporate culture is an important driver of innovation, over and above other causes (Tellis et al., 2009). To build such a culture involves foundational building blocks that are “resources, processes, values, behavior, climate and success” (Rao & Weintraub, 2013, p. 29). The establishment and maintenance of this type of culture is an ongoing process (Miller & Wedell-Wedellsborg, 2013). Establishing a culture of innovation involves developing, using, and maintaining IBDMC in practice. This can be done, as by using the MSW process above and sensing and seizing Drucker’s (1985) *seven-sources* of innovative opportunity, and the process can then be monitored in practice by surveying relevant stakeholders (Dyer et al., 2011; Rao & Weintraub, 2013) to assess its effectiveness.

6.3.2.3 Developing PL in Practice

Leadership differs from management, although they are both intertwined with respect to DMCs. Management involves planning and organizing and controlling what the group does, and leadership involves directing and coordinating how the group goes about it. Recall that PL is when the manager allows employees to be engaged in the strategic process of the firm and to be involved in the decision-making it entails, and that it is a more democratic as opposed to autocratic approach to leadership. The notion that employees can participate actively in the process, and in so doing, help realize personal and organizational goals, is also a critical component of this capability.

A manager can determine what style of leader she or he is. Leadership style inventories have been used widely in practice (Hersey & Blanchard, 1974, 1977). One such survey involves assessment of three leadership styles (Lewin, 1939), that are (1) democratic (participative), (2) autocratic (authoritarian), and (3) laissez faire (delegative). The study that Lewin conducted, for example, found that managers who had a democratic (participative) leadership style were more effective. This is because democratic leaders offer guidance and are actively engaged with their team. This leadership style allows for input from the group. Group members are more engaged and motivated, and they are also more creative.

The leadership studies conducted at The Ohio State University in the 1940s, mentioned above, revealed two dimensions of leadership behavior: (1) consideration, and (2) initiating structure. These studies had respondents rank their supervisor's behaviors using a survey questionnaire (see for example, The Ohio State University, 1957). The results of the survey showed that people-oriented (i.e., consideration) dimensions of leadership are important in delivering the firm's goals. The idea of consideration is embedded in PL because consideration involves leaders demonstrating thoughtfulness and sensitivity for others, and concern for the welfare of the group members. The leader respects followers and expresses appreciation for them (Bass & Stogdill, 1990), which in turn involves interpersonal relationship building toward mutual trust.

How can the PL leadership style be developed? The answer is that the practitioner would develop leadership competencies that underpin PL. The manager needs to identify behaviors they need to improve on, and then work on doing so. The manager could seek feedback from subordinates informally (such as during one-on-one sessions

with employees), or more formally (such as by using a 360-degree leadership survey, commonly used in practice). The core competencies that can be developed by the leader are included below. They can be surveyed by having employees rank supervisor's behaviors using a Likert-type scale survey, as was done in the Ohio State studies. In developing PL in practice the manager would work on the following areas:

- Shows consideration for team members.
- Listens well.
- Treats group members as equals.
- Shows empathy.
- Takes suggestions by group members seriously.
- Acts as a positive teacher, coach, and mentor to employees.
- Helps employees realize their potential at work.
- Takes an interest in the personal goals of employees.
- Demonstrates integrity, honesty, and is ethical with coworkers.
- Consults with the group when making changes.
- Is inspirational.
- Gives employees autonomy and empowers them.
- Builds effective teams.

6.3.2.4 Developing RCs in Practice

The development and maintenance of RCs can be important in practice as well. The manager/strategist can evaluate, establish, and build RCs with other firms (e.g., through acquisitions, joint ventures, and alliances), where it would help achieve and/or sustain competitive advantage. The types of RCs that can be developed in practice are numerous, and it is beyond the scope of this research to assess each of them.

Nevertheless, the practitioner would need to demonstrate a managerial capacity to purposefully create, extend, and/or modify the resource base to include the resources of another. This would involve the DMCs discussed above, such as AO and requisite managerial search/selection, and configuration/coordination activities involved. It would involve sensing and seizing opportunities and managing threats as well, and ensuring the technical and/or evolutionary fitness of the capability.

The manager as strategist would also develop the essential behavioral capabilities that are IBDMC, LBDMC, and PL. These capabilities were ranked by managers in the survey questionnaire as being most important in terms of joint use, and also in developing and operating other capabilities. They are internal capacities, which can be developed by managers in practice, by following normative prescriptions advanced and

developed here, as above, in order to create, extend, and/or modify a firm's ordinary capabilities, (such as in establishing new relational ones).

6.3.3 DMCs and Competitive Advantage—Practical Contributions

Why establishing the competitive advantage of DMCs makes a practical contribution: The manager/strategist needs to determine the competitive potential of using scarce resources and capabilities. The aforementioned VRIO model provides a useful checklist. The manager can use the VRIO model simply by asking four questions about the resource/capability to determine its competitive potential—the questions of value, rarity, imitability, and organization, as above.

For example, if the resource/capability is not valuable, the manager should stop using it. If the resource is valuable, but not rare, then it helps achieve competitive parity (is technically fit). If a resource is valuable and rare, a firm has achieved a competitive advantage, but others can imitate what is being done. Finally, if a resource is valuable, rare, inimitable, and adopted throughout an organization that can exploit it, it has become a source of a sustained competitive advantage (Barney, 1991; Barney & Hesterly, 2012; Rothaermel, 2013).

Table 6.1 VRIO Checklist for Practitioners

<i>Valuable?</i>	<i>Rare?</i>	<i>Costly to imitate?</i>	<i>Exploited by the organization?</i>	<i>Competitive implications</i>
No	-	-	-	Competitive disadvantage
Yes	No	-	-	Competitive parity
Yes	Yes	No	-	Temporary competitive advantage
Yes	Yes	Yes	No	Unexploited competitive advantage
Yes	Yes	Yes	Yes	Sustained competitive advantage

Source: Adapted from Barney and Hesterly (2012).

Given that strategy is the theory of how to gain competitive advantage (Drucker, 1994), the application of VRIO, which helps measure achieving and sustaining competitive advantage, is fundamentally important to strategic management. It provides a useful framework that is necessary as “practitioners of strategic management care not only how well firms perform at any given point in time, but how well they perform over time. After all, the holy grail of strategy is *sustained* competitive advantage” (Helfat et al., 2007, p. 101, emphasis original).

6.4 Summary

The sections above showed the important contributions of the thesis research in terms of theoretical and normative implications regarding the DMC constructs, including the classifications that are LBDMC, IBDMC, PL and RC. The explication of these managerial capacities makes a contribution to the DC literature, and, importantly, managers can develop these DMCs in practice. The chapter showed how each of the DMCs could be developed by the individual manager as strategist to impact on the resource base of the organization toward generating competitive advantage. In the following chapter, the final results and conclusions, limitations, and areas for additional research are presented.

Chapter 7: Results and Conclusions

7.1 Introduction

This chapter provides the results and conclusions of the thesis. It begins with a review of the research question, aim, and objectives (section 7.2). The research results (section 7.3) from the case study and survey studies are provided. The results are followed with the limitations and areas for additional research (section 7.4), and then the final conclusions are presented (section 7.5).

7.2 Review of Research Question, Aim, and Objectives

The research question, aim, and objectives were derived from a review of extant literature and addressed a critical gap in the literature. The research question posited the following: What are the DMCs that managers use in practice during episodes of significant external environmental change toward generating competitive advantage? The research aim of the thesis was to inductively build theory, so as to contribute to a key and underdeveloped area, namely to develop substantive theory into DMC. The research objectives underpinned this aim, and were designed to answer the research question. The research objectives involved (1) identifying, (2) classifying, and (3) determining the competitive advantage of DMC.

7.3 Research Results

The research results are summarized from the preceding chapters in the following sections for both the case study (section 7.3.1) and the survey study (section 7.3.2).

7.3.1 Research Results: Case Study

The research for the multi-case study yielded 16 specific episodes where DMCs were identified. The identification process showed where managers created, extended, and/or modified their resource base, and importantly, that DMCs included AO (e.g., managerial search, selection, configuration/coordination of resources and capabilities), that DMCs involved “sensing” and “seizing” opportunities and managing threats, and that, in some cases, they achieved technical and evolutionary fitness.

The literature has conceptualized that these constructs are valid descriptors of DC activity, yet there have not been studies conducted using them collectively to identify DMCs. The data collection and analysis provided in Chapter 4 showed that these first-order constructs were successfully used to identify DMCs in the multi-case study. The

use of the constructs developed by senior scholars in the field of strategic management (i.e., DMC, AO, TD, TF, and EF) in order to identify DMCs (Appendix C) reflects and builds on the literature they represent, and makes an original contribution.

The emergent classifications (referred to as second-order constructs) that were discovered are learning-based dynamic managerial capability (LBDMC), innovation-based dynamic managerial capability (IBDMC), participative leadership (PL), acquisition-based dynamic managerial capability (ABDMC), and relational capability (RC). The constructs ABDC and RC were defined in Helfat et al. (2007) as noted, and adapted to the subject of DMC, and the candidate, making an original contribution to the subject, developed the constructs LBDMC, IBDMC, and PL. These capabilities were often used in different combinations with each other in a given case episode as shown in Table 7.1.

Table 7.1 DMC Combinations

<i>Case Study</i>	<i>Case Study Episodes</i>	<i>Second-Order Constructs</i>			
		<i>LBDMC</i>	<i>IBDMC</i>	<i>PL</i>	<i>RC</i>
Insurance Agency	(1A) The Ability to Anticipate	-	-	-	*
	(2B) The Aggregator Model	*	*	*	*
	(3C) Joint Venture with a Community Bank	*	*	-	*
	(4D) Perpetuation Planning	*	-	-	*
	(5E) A Strategic Alliance and New Global Markets	-	*		*
	(6F) The Future as an Opportunity	-	-	-	-
Accounting Firm	(7G) Audit Insurance: Operational or Dynamic Capability?	-	-	-	-
	(8H) Relational Capability with an Investment Service	*	-	-	*
Bank	(9I) People Portfolio: Investing in Human Capital	*	-	*	-
	(10J) Entrepreneurial Management	*	*	-	-
	(11K) The Performance Culture Model	*	*	*	-
Investment Advisor	(12L) Lifestyle Planning Capability	*	*	-	-
	(13M) Relational Capability with an Investment Company	-	-	-	*
	(14N) Strategic Portfolio	*	-	-	-
	(15O) Participative Leadership Capability	-	-	*	-
Real Estate Agency	(16P) Business Development Capability	*	-	-	-
	(17Q) A Relational Capability with the Parent Firm	-	-	-	*
	(18R) Learning-Based Capacity	*	-	*	-

The results from the multi-case study showed that, within the case episodes, LBDMC was used 11 times, RC nine times, IBDMC and PL five times, and ABDMC (considered an RC) once by the managers studied. The data in Table 7.1 illustrates where two or more classifications were used together in 10 of the case study episodes.

The application of the VRIO model as discussed above, provided a framework with which to evaluate whether these capabilities were likely to achieve and sustain competitive advantage in periods of rapid change. The data in Table 7.2 show where the managers in the multi-case study generated competitive advantage using DMCs, based on the data managers provided. The results of the case study show that the managers used combinations of DMCs to achieve and sustain advantage in six different case episodes (2B, 3C, 4D, 5E, 11K, and 18R). The bank CEO used LBDMC, and IBDMC, as well as PL in establishing the “Performance Culture Model” in case episode 11K, for example (the audit trail in Appendix E further illustrates how the data were obtained).

Table 7.2 DMC Combinations and Competitive Advantage

<i>Case Study</i>	<i>Application of VRIO</i>				
	<i>LBDMC</i>	<i>IBDMC</i>	<i>PL</i>	<i>ABDMC</i>	<i>RC</i>
Insurance Agency	VRIO (2B)	VRIO (2B), (3C), (5E)	VRIO (2B)	VRIO (4D)	VRIO (2B), (3C), (4D), (5E)
Accounting Firm	-	-	-	-	-
Bank	VRIO (11K)	VRIO (11K)	VRIO (11K)	-	-
Investment Advisor	-	-	-	-	-
Real Estate Agency	VRIO (18R)	-	VRIO (18R)	-	-

The use of RBT and the VRIO framework helps to bridge the RBV and DC literatures, and build theory. The use of VRIO in assessing dynamic managerial capabilities makes an original contribution (the ramifications of which, in terms of practical and theoretical contributions, are discussed in detail in Chapter 6).

7.3.2 Research Results: Survey Study

The survey study was designed to test and build on the case study results. The purpose of the survey study was to research (1) how managers rank DMC classifications according to their level of importance, and (2) the joint usages of DMC classifications and also (3) if one (or more) of the DMC classifications played a key role in the development and operation of any of the others.

In terms of ranking the capabilities: IBDMC ranked most important (36.36%), followed by LBDMC (30.36%), PL (23.21%), and RC (18.06%). In terms of joint usage of capabilities: the results showed the respondents used each of the capabilities together. IBDMC was most (82.14%) likely to be used with other DMCs, followed by LBDMC (77.59%), PL (75%), and RC (69.09%). In terms of which of the capabilities managers used in the development and operation of other ones: IBDMC ranked highest, followed by PL, then LBDMC and RC. (See also Chapter 5 and Appendix F and G.)

Table 7.3 DMC Rank, Joint Usage, and Development and Operation Recap

<i>DMC</i>	<i>Rank (most important)</i>	<i>Weighted Average Rank</i>	<i>Joint Usage</i>	<i>Development/Operation other DMC</i>
IBDMC	36.36%	1.18 (1)	82.14%	82.35%
LBDMC	30.36%	1.22 (2)	77.59%	76.92%
PL	23.21%	1.25 (3)	75.00%	79.63%
RC	18.03%	1.31 (4)	69.09%	73.47%

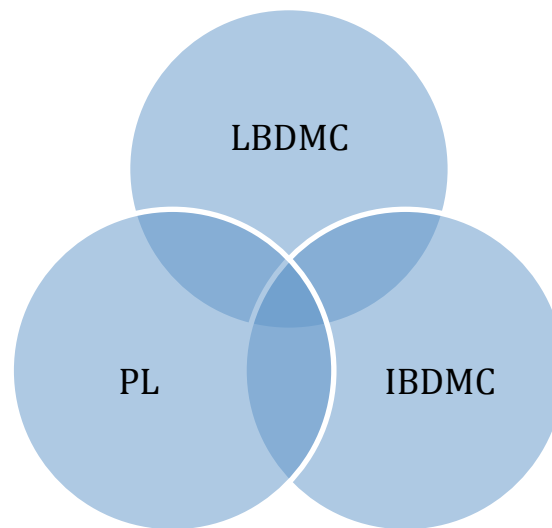
The survey results further show twice as many respondents ranked RC as least important, compared with LBDMC, four times as many compared with IBDMC, and approximately two and one-half as many compared with PL. The theory is that managers consider the internal/behavioral capabilities that are IBDMC, LBDMC, and PL as more valuable in generating competitive advantage. This may be due in part to firm size (e.g., larger firms may be less likely to pursue them as opposed to smaller enterprises as noted in the case data). Yet there may be other explanations, given that 40.59% of the survey respondents were from larger firms and 59.41% were from SMEs, yet RCs ranked lowest in each category.

7.4 Theory of DMCs

The theory is that the individual behavioral capabilities are more valuable to managers whether from a large or small firm. This is because one or more of these capabilities is used in generating the relational capabilities at the organizational level. The transformational capabilities that are IBDMC, LBDMC, and PL are used as inputs to generate RCs. The development of a relational capability would be dependent on learning, leadership, and innovative capacities. This idea is supported with the data from the case study (e.g., Tables 4.6, 4.7, and 4.8 as above). These internal capacities are used to impact and shape external capabilities, such as relational capabilities.

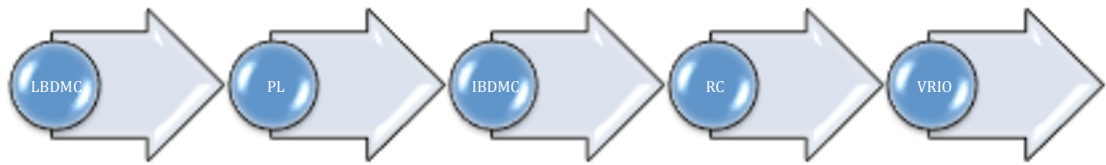
The theory is that these three DMCs (LBDMC, PL, and IBDMC) are transformational in achieving and sustaining competitive advantage. This theory is supported with data from the results from the survey study that supports the results from the case study—that DMCs are used in a portfolio of competitive intangibles, and that individual managerial capacities such as learning and participative leadership are valued more because they can enhance organizational outcomes (e.g., innovative and relational). The survey data further showed, commensurate with the case study, that DMCs are mutually interdependent and reinforcing, impacting on ordinary as well as dynamic capacities at the individual and organizational levels. Thus, the managerial capacities that are LBDMC, PL, and also IBDMC are considered transformational.

Figure 7.1 Transformational DMCs



The theory is that LBDMC, PL, and IBDMC are transformational because they impact on ordinary *and* dynamic capabilities, which is manifest in the organizational outcomes they generate. For example, LBDMC is a function of individual learning and reflects individual managerial cognition, such as when a manager has an idea and thinks about it, and reflects on it, and decides to put it into practice. This involves exercising PL in order to advance the idea, and bring important constituents on board (such as involving valued employees in the change-making effort), in order to manage change and innovate (as shown in Figure 7.1 above in the Venn diagram where $LBDMC \cap IBDMC \cap PL$). The theory is that individual dynamic managerial capacities affect organizational capacities and can help the firm achieve and sustain competitive advantage, as shown in Figure 7.2 in the diagram below.

Figure 7.2 DMCs and Competitive Advantage



7.5 Limitations and Areas for Additional Research

The limitations to the research (section 7.4.1) and areas for additional research (section 7.4.2) are discussed next.

7.5.1 Limitations

The limitations to the research are reflective of the limitations to the (1) literature discussed in the literature review, the research (2) design and method, and (3) data collection and analysis.

The literature: The research conducted in the thesis fills a gap in the literature, in which few empirical studies have been conducted. There are very few empirical studies on the subject of DMCs, and none have shown what DMCs managers use by identifying, classifying, and assessing them in terms of generating competitive advantage, as was done here. The limitation is that there is not a body of work in this area that could be referenced. While this provided an opportunity to make an original contribution, it nevertheless involved formulating and testing definitions and constructs for the first time.

The design and method: The multi-case study was based on inductive reasoning, which by definition is an approach that involves evaluating propositions that are abstractions of individual instances. The limitations with the research design and method were anticipated, however. This involved adopting a phenomenological approach, which allowed for quasi-judicial explanation building. The multi-case study data was supported with survey data coupled with an ongoing review and reassessment of the literature, triangulating methods, and strengthening results.

The data collection and analysis: The multi-case study was limited to a purposeful sample of managers of SMEs in the finance and insurance and real estate sectors. The survey study was conducted with managers in the same sectors, albeit from large and small firms. The managers of the SMEs that informed the case study were from a

regional sample, although the survey respondents were dispersed. Nevertheless, the data is limited, in that it cannot necessarily be generalized to other managers, in the same or other industry sectors, or during other time periods.

The limitations with the data collection and analysis of the research also have to do with the unit of analysis, being the manager of the firm, and more specifically, what are dynamic managerial capabilities. The analysis of DMCs as they relate to competitive advantage is reliant on managerial perceptions regarding their individual behavior. As such, the variables discussed here (e.g., LBDMC, IBDMC, and PL) are behavioral, not financial. What is being measured and discussed is perceptual and behavioral, not financial.

Thus, given that the research presented in this thesis was primarily exploratory, and was by design part of an inductive and iterative process, and also that it represents a newer area of research, this would allow for results which are more indicative than definitive, and invite additional research to be considered.

7.5.2 Areas for Additional Research

The research conducted represents a critical yet underdeveloped area of the literature that focuses on managerial capabilities, and the critical literature gap that exists regarding DMCs. The areas for additional research for academicians and those interested in strategy as practice could certainly develop and build on the identification, classification and competitive advantage typologies established.

That the literature called for more research into DMCs by eminent scholars in the field of strategic management (Adner & Helfat, 2003; Helfat et al., 2007; Martin, 2011) indicates this is an area where additional conceptual and empirical work is needed in order to better understand the phenomena. Additional studies could focus on DMCs and how managers create, extend, and/or modify resources (e.g., in terms of value creation and value capture). Further work could also develop the concept of AO (Helfat et al., 2007; Augier & Teece, 2009; Sirmon & Hitt, 2009) and the search, selection, and configuration/coordination of resources and capabilities that are involved. The concept of AO has been called a DC, yet very few studies have empirically linked the two. Only two of the studies (Table 2.4) linked DMC with AO (Sirmon & Hitt, 2009; Kor & Mesko, 2013).

Additional research into Teece's (2007) construct that disaggregates DCs for analytical purposes (e.g., how it is used in practice toward AO) would be of benefit, too.

The conceptual yardsticks that are technical and evolutionary fitness (Helfat et al., 2007) provide fertile areas for further research as well (such as in distinguishing between them in terms of economic rents accruing to the use of DMC—Schumpeterian or otherwise).

There is additional research needed regarding the classifications of DMCs that are IBDMC, LBDMC, and PL. Research could focus on understanding more about how managers develop, use, and maintain these capacities (such as how these particular behavioral capabilities relate to each other and play a key role in the development and operation of other capacities and are transformational). The classifications could be researched in terms of use in practice and (1) DMCs and managerial position (e.g., lower, mid, and upper-level management), (2) DMCs and management tenure, and/or (3) DMCs and type of firm (e.g., SME, larger enterprise).

Further studies are needed regarding managerial capabilities and achieving and sustaining competitive advantage. The use of the VRIO framework as above would be useful because studies conducted on DCs/DMCs have yet to incorporate it, despite calls from eminent scholars to do so. Related to this, other metrics such as survival and growth could be used (Helfat et al., 2007). That survival was a condition for firms used in the multi-case study provides empirical data on this. Other approaches could assess managerial capabilities that are used to make a living in the present (i.e., those which demonstrate technical fitness), such as with use of accounting and financial metrics. DMCs as they impact ordinary capabilities, could then be assessed in terms of how the firm performed net of opportunity costs, and accounting and economic profits assessed.

Further research into these areas would help understand what DCs/DMCs are, and how they are used by managers, and would help in establishing critical linkages regarding DCs, changing environmental conditions, and achieving and sustaining competitive advantage in using them—informing theory and practice.

7.6 Final Conclusions

In conclusion, the research conducted for this thesis shows empirically that DMCs involve creating, extending, and modifying the resource base. DMCs include AO, and the requisite managerial search, selection, and configuration and coordination activities that are required. They involve managers sensing and seizing opportunities and managing threats when faced with change. DMCs impact ordinary capabilities that allow a firm to make a living in the present, and are evolutionarily fit.

DMCs have micro-foundational behavioral elements to them, which exhibit common features that are idiosyncratic in detail. They include learning and innovation-based capabilities and participative leadership. The behavioral capacities, classified as LBDMC, IBDMC, and PL, are considered essential as a portfolio of competitive intangibles. They are transformational capabilities, integral to the process of entrepreneurial management, and they generate competitive advantage.

DMCs can achieve and sustain competitive advantage in firms, as where they are shown to be valuable, rare, inimitable, and adopted throughout the organization. The classifications of DMCs (IBDMC, LBDMC, PL, and RCs) are often used collectively in order to do so. These DMCs are mutually interdependent and mutually reinforcing. They are used in combination, and develop and operate ordinary capabilities, as well as dynamic ones. They are catalysts in exploiting opportunities and responding to, and creating change.

The wider implications, of use to theory and practice, involve that DMCs can be developed and used and maintained in the strategic management process. This includes the idea of the manager/strategist developing essential behavioral capacities. It requires entrepreneurial management. Just as the entrepreneur harmonizes the factors of production, the manager as entrepreneur creates, extends, and/or modifies and orchestrates intangible assets. This involves developing, maintaining, and using DMCs.

It involves establishing the strategy/structure relation (e.g., using PL), and determining the highest-level objectives of the firm (i.e., mission). It involves an ongoing assessment of the internal and external environment, and the alignment of the firm's strategy with the activities that frame the organizational design, and processes and systems in delivering the mission. Yet, it requires more than effective and efficient strategic management practices if the firm is to survive and/or grow in regimes of rapid change.

The strategy needed is a dynamic innovation strategy, defined here as the firm's theory about how to gain competitive advantage in periods of significant change. It is a strategy dependent on entrepreneurial management and the manager developing, maintaining, and using the essential transformational capacities that are LBDMC, IBDMC, and PL, together as a part of a holistic framework. It involves aligning the dynamic innovation strategy with a more organic system (Burns & Stalker, 1961). It

involves creating a culture of innovation and learning and practicing participative leadership.

7.7 Summary

The results and conclusions, limitations with the research, areas for additional research and final conclusions were presented in this chapter. The results were derived from the process of identifying, classifying, and determining competitive advantages of managerial capabilities. The research question, aim, and objectives were satisfied in that the empirical data showed managers used behavioral capacities that are transformational (i.e., LBDMC, IBDMC, and PL), during periods of rapid change in order to generate competitive advantage in firms.

Appendix A: Letter of Introduction

Bruce W. Bellner

Phone: [REDACTED]

Cell: [REDACTED]

E-mail: [REDACTED]

[REDACTED]

Dear [REDACTED],

It was nice to talk with you today. Thank you for considering helping with the research project that I am working on. This letter spells out a few more of the details.

I am presently finishing my doctoral degree at Edinburgh Business School, and, as part of that, I am conducting research and writing a thesis.

My research examines businesses that are local and/or part of the greater [REDACTED] area—specifically, area firms like yours that have demonstrated competitive advantage over time.

I'm focusing on what are referred to as dynamic capabilities, which are how firms renew and recreate strategic capabilities in turbulent economic environments.

By participating, you will not be asked to spend a great deal of time on the project, but I would like to conduct one or two interviews with you, and/or possibly with other personnel who are involved with strategy making at your company.

The interviews would be augmented (at your complete discretion) by any documentation that you are able to share, especially if you think the documentation would be useful for me to review to better understand your business and how it works.

Please note that your participation is totally confidential in that I will not attribute any responses to individual interviewees. None of the participating organizations or individuals will be identified by name and/or any other specific identifying characteristic within the thesis.

Your involvement is important; as the crux of the data analyzed is reliant on executive input, and approval of the project is dependent on demonstrating I have access to sufficient levels of executive participation. You may of course, withdraw your participation at any time, for any reason.

For now, I just need your response via e-mail that you agree to participate. The interviews will take place in the coming months, and I will be back in touch prior to conducting any in order to schedule them.

When the research is complete, I would be happy to share the results with you. This research area provides ideas with practical applications that are usually of interest to those who participate.

Thank you again for your consideration.

Best regards, Bruce

Appendix B: Semi-Structured Interview Questions

General Overview Questions:

- What is the name of your firm?
- What is your position?
- Describe the business you are in.
- Who are your customers?
- What are the services that you offer?
- How long have you been in this type of business?

Questions Related to Resources and Capabilities and the Environment:

- What are your most important resources?
 - How do they help you achieve your goals?
- Think of a recent significant change in your business environment.
 - Describe the change.
 - What did you do as a manager in response to the change?
- How did you change your resource base?
 - What types of resources did the change involve?
 - What did the before and after picture look like?
- How did you decide what resources and capabilities to change?
 - What went into the process of your deciding?
 - How did you go about searching for new opportunities?
 - How did you go about selecting them?
 - What actions did you take regarding implementation?

Performance Related Questions:

- How efficient and effective were the changes?
 - Did the benefits of the changes you made outweigh the costs?
 - Are there any examples where the costs outweighed the benefits?
- Did the result of the change give you any advantage competitively?
 - If so, in what ways?
 - How was demand for your services affected?
 - Did the changes help your performance as a firm?

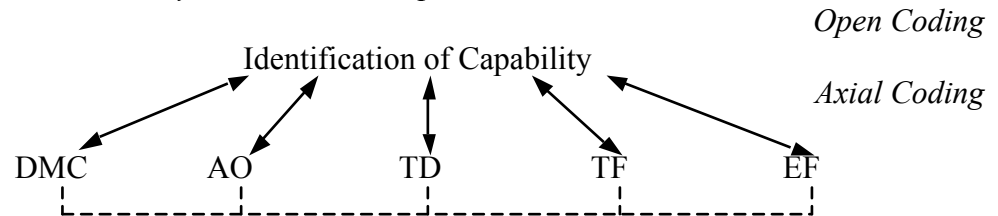
General Follow-Up Questions:

- Are there any sources of reference material that you would be able to share such as financials, annual reports, news articles, and/or other types of documents that would help illustrate the things we have discussed?
- Is there anyone else in the firm in a managerial position that you would recommend I speak with?
- Is it all right if I contact you with follow up questions?

Appendix C: DMC Constructs and Linkages

First-Order Constructs

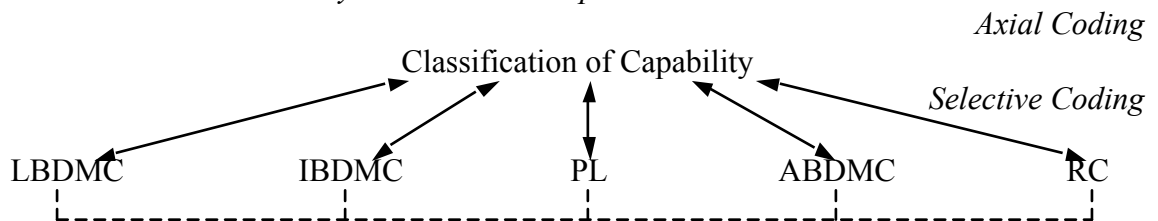
Data Collection and Analysis/Constant Comparison



(Established "episodes" in which DMC is manifest, and shown to include AO, and managers "sensing" and "seizing" opportunities, and achieving TF and EF)

Second-Order Constructs

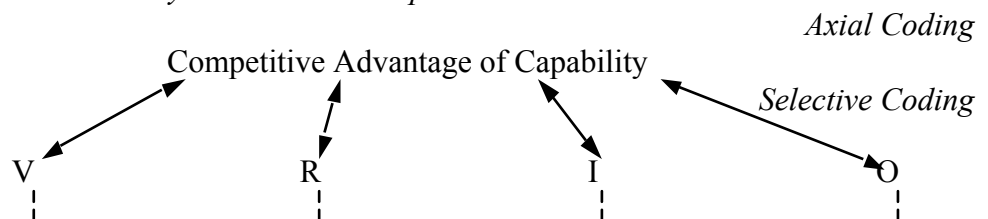
Data Collection and Analysis/Constant Comparison



(Established that DMC is learning-based, innovation-based, involves participative leadership, and relational capacities)

Third-Order Constructs

Data Collection and Analysis/Constant Comparison



(Established that LBDMC, IBDMC, PL, ABDMC, and RC help achieve and sustain competitive advantage)

(Formulate propositions/conduct survey study)

Theoretical Coding

Appendix D: Case Episode Data

D.1 Introduction

The sections presented here provide a brief overview of the case participants (section D.2) and case examples of the classifications of DMCs developed here inclusive of LBDMC (section D.3), IBDMC (section D.4), PL (section D5) and RC (section D6).

D.2 Brief Overview of Case Participants and Firms

The following sections provide a brief overview of the case participants and their firms including the Principal of the insurance agency (section D.2.1), the Tax Manager and the President of the accounting firm (section D.2.2), the President of the Investment firm, (section D.2.3), the bank CEO (section D.2.4), and the GM of the real estate agency (section D.2.5).

D.2.1 Insurance Agency

The manager of the insurer had been in the business for more than 43 years at the time of the data collection process, and was the Principal of a company in its 75th year, an independently owned and operated LLC with offices in four cities and approximately 165 employees, which generates roughly \$330 million in sales per annum, ranking it the 95th largest in the U.S. (of approximately 20,000). The firm offers commercial insurance, employee benefits coverage, human resources (HR) consulting, retirement services, and personal insurance.

D.2.2 Accounting Firm

The accounting firm is co-managed by its President and Tax Manager. The President and founder has been with the firm since its inception in 1969, and Tax Manager has been with the firm for approximately 20 years, and began a career in 1970 as an Internal Revenue Service (IRS) agent. The firm has approximately 1,200 clients (1,000 individuals and 200 businesses), and 19 employees. It is structured as a Sub-chapter S corporation. The firm has averaged 9% growth per year over the last 10 years (including 3 to 4% growth per year during the 2007-2009 recession, and was up 18% in 2012).

D.2.3 Investment Firm

The President of the firm began a career as an investment advisor in the 1970s, and started an independently owned and operated investment advising firm in 1984. The

investment firm currently has approximately 350 clients and \$105 million in assets under management. Client portfolios range from \$12,000 to \$12,000,000. The firm is structured as an LLC and performance figures were not available for disclosure. The firm has five employees and one location.

D.2.4 Bank

The CEO of the bank has been with the firm since 2000 and prior to that ran a successful start-up company. The bank has been in business since 1911, and has 145 employees and 11 locations. It recently was ranked #97 out of the top 100 community banks (out of 7,500) in the U.S. (#4 in the state it is located), based on ROAE (Return On Average Equity) according to *U.S. Banker Magazine*. The bank is publicly traded although closely held. The shares are available on the OTCBB (Over The Counter Bulletin Board). Net income was \$5.1 million in 2011 (\$3.27 per share), up 11% from 2010—the best earnings year ever, occurring during the bank’s 100th year.

D.2.5 Real Estate Agency

The General Manager (GM) and Broker/Owner of the agency started in 1992 as the Assistant Regional Director (ARD), and then became a franchisee in 1996. Under the GM, the agency has grown from 11 to 80 agents at two locations with a support staff of 12 employees. Despite the recession and severe downturn in the housing market, the agency has earned \$4 million in net new commissions, and profitability was up 22% in 2011 over 2010. The company also has the largest local market share with an 18%. The parent company, founded in 1973, is an international LLC with 6,500 independently owned and operated offices, in 80 countries, employing 90,000.

D.3 Case Examples of DMC Classifications

The classifications of DMCs that emerged from case study are illustrated in the following sections and include learning-based dynamic managerial capability (LBDMC) in section D.3.1; innovation-based dynamic managerial capability (IBDMC), in section D.3.2; participative leadership (PL) in section D.3.3; acquisition-based dynamic managerial capability (ABDMC) in section D.3.4; and relational capability (RC) in section D.3.5. The illustrations below provide some useful detail relevant to the findings from the research, discussed in the preceding chapters.

D.3.1 Case Examples of LBDMC

The following sections provide examples of the DMC identification/classification and competitive advantage from a specific case episode.

D.3.1.1 Episode 12L: “Lifestyle Planning Capability”

The President of the investment advising service used LBDMC in case episode 12L referred to as the “Lifestyle Planning Capability.” In this example, the President noted that the less experienced financial planners often rely on a static model to do a financial plan. And that the CFP (Certified Financial Planner) or CFC (Chartered Financial Consultant) often uses models based on software packages in planning the financial future for their clients, and can charge \$5,000 to do the plan. “It’s very detailed/complex—it does get your life in order” yet the first time something comes up out of the ordinary, clients no longer use it, because it no longer works.

The President stressed the importance of having the knowledge and ability to do lifestyle planning. It is more holistic, and builds into it changes that can occur. Many financial planners, consultants, and advisors do not have the knowledge and experience to do this type of planning. In the language of the DC literature, the ability to do a static software-based plan is analogous to an ordinary or operational capability, and one that is technically fit, with the ability to provide the lifestyle planning as evolutionary and dynamic.

The President’s knowledge and experience underpin the ability to orchestrate these plans. “If you build in the lifestyle” the client’s goals can be met. For example, one client needed \$200,000 for a large wedding, another a new 45-foot sailing boat, and another client builds and flies model airplanes. “Now if I just ignore that in the planning,” (i.e., and use a computer-based plan), the money wouldn’t be there, so “you have to build that into your planning,” because “the new car, new wedding, hobby enthusiasts who fly model airplanes” would not be covered by the “A, B, or C” plans offered by competitors with less experience.

Lifestyle financial planning requires a lot of time spent with a client, the President observed. A client can pay for this service in a variety of ways. The different types of remuneration, (e.g., fee-based, commissions, retainer, by the hour, or project-based), had been researched by the President over a 10-year period, and the results showed that there was not one type of compensation structure that had any advantage over the

others. Thus, clients can pay based on the arrangement they are most comfortable with, which is “another thing that’s helped us survive” the President noted.

The ability to do lifestyle planning for clients requires knowledge and real world experience too, according to the President. There are some people that “start in the academic world and stay in the academic world and don’t get it. You can appreciate [that] because you have come from the business world and hit the academic world.” The problem is that “some have never been in trenches, they go to school, get their CFP, set up shop and do you a financial plan, but have never been in the trenches, it doesn’t work.”

Teece (2007) noted that DCs include the type of capacities required in order to adapt to changing customer circumstances, and “hypothesized that excellence in these ‘orchestration’ capacities undergirds an enterprise’s capacity to successfully innovate and capture sufficient value” (p. 1320). The lifestyle planning capability involves “sensing” and “seizing” opportunity for the client. The ability to do this type of plan is technically and evolutionarily fit. It is also valuable to the firm, and to a degree inimitable (although it possibly can be imitated), but it is considered rare, as it is contingent on many years of experience and being in the “trenches.”

D.3.1.2 Episode 14N: “Strategic Portfolio”

The President of the investment firm also used LBDMC in case episode 14N referred to as the “Strategic Portfolio” in which the financial model that was used to allocate assets for clients was changed. The new model involves a strategy that uses research and analysis of long-term market trends. It involves keeping clients invested when markets are trending up, but going to cash when markets are trending down. “You don’t go from large cap to small cap, from international to U.S., you don’t play those games, you identify that this is our portfolio, and we are either invested, or we’re in cash, it’s a simple concept.”

The strategic portfolio is based on sustainable growth and in using capabilities that grow the financial assets of the firm’s clients in volatile financial markets. The portfolio is designed to conservatively capture the upside but be defensive in down markets. The times have changed, and the markets have become more volatile. The firm’s research showed many investment approaches no longer work well—such as the “asset allocation” approach often used with lifecycle funds in 401k plans, IRAs, and pension plans.

“We watched in ’02 when it [asset allocation] fell apart, [and] watched in ’08 when it totally fell apart.” For a variety of reasons, these old ideas were not working in the more dynamic markets, and new ways of managing client portfolios were therefore developed. These changes in the markets during the mid-2000s including the financial crises, and Great Recession of 2007-2009, were so significant that the President had to call and explain to the firm’s clients that what had “previously worked for the past 37 years” no longer did, and that new strategies were put in place.

This involved an investment strategy that actively adjusts portfolio asset allocation based on fundamental and technical analysis. The data is used to actively manage a strategic portfolio based on the lifestyle plan developed for each of the firm’s clients, (recall the lifestyle plan was predicated on the President developing and using LBDMC). The new investment strategy has been effective in both bull and bear markets. The approach has been tested empirically and shown to “capture between 92% and 102% of the upside on most of the investments” and to “shine in a bear market,” the President indicated.

The capacity of the President to develop the strategic portfolio exemplifies DMC, and includes AO. The resources and capabilities used in the episode include the managerial capacities to purposefully extend and modify the firm’s resource base, with search/selection processes regarding investment research, and asset allocation to create new resources, predicated on using LBDMC (e.g., experiential/double-loop learning in changing what worked for 37 years). It includes orchestrating other resources and capabilities such as with the lifestyle planning and relational capabilities that include the resources of a major Wall Street firm, which are used with the strategic portfolio. It is also the orchestration of these resources and capabilities by the President that has allowed the firm to achieve competitive advantage given the volatility of the financial environment.

D.3.1.3 Episodes 16P: “Business Development Capability” and 18R: “Learning-Based Capability”

The GM of the real estate firm used LBDMC in case episodes 16P, referred to as the “Business Development Capability,” and 18R, entitled “Learning-Based Capability.” Embedded in the construct LBDMC is the notion of experiential learning, as noted above. Kolb (1984, p. 38) stated that, “learning is the process whereby knowledge is

created through the transformation of experience” (p. 38), and this idea is complimentary to the classification of LBDMC.

The ability of the GM to develop business was predicated on experiential learning, attained from positions held at the executive level during a career in management. For example, the GM was an executive manager at a Fortune 100 firm, and the knowledge and experience gained there was subsequently useful at the real estate firm. The GM started with the real estate firm as an assistant regional director (ARD) and management consultant to new franchisees. It was in the ARD position that the knowledge and experience obtained as an executive manager with a Fortune 100 firm was used in helping to successfully open 40 new offices.

The learning and experience attained in the ARD position over a period of four years, which involved helping others establish successful franchises and become Broker/Owners, allowed for the GM to reflect that, “you know I think I can do this myself.” A partnership interest was established in an existing office that had 10 agents in 1996. It grew to 60 agents, at which point another office was established. As the franchise continued to grow, a new larger facility was built to house the agents, along with a mortgage broker and title firm. The new office was built during the housing boom when approximately one million homes sold each year.

The boom turned to bust, as the financial crises of the mid-2000s and Great Recession of 2007-2009 decimated the real estate market—as unemployment rose, demand for housing fell, property values dropped, and foreclosures reached record levels. It was in the wake of the recession, according to figures provided by the realtor, when new construction dropped by 45% and the commercial market fell by 35%, that the franchise contracted by 20%. In order to survive and grow in this environment, the GM had to acquire new knowledge in different areas, and to help train the agents at the franchise too.

The GM used aspects of experiential learning, and also sought and acquired new knowledge in order to grow and survive. The recession of 2007-2009 fundamentally changed the real estate business, but with it came unique opportunities. For example, the firm began representing buyers and sellers in what are referred to as “short sales” and “real estate owned” (REO) properties. (A short sale is when a sale of a property is for less than the debts and liens against it, and an REO is a property owned by a lender, such as a bank, often after an unsuccessful foreclosure auction yields no buyer.)

Although the GM admitted that, at first “we had no idea what a short sale was, we had no idea what a bank loan was, we had a rough idea, we had been doing a little of them, but not to that degree.” The GM ensured that the proper resources, including training in REO and short sale transactions, were coordinated with agents. This included developing special training programs on the company intranet and at the Real Estate University, coupled with additional investment in human capital. The result of orchestrating these resources allowed the GM’s franchise to survive the worst real estate market in company history, when many did not. The franchise has continued to grow as a result and it is now positioned with a group of affiliates in the local market that collectively has the largest market share (approximately 18%). The company’s success has also translated into more referrals and business generated (net new commissions are up 22% to \$4 million), and this in turn has attracted top-quality agents.

D.3.2 Case Example of IBDMC

Innovation-based dynamic managerial capability refers to the capacity of managers to make changes to something established (e.g., by introducing new ideas, methods, products and/or services), in order to create, extend, or modify the resource base of an organization. The bank CEO in case episode 10J, referred to as “Entrepreneurial Management,” offered “I’m a little unique in that I have not been a career banker, ...I’m an entrepreneur.” The CEO had started a successful company at the age of 20, and ran it for about 10 years prior to entering the banking industry. “So I have a little bit of a different background, so I have an entrepreneurial background, its not just banking, its business in general, and growing a business.”

The bank CEO faced technological changes that greatly impacted the banking environment and transformed banking from a model based on branch location, with customers banking in person, to an online banking model. The CEO recognized and anticipated these changes by developing and launching an Internet bank, and introduced mobile banking applications for iPhone and Android users—becoming the first bank in the region to offer these applications. This was one of the examples of innovativeness, and IBDMC that was also used with LBDMC, as the CEO learned how to innovate as part of the experiential learning process. The capability has value, and is rare, although not necessarily inimitable, and so competitive advantage may be temporary (McGrath, 2013a, 2013b).

D.3.3 Case Example of PL

The President of the investment firm used PL in case episode 150, in which the President stressed that the firm's employees are considered part of a team effort, and they are given autonomy to make key decisions (they each have their own personal corporate credit card for example). The President knew of local firms that had failed because the CEO did not "have the team behind them," and noted that "[y]ou've got to include the employees in the mix," and that "you've got to take care of your key employees ...that just becomes something you have to do." The President does this by empowering employees, so they do not feel they have to "run things by committee" at the firm. It was stressed that business has become overly reliant on predetermined processes, and that they get carried too far, "one of the things we've always enabled here, 'forget the process, if you see it needs to be done, do it' you are enabled."

Another aspect of PL is the absence of a strict hierarchy within the firm. "I wouldn't ask employees to do anything I wouldn't do myself" the President said and then added, "that's another point, it's how important you view yourself—if you're part of the team, you're part of the team." This is important, as the notion of PL as being team-based is critical. "If you're looking at how some survive the years and others don't, again I've worked with the others—the CEO was 'the CEO' and there's this class distinction within the company." The President observed that a significant number of local firms have gone out of business, because "it's not always the market, a lot of times it's the internal structure."

PL fosters the division of labor and specialization (as per Smith, 1776) within the investment firm, which has enhanced productivity. The President and the associates meet with a client to develop a financial plan as a team, for example. The President designs a lifestyle plan, and a specialist follows up with the client and implements the plan, and another employee then monitors the plan and provides analytics used to make adjustments when needed. This managerial approach is efficient and effective in using key resources and capabilities. It extends the firm's ordinary capabilities in these areas by taking advantage of different skills each of the employees have (i.e., using their comparative advantages net of opportunity cost).

The PL approach to management the President demonstrated involved the managerial capacity to orchestrate intangible assets, such as possessed by the employees

of the firm (i.e., their unique capabilities/comparative advantages), and with their active input into the process. The use of PL by the President is technically fit and allows the firm to make a living, and it is also evolutionarily fit in that intended and emergent strategy (Mintzberg & Waters, 1985) regarding the financial planning process can be realized more efficiently and effectively given the high level of employee autonomy, and the division of labor and specialization it fosters.

D.3.4 Case Examples of RC

The following are case examples of relational capabilities.

D.3.4.1 Episode 4D: “Perpetuation Planning”

The manager of the insurer in case episode 4D; “Perpetuation Planning,” reflected on periods of significant change and noted, “one of the most important was the realization about four years ago that all businesses in our industries have perpetuation problems...” and added “any CEO of any insurance company will tell you about 35% of their cumulative volume is at risk at any time, because the distribution vehicle (being agents) retire, die, fail in business, or become consolidated” in an industry that on an aggregate level has gone through substantial losses and a wave of consolidations.

The idea of perpetuation planning was something that was referred to many times and regarded to be of utmost importance. (This was further evident in that the manager profiled teaches courses on perpetuation planning to executives in the insurance, medical, and real estate industries.) The manager stressed the importance of anticipating “the changing economic conditions by simply being observant for the leading economic indicators and the key operating ratios for some of our clients and where they were headed, how they were deteriorating—it prompted us to prioritize perpetuation planning.” The perpetuation planning process led to an acquisition. This involved bringing in a larger firm that purchased the partnership interest in the agency that was owned/managed from 1982 until 2008. The planning process leading up to this took 1½ years, with the recognition that when most acquisitions fail, “it’s almost never because fiscally they didn’t fit, it’s almost always because culturally they were incompatible.”

The need to establish philosophical and cultural compatibility prior to the acquisition was critical. If there was an imbalance in risk tolerance, the business could not grow according to the manager, because the business would be pulling against itself given the differing philosophies. The manager stressed that it was critical that the

acquiring firm “met philosophically and culturally with my values” and, “having found that to be true, we agreed to move forward.” The result is that “it’s turned out to be a very good marriage.” The acquisition allowed for the anticipating and taking care of the perpetuation issue, by providing not only for the manager, his family, and staff, but for those new people he wanted to bring on. And it afforded the “opportunity to share our vision of growth with the new firm and capitalize on their enhanced resources to bring to fruition some of our ideas within the scope of their larger organizations” and “so it’s just worked out well at every level.”

The manager of the insurer developed an RC in this episode, which is referred to as acquisition-based dynamic capability (ABDC) in the literature (Helfat et al., 2007, p. 121, emphasis original).

ABDC is a “form of *relational capability* that refers to the capacity to use business acquisitions to obtain new resources and capabilities” consisting of “*acquisition identification capability*, *acquisition reconfiguration capability*, and *acquisition selection capability*.” The selection capability involves “the *capacity* to recognize when an acquisition is the appropriate mode for obtaining new resources and capabilities,” the identification capability is the capacity to “detect and negotiate with appropriate target firms” and the reconfiguration capability involves reshaping the resources of the two firms.

As a result of the ABDC, the manager noted that the sheer size of the organization he joined, coincidental with the economic downturn, created all kinds of opportunities, such as having in-house legal counsel, a dedicated HR professional at the disposal of clients (and/or prospective clients), and having loss control experts available at very little notice. It is these resources and capabilities that allow the insurer’s firm to capture business smaller insurance agencies are not able to, enabling it to survive and grow.

The ABDC (extended to ABDMC here) shows evolutionary fitness because by merging with a much larger firm, the insurer has access to greater resources and capabilities, and this new capacity has allowed the insurer to enter into markets previously unavailable, during periods of significant environmental change (i.e., the recent financial crisis and the recession of 2007-2009) and to achieve and sustain competitive advantage in so doing.

D.3.4.2 Episode 3C: “Joint Venture with a Community Bank”

The manager of the insurer established other RCs in addition to the example above. In case episode 3C, referred to as the “Joint Venture with a Community Bank,” the manager stated that, “I love innovative things where you can capture market share which was simply not identified,” although offered that banks and insurance agencies

typically to not “mix well” because joint ventures between them often do not work out. The proposed venture needed to be planned thoroughly, therefore, and the strategy for sharing resources needed to consider ways in which the venture could be successful in order to avoid the pitfalls that other firms have experienced entering similar arrangements.

The venture made sense financially for the bank, given the current historically low interest rates banks were facing. The low interest rate environment meant generating income in other ways was necessary (aside from the spread between loan and deposit interest). The joint venture made sense financially for the insurer, too, in that it would capture valuable referral business through the bank branch network and generate growth.

Thus, the venture made sense fiscally for both parties, although finding an optimal way to share resources needed resolution. The solution involved creating what was referred to as a “virtual agency” for the bank. The “virtual agency” involved having the bank’s clientele access the insurer through the bank’s website. The platform was designed so the bank could generate client referrals and send them to the insurer to process. The insurer would write the business and then place it with one of its own companies. It was decided the bank would use its own brand name, as it had dedicated significant resources toward marketing and promoting name recognition in the community over the years. The insurer would take care of the underwriting, marketing, and placement, and cover the expenses in return for the referral business generated at the bank. The revenues generated would be shared, with the net income split evenly (the insurer has maintained net income in the 18 to 22% range historically, which is at the high end of the peer group for the industry).

The ability to execute this arrangement was based on a critical analysis of the relevant data and the appropriate due diligence required to agree to these terms. The firms developed pro forma financials with every line item regarding income and expenses examined in detail in order to determine where both firms needed to be to make a strong profit. The pro forma financial projections were for \$10.5 million of new revenue over the first four years, and, as of this writing, the boards of both entities finished voting on approval of the joint venture, and the “virtual agency” is now up and running, and contributing to the ongoing need for organic growth for each of the entities.

The arrangement with the bank exemplifies use of DMCs. In the language of the DC literature, it involves a “relational capability” (RC) that leads to a “relational advantage” (RA) (Helfat et al., 2007). The capability was developed with LBDMC and IBDMC (see Tables 4.6 and 4.7). The development of the “virtual agency” extends and modifies the resource base of both entities to create a new revenue-generating resource in the form of an RC. The “virtual agency” meets the tests of technical and evolutionary fitness. It is technically fit in that it is built with market-tested resources and capabilities. The “virtual agency” exemplifies evolutionary fitness too, in that it brings these resources and capabilities together in a new way to compete.

The RC is valuable in that it provides opportunity for the bank and the insurer to bring in new clients. It is rare and “unique,” and it is inimitable. The firms are also organized in such a way that they are benefitting from the capability. The competitive implication therefore is one in which the RC generates what is referred to as a relational advantage, defined as “a *competitive advantage* that derives from access to, or acquisition of, the resources and capabilities of other organizations” (Helfat et al., 2007, emphasis original).

D.4 Summary

The sections above in Appendix D provide an overview of the firms in the multi-case study, and data from the managers participating in the case study, which illustrated ways that their firms were able to achieve advantage during periods of significant change in the external environment (i.e., the recent financial crisis and Great Recession of 2007-2009). The data show managers used DMCs in order to do so, including transformational ones such as LBDMC, IBDMC used to generate an RC. In the following Appendix E, an audit trail is provided.

Appendix E: Audit Trail

E.1 Introduction

An audit trail provides a roadmap, which others conducting similar research may use and arrive at similar conclusions. Because the research involved taking raw data, such as semi-structured interview transcripts, and condensing it into categories (see Figure 4.1, and also Appendix C), the process involved judicial sense making of events that was based on valid inference and interpretation in going from “coding” to “categories” as described below (Schwandt & Halpern, 1988; Miles & Huberman, 1994).

E.2 Steps in the Process

The steps in the audit trail were adapted from Zhang and Wildemuth (2009), and involve:

(1) Preparing the data (e.g., transcribing interviews and looking for patterns or themes (Minichiello et al., 1990). This included “any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings” (Patton, 2002, p. 453).

(2) Developing units of analysis, including the coding schemes used, and placing data into categories. This involved establishing first- (e.g., AO, TF, EF), second- (e.g., LBDMC, IBDMC) and third-order constructs (e.g., VRIO), as shown in Appendix C in order to identify, classify, and determine competitive advantage of DMCs.

(3) Ensuring consistency. This involved defining key terms and concepts provided in the Glossary. It involved a constant comparative analysis and triangulating data (Chapter 3). It also involved having others check the data. For example, an early draft of the insurer’s case write up was sent to the manager of the insurer, who indicated that the assessment captured the meaning and spirit of the things being described. The candidate also had an expert on the subject of DCs, who has conducted qualitative research into them at the doctoral level evaluate the research process for consistency (Table E.1).

(4) The final step involved drawing conclusions and reporting findings.

E.3 Codes to Categories

The steps in going from codes to categories are illustrated next with some sample data provided (see also Chapter 4, and Tables 4.1 through 4.5, Figures 4.1 and 4.2, and also refer to Appendix C and Appendix D).

E.3.1 First-Order Constructs

The first step in going from codes to categories involved open coding. Open coding refers to the first and unrestricted pass at coding data. Some of the raw data from interview transcripts with the bank CEO is shown below. The open coding involved highlighting important ideas (e.g., in bold type or italics), which helped establish patterns and develop key ideas.

Q:

17:17 Have you changed anything significantly since you've been here? Any main adjustments that had to be made in the way things are done?

17:30 Maybe some significant changes that you had to engineer?

A:

17:37 [I]t got to a certain point where we were having **growing** pains (OK) what that means is that we had people in positions where they weren't performing but nothing was being done about that area, so every year it was consistently not perform.

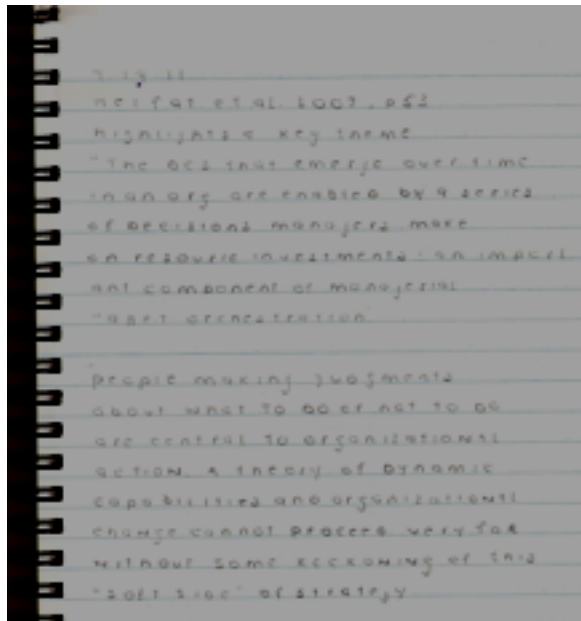
17:52 I mean there could be negative ramifications about it, but nothing was being done about it

18:00 **so I instilled a model** in the bank called the **performance culture model** that we use to this day, and it's the very first thing we teach people when they walk in the door.

The open coding process involved naming the episode (i.e., "The Performance Culture Model" and assigning a numeric code 11K). Because each case episode was a specific instance managers described during the semi-structured interview process (see Appendix B, and Chapter 4, section 4.3 and Table 4.6), the identification of DMCs involved looking at where managerial capabilities were used in case episodes and determining where, when, and how managers created, extended, and/or modified resources, and the managerial search, selection, and configuration and/or coordination of resources involved (AO). The instances where this occurred were coded, as a part of the open coding process.

The data from each of the case study episodes were subject to a constant comparative analysis as noted, which compared and contrasted the data in the case with the DC literature. The notes below, for example, refer to ideas on asset orchestration, which tie to managerial actions, and represent the process of "connecting the dots" from what the DC literature conceptualized, to what was identified in practice. The idea of AO was emergent, as a fundamental first-order construct used to identify DMC. Because AO involves arranging resources and capabilities, when these activities were a part of a case episode, they were duly noted, as a part of the axial coding process.

Figure E.1 Notes on AO



An example of AO in practice involved the “people, processes and technology” model the bank CEO developed upon arriving at the bank. The CEO orchestrated human capital and physical capital and the requisite strategy toward generating advantages (i.e., a culture of performance) at the bank, impacting on ordinary capabilities in a purposeful way.

A:

18:14 Where we have, each, *picture a bank and there's three pillars to the bank* with a big foundation, and the **performance** culture is the triangle or the roof at the top of the pillars, OK—and we have three strong pillars, **people**, **processes** and **technology** and we're going to leverage all those on a firm foundation of **accountability**.

18:32 So one of the first things I started to do here at the bank was make everybody here at the bank accountable (OK) and in banking and community banking in general, if you didn't steel, you could keep your job for a super long time...[laughs], 'cause it wasn't about performance, it was just about kind of *going through the motions* you know?

The CEO sensed the culture needed changing (it wasn't about performance), and employees underperforming put the bank at a competitive disadvantage. The CEO saw the opportunity to change the culture at the bank, in order to counter the threat from people just “going through the motions” and seized on it.

The metrics further used to identify DMC included the conceptual yardsticks that are technical and evolutionary fitness (TF and EF). The performance culture model is technically fit, in that it helps the firm make a living in the present. It is evolutionary because it has helped the firm survive and grow, according to the CEO:

A:

18:50 And the bank we saw that [non-performance] to be a detriment, you know, if we wanted to be around, we had to perform, you know? Had to be a high performer

18:54 so we changed that,

18:57 we eliminated the position of a teller. We so not have tellers at this bank. Reason being is that tellers don't just perform a teller function, they don't sit at the window and wait and exchange tickets and money and all that and balance,

19:09 I mean they're trying to seek solutions, they're trying to get to know customers, or greeting customers or cross selling products and services and all of that kind of thing, so we've eliminated the position of the teller.

19:18 We've en grown our entire HR department to incorporate a training and career pathing mechanisms, so we have our own [REDACTED] University if you will, online classes as well as in-person classes, we had one here last night.

The performance culture model involved capital investiture in human and physical capital. The strategic focus (e.g., inclusive of investing in training and career track mentoring) increased the employee's performance, which helped generate competitive advantage. The performance culture episode provides an example of where a DMC was identified using open coding (e.g., naming the case episode for reference), and highlighting emergent ideas, patterns and themes (e.g., AO). The identification process involved axial coding (e.g., represented by the dotted lines connecting the first-order constructs in Appendix C in the identification of DMCs). Each of the first-order constructs was represented in the case episode. The CEO used DMCs, AO, and "sensed" and "seized" an opportunity to change the culture upon arriving at the bank, and purposefully put together the model illustrated below (Figure E.3).

E.3.2 Second-Order Constructs

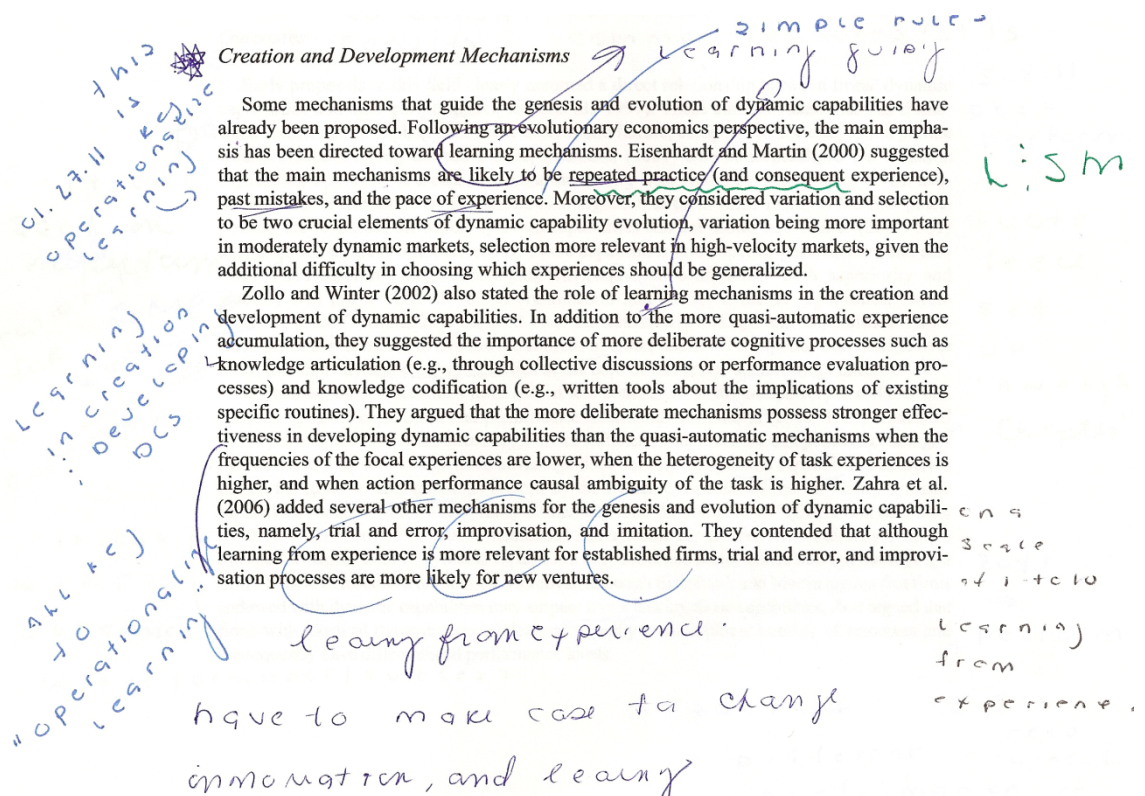
The second-order constructs were emergent, and developed over time in an iterative fashion, using the constant comparative approach with the case data coupled with the ongoing literature review. The approach established patterns and developed themes as noted. Patterns began to coalesce (Figure 4.2) around some fundamental concepts (e.g., learning, innovation, and a participative leadership style), which eventually became classifications of DMCs.

Learning was an important key recurring theme in the cases and in the literature. Deriving the construct LBDMC involved axial and selective coding (Appendix C). Axial coding established core components of the definition (such as experiential learning). Notes were kept (see Figure E.2 below) with respect to when the term learning was referred to, and how it was described, and what the managers in the case

study were referring to, and also how learning was referred to by academicians writing in the extant DC literature as discussed in Chapter 2, although articles outside the DC literature stream were also useful in refining the classification (Argyris & Schön, 1974, 1978; Argyris, 1996; Kolb & Kolb, 2005; Senge, 2006).

For example, the realtor described experiential learning in terms of the knowledge gained from having different positions in executive management over time as described in Appendix D (i.e., what Kolb (1984) referred to as experiential learning). The investment advisor explained that what was learned through experience and research made it necessary to change the entire portfolio strategy, because what had worked for 37 years no longer did. This is referred to as double-loop learning by Argyris and Schön (1978), in which the entire system, as it exists, is changed. Both the realtor and banker described their company as a repository of shared knowledge and active learning processes, describing attributes of Senge's (2006) learning organization.

Figure E.2 Notes on Learning



Source: Adapted from Barreto (2010).

The bank CEO used LBDMC (a second-order construct) in practice with respect to the development and maintenance of the performance culture model. This was exemplified in that the model has become a part of every employee's training process (e.g., it is the first thing they receive from HR and go over when hired, and it has

become an integral part of the annual review process, in which the CEO participates with the employees). The model is a major innovation because it fundamentally changed the existing “going through the motions” culture at the bank.

Q:

19:46 And this [e.g., getting rid of teller position as above] relates to the performance culture, career paths, your abilities and capacities to be with all your employees that work for you?

A:

Right.

Q:

20:00 Good stuff. Three pillar aspect, is that part of your published materials?

A:

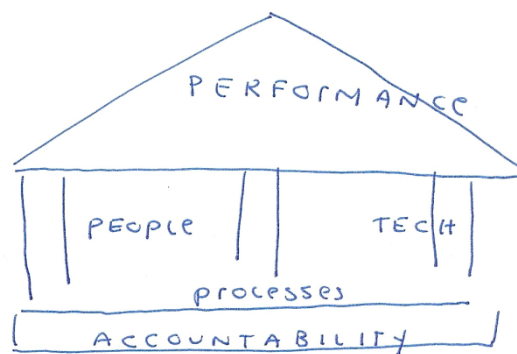
20:09 Not really, I can draw you a picture of it, it's kind of crude but it works for us

20:31 call it performance culture, reason we call it performance culture as opposed to sales culture is that I can put everybody under the performance culture umbrella, right? Internal people. Everybody.

20:48 Everybody has got to perform at their core function. Some people are sales, some people are service, some people are internal. They all perform. So, this includes everybody.

21:00 So we have three pillars, people, processes and technology and those all rest on a firm foundation of accountability. (CEO draws the model represented below.)

Figure E.3 Performance Culture Model



The coding of raw data for the thesis as above was crude at first. For example, where data showed learning or innovative processes as in the case data or the literature, they was coded with an “L” or an “I” (Figure E.2), and where change, innovation, and learning were a part of the data, the code “CIL” was used as a descriptor in the notes.

Through time, the analysis yielded the second-order constructs as defined in the Glossary (see also Table 4.4). The case data were then re-coded using the classifications LBDMC, IBDMC, PL, and RC as a part of the selective coding process (see Appendix C, and Chapter 4, Table 4.2, and Figure 4.2).

E.3.3 Third-Order Constructs

The use of the third-order constructs involved determining the competitive advantage of the DMCs using the VRIO model (section 2.2.2.2). The capabilities that the bank CEO used in developing and maintaining the performance culture model generated advantages for the bank. The questions of value, rarity, inimitability, and organization were answered in the affirmative (see also Chapter 4 and section 4.5, and Table 4.8). According to the bank CEO:

A:

21:16 ...we've been using it [the performance culture model] for 10 years, ...

21:37 One of the things we do as well, is we educate our senior staff, we go to seminars, we go to conventions, we do those kind of things

21:48 and the way they are able to go, they are *charged with going to those conventions and coming back with fresh ideas to implement*.

21:52 And so when they get back, I expect three ideas they are going to implement to help pay for the trip—if they don't do that, then they don't go again (laughs) so I'm not going to pay for them to go to have a good time!

22:11 You know? What did you learn? Otherwise, it's vacation time, right?

Q:

22:22 So basically, these changes that you have made, in your estimation lead directly/indirectly to the company performance and the growth then?

A:

22:32 Yes.

Q:

22:33 How has the growth been over that last few years?

A:

22:38 The growth has not been what it was historically before, and obviously that has a lot to do with the economic **environment** we're in.

22:51 Prior to 2001, I'd say, 2003, the bank used to grow at an average annual rate of about 12 1/2 % per year, so pretty good growth, since then, it's retarded to like 6%.

Q:

23:11 But still vis-à-vis your peer group your blowing (we're) the doors off and you guys have been here 100 years, I can't think of many community banks that have been here 100 years.

A:

23:17 There's quite a few that have been around 100 years but they don't grow at 6-10%

23:22 not in this community but around the country.

23:28 There's about 7,400 community banks in the United States, and they fight over, well they don't fight over, they control about 14% of the assets in the banking industry

23:46 there's 100 banks that control 86% of the assets in the country.

Q:

23:51 Do you know where you rank with respect to your peers or aspirational peers in terms of performance and stuff?

A:

23:54 Sure, yeah, they measure that every year, and I'll show you

24:12 right here and I can copy this for you if you like, this is and there are a couple banks from [REDACTED] in here, we're #4 in [REDACTED].

24:23 But of community banks, and this is the top 200 community banks and thrifts... ranked on a 3-year average ROE

25:06 we're 97 of 7,400.

25:50 Going forward, we probably won't be in the top 100 with respect to average ROE and *the reason being is we want to be around for another 100 years.*

26:03 So we don't run our ship to blow the doors off every year (laughs) you know—we want to be around! And so there's a difference. As long as the shareholders can get a fair return, as long as the employees continue to get fair pay in the future and security and all the things they need, and as long as the customers have a balance

26:25 the balance between all those three is really what my job is to balance those three things ...*if the investors are super happy, chances are, the employees might not be.*

26:30 OK? It's got to be a balance. Like a stool.

The performance culture model has enabled the bank to achieve and sustain competitive advantage—the questions of value, rarity, inimitability, and organization answered in the affirmative (Chapter 2). The bank performance data from the annual report confirmed the growth figures discussed with the bank CEO. For example, net income was \$5.1 million in 2011 (\$3.27 per share), and this was up 11% over the previous year. The best earnings year on record which occurred during the bank's 100th year.

In summary, the “codes” to “categories” process outlined above shows how data generated from case episodes helped to identify DMCs using the first-order constructs. The incidents managers described (e.g., the culture model) included use of important DMC classifications, such as learning and innovation-based ones, as derived from the use of the constant comparative analysis. Finally, the VRIO model was used to assess the capability in terms of generating competitive advantage.

E.4 Trustworthiness

Development of an audit trail further involved establishing the trustworthiness of the data. Because the study was primarily qualitative and based on phenomenology, it was iterative and inductive by design, and the methods typically used for a positivistic approach could not be used. Nevertheless, Lincoln and Guba (1985) have proposed four criteria for evaluating the type of research conducted here, which includes checking the

credibility, transferability, dependability, and confirmability of the data, in order to further strengthen the audit trail, so that others conducting similar research could be expected to produce similar results.

E.4.1 Credibility

Credibility refers to the “adequate representation of the constructions of the social world under study” (Bradley, 1993, p. 436). Lincoln and Guba (1985) recommended a set of activities that would help improve the credibility of the research, including (1) engagement in the field, (2) persistent observation, (3) triangulation, (4) checking interpretations against raw data, (5) peer debriefing, and (6) member checking.

The engagement in the field involved visiting each of the offices of the managers participating in the case study and interviewing them in person (Chapter 4). The persistent observation, triangulation, and checking interpretations involved the constant comparative analysis (Figure 4.1), and third-party assessment (e.g., executives, academicians), including the audit matrix (Table E.1) survey below.

E.4.2 Transferability

Transferability refers to the extent to which the findings could be applied in another context, and other researchers are able to make judgments about the results transferring to different settings or contexts (Zhang & Wildemuth, 2009). The development of the first-, second-, and third-order constructs used to identify, classify, and assess advantage of DMCs was developed with this in mind.

E.4.3 Dependability and Confirmability

Dependability refers to “the coherence of the internal process” and *confirmability* refers to “the extent to which the characteristics of the data, as posited by the researcher, can be confirmed by others who read or review the research results” (Bradley, 1993, p. 437). The issues of dependability and confirmability were addressed throughout the process by (1) testing the ideas in the classroom, (2) and having colleagues in academia (both in and outside the field of strategic management) examine relevant sections of the thesis and provide commentary, as well as (3) debriefing practitioners in terms of data analysis and interpretation.

E.5 Summary

The audit trail above provides a snapshot of the research process, so that others conducting similar research (and, in accordance with the information from the previous chapters) would be likely to achieve somewhat similar outcomes. It involved the steps in the process that included data preparation, and developing the units of analysis, such as the first-, second-, and third-order constructs as an approach to coding to ensure consistency. The audit process also involved having the data checked in terms of credibility, transferability, dependability, and confirmability, as in the audit matrix below, by an academician expert on the subject of dynamic capabilities who has conducted qualitative research at the doctoral level on the subject.

Table E.1 Audit Matrix

	<i>Audit Matrix</i>				
	<i>1) Strongly Disagree</i>	<i>2) Disagree</i>	<i>3) Neutral</i>	<i>4) Agree</i>	<i>5) Strongly Agree</i>
<i>First-Order Constructs</i>					
Credibility					X
Transferability					X
Dependability					X
Confirmability				X	
<i>Second-Order Constructs</i>					
Credibility					X
Transferability					X
Dependability				X	
Confirmability					X
<i>Third-Order Constructs</i>					
Credibility					X
Transferability					X
Dependability					X
Confirmability					X

Appendix F: Survey Questionnaire

Study of Managerial Capabilities

The following is part of a research project that focuses on what are referred to as *dynamic managerial capabilities*, and how managers use them in periods of significant change to the external environment (e.g., the recent financial crisis and recession), toward achieving and sustaining competitive advantage in their firms.

Dynamic managerial capability refers to the capacity of managers to create, extend, or modify the *resource base* of an organization.

A *resource* in the broadest sense is anything upon which the manager can draw in an effort to accomplish aims and objectives, and in a narrower sense is any tangible or intangible asset.

The *resource base* therefore includes any resources and/or capabilities to which the manager has access, inclusive of all tangible and/or intangible assets (e.g., financial capital, human capital).

Competitive advantage occurs when a resource or capability or set of resources and capabilities creates relatively more value than do comparable resources and capabilities of competing organizations (e.g., competitive advantage can help the firm achieve above-average performance, and/or help it survive or grow).

Study of Managerial Capabilities

Answer the following questions regarding the type of firm you manage, your position, how long you have been in management, and the size of your firm.

1. Select the business below that most closely represents the type of firm you manage:

- ☐ Insurance
- ☐ Accounting
- ☐ Banking
- ☐ Investments
- ☐ Real Estate

2. Which of the following most closely represents your position?

- ☐ Lower-level manager
- ☐ Middle-level manager
- ☐ Upper-level manager

3. How long have you been in management?

- ☐ Less than 5 years
- ☐ Less than 10, but more than 5 years
- ☐ Less than 20, but more than 10 years
- ☐ More than 20 years

4. Which best describes the size of your firm?

- ☐ 250 employees or less
- ☐ More than 250 employees

Study of Managerial Capabilities

With respect to the following questions, refer to the classifications of managerial capabilities below. The questions will consist of ranking the classifications in importance, joint-usage of the capabilities, and how the capabilities affect each other.

Learning-based dynamic managerial capability refers to the capacity of managers to use the acquisition of knowledge (tacit or intuitive and explicit knowledge) or skills through experience, practice, or study, or by being taught, in order to create, extend, or modify the resource base of an organization. It includes managerial know-how, and goes beyond problem solving, and is used to transform the system, as it exists. It involves lifelong learning and fostering learning in the organization.

Innovation-based dynamic managerial capability refers to the capacity of managers to make changes to something established (e.g., by introducing new ideas, methods, products and/or services) in order to create, extend, or modify the resource base of an organization. It involves the process of translating ideas or inventions into goods/services that create value for which customers will pay. The idea of entrepreneurial management is an important aspect of this capability.

Participative leadership is when the manager allows employees to be engaged in the strategic process of the firm and to be involved in the decision-making it entails. It is more of a democratic, as opposed to autocratic, approach to leadership (e.g., employees are a valued part of the team). The notion that employees can participate actively in the managerial process, and in so doing help realize personal and firm goals, is a critical component of this capability.

Relational capability is a type of dynamic capability that refers to the capacity of the manager to purposefully create, modify, or extend the firm's resource base, augmented to include the resources of partners (e.g., through formal or informal alliances including partnerships, acquisitions, and/or joint ventures).

5. Rank the capabilities according to their level of importance to you during periods of rapid change toward achieving and sustaining competitive advantage (1 = most important, 2 = second most important, etc.).

	1	2	3	4
Learning-based dynamic managerial capability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovation-based dynamic managerial capability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participative leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relational capability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Provide a brief rationale for the capability you selected as most important.

6. Which of the capabilities listed above have you used together (e.g., learning-based, relational) to reconfigure your resource base in order to compete? (Select two or more from below.)

	Yes	No
Learning-based dynamic managerial capability	<input type="radio"/>	<input type="radio"/>
Innovation-based dynamic managerial capability	<input type="radio"/>	<input type="radio"/>
Participative leadership	<input type="radio"/>	<input type="radio"/>
Relational capability	<input type="radio"/>	<input type="radio"/>

Study of Managerial Capabilities

7. Do one (or more) of the managerial capabilities above play a key role in the development and operation of any of the others? For example, participative leadership could be used to develop a relational capability with another firm, and/or learning-based capabilities could be used to further innovative processes in establishing and operating a relational capability. (Select one or more capabilities that do so.)

	Yes	No
Learning-based dynamic managerial capability	<input type="radio"/>	<input type="radio"/>
Innovation-based dynamic managerial capability	<input type="radio"/>	<input type="radio"/>
Participative leadership	<input type="radio"/>	<input type="radio"/>
Relational capability	<input type="radio"/>	<input type="radio"/>

Study of Managerial Capabilities

8. If there are any other comments you would care to make, please provide them in space below.

Thank you for your time.

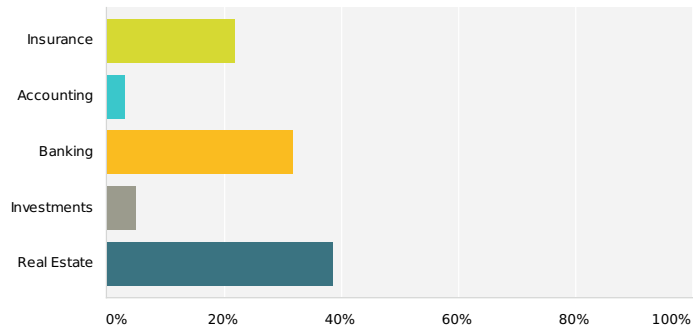


Appendix G: Survey Data

Study of Managerial Capabilities

Q1 Select the business below that most closely represents the type of firm you manage:

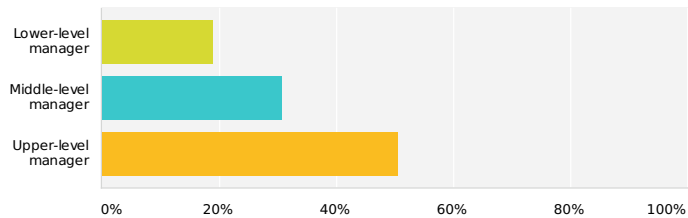
Answered: 101 Skipped: 0



Answer Choices	Responses	
Insurance	21.78%	22
Accounting	2.97%	3
Banking	31.68%	32
Investments	4.95%	5
Real Estate	38.61%	39
Total		101

Q2 Which of the following most closely represents your position?

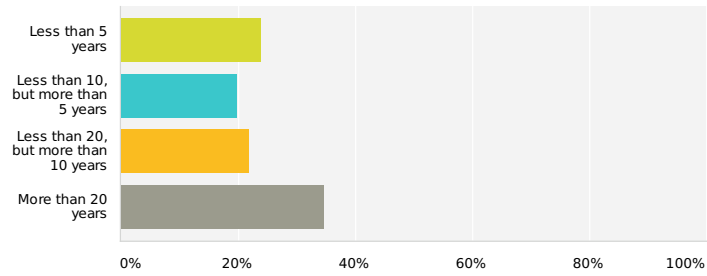
Answered: 101 Skipped: 0



Answer Choices	Responses	
Lower-level manager	18.81%	19
Middle-level manager	30.69%	31
Upper-level manager	50.50%	51
Total		101

Q3 How long have you been in management?

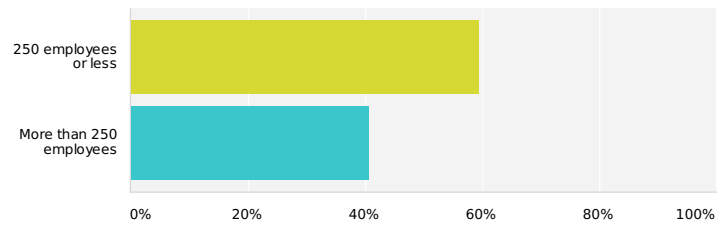
Answered: 101 Skipped: 0



Answer Choices	Responses
Less than 5 years	23.76% 24
Less than 10, but more than 5 years	19.80% 20
Less than 20, but more than 10 years	21.78% 22
More than 20 years	34.65% 35
Total	101

Q4 Which best describes the size of your firm?

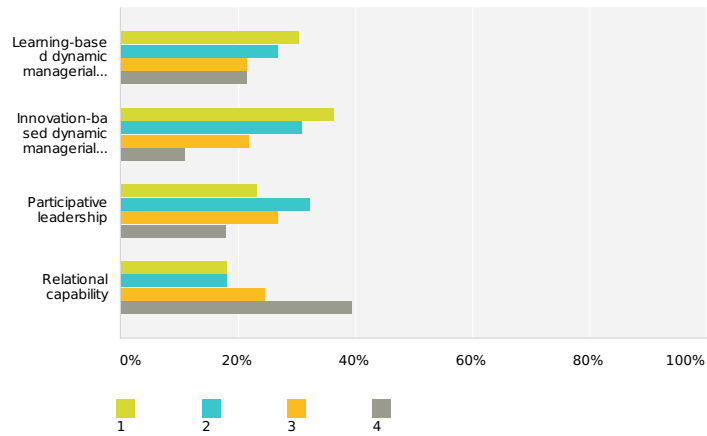
Answered: 101 Skipped: 0



Answer Choices	Responses
250 employees or less	59.41% 60
More than 250 employees	40.59% 41
Total	101

Q5 Rank the capabilities according to their level of importance to you during periods of rapid change toward achieving and sustaining competitive advantage (1 = most important, 2 = second most important, 2 = second most important, etc.).

Answered: 64 Skipped: 37

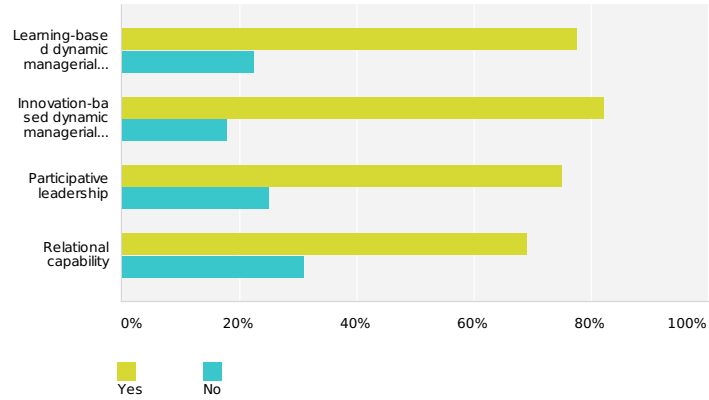


	1	2	3	4	Total
Learning-based dynamic managerial capability	30.36% 17	26.79% 15	21.43% 12	21.43% 12	56
Innovation-based dynamic managerial capability	36.36% 20	30.91% 17	21.82% 12	10.91% 6	55
Participative leadership	23.21% 13	32.14% 18	26.79% 15	17.86% 10	56
Relational capability	18.03% 11	18.03% 11	24.59% 15	39.34% 24	61

Provide a brief rationale for the capability you selected as most important. (36)

Q6 Which of the capabilities listed above have you used together (e.g., learning-based, relational) to reconfigure your resource base in order to compete? (Select two or more from below.)

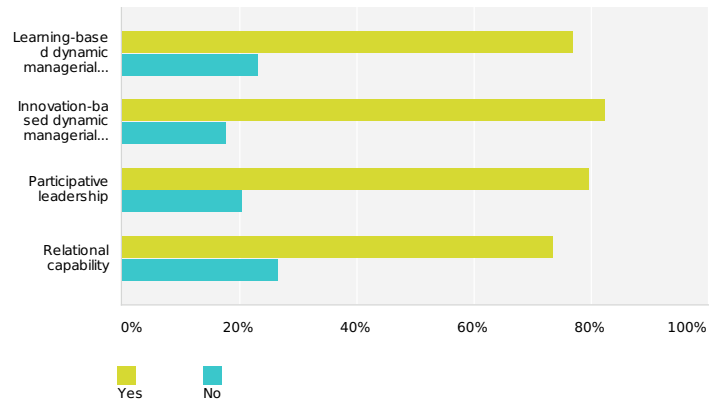
Answered: 64 Skipped: 37



	Yes	No	Total
Learning-based dynamic managerial capability	77.59% 45	22.41% 13	58
Innovation-based dynamic managerial capability	82.14% 46	17.86% 10	56
Participative leadership	75% 45	25% 15	60
Relational capability	69.09% 38	30.91% 17	55

Q7 Do one (or more) of the managerial capabilities above play a key role in the development and operation of any of the others? For example, participative leadership could be used to develop a relational capability with another firm, and/or learning-based capabilities could be used to further innovative processes in establishing and operating a relational capability. (Select one or more capabilities that do so.)

Answered: 64 Skipped: 37



	Yes	No	Total
Learning-based dynamic managerial capability	76.92% 40	23.08% 12	52
Innovation-based dynamic managerial capability	82.35% 42	17.65% 9	51
Participative leadership	79.63% 43	20.37% 11	54
Relational capability	73.47% 36	26.53% 13	49

References

- Adler, P. S., & Kwon, S. (2003). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), 17-40.
- Adner, R., & Helfat, C. E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal*, 24(10), 1011-1025.
- Akerlof, G. (1970). The market for "lemons:" Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84(3), 488-500.
- Akwei, C. A. (2007). *The process of creating dynamic capabilities*. Ph.D. thesis, Loughborough University.
- Albaum, G. (1997). The Likert scale revisited: An alternate version. *Journal of the Market Research Society*, 39(2), 331-348.
- Alvarez, S. A., Barney, J. B., & Anderson, P. (2013). Forming and exploiting opportunities: The implications for discovery and creation processes for entrepreneurial and organizational research. *Organization Science*, 24(1), 301-317.
- Ambrosini, V., & Bowman, C. (2009). What are dynamic capabilities and are they a useful construct in strategic management? *International Journal of Management Reviews*, 11(1), 29-49.
- Amit, R., & Schoemaker, P. J. H. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33-46.
- Amit, R., & Zott, C. (2001). Value creation in e-business. *Strategic Management Journal*, 22(6-7), 493-520.
- Anand, J., Oriani, R., & Vassolo, R. S. (2010). Alliance activity as a dynamic capability in the face of discontinuous technological change. *Organization Science*, 21(6), 1213-1232.
- Andrews, K. (1971). *The concept of corporate strategy*. Homewood: Dow Jones-Irwin.
- Ansoff, H. I. (1965). *Corporate strategy: An analytical approach to business policy for growth and expansion*. New York: McGraw-Hill.
- Aragón-Correa, J. A., & Sharma, S. (2003). A contingent resource-based view of proactive environmental strategy. *Academy of Management Review*, 28(1), 71-88.
- Argote, L., & Ren, Y. (2012). Transactive memory systems: A microfoundation of dynamic capabilities. *Journal of Management Studies*, 49(8), 1375-1382.
- Argyris, C. (1996). *On organizational learning*. Oxford: Blackwell.
- Argyris, C., & Schön, D. (1974). *Theory in practice: Increasing professional effectiveness*. San Francisco: Jossey-Bass.
- Argyris, C., & Schön, D. (1978). *Organizational learning: A theory of action perspective*. Reading: Addison-Wesley.
- Arthur, W. B. (1994). *Increasing returns and path dependence in the economy*. Ann Arbor: University of Michigan Press.

- Atkinson, D. (2009). *Measuring and modeling dynamic capabilities: A holistic approach*. Ph. D. thesis, Manchester Metropolitan University Business School.
- Augier, M., & Teece, D. J. (2009). Dynamic capabilities and the role of managers in business strategy and economic performance. *Organization Science*, 20(2), 410-421.
- Bailey, E. E., & Helfat C. E. (2003). External management succession, human capital, and firm performance: An integrative analysis. *Managerial and Decision Economics*, 24(4), 347-369.
- Bain, J. S. (1956). *Barriers to new competition*. Cambridge: Harvard University Press.
- Bain, J. S. (1968). *Industrial organization*. New York: Wiley.
- Barney, J. B. (1986). Strategic factor markets: Expectations, luck and business strategy. *Management Science*, 32(10), 1231-1241.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Barney, J. B. (2001a). Is the resource-based “view” a useful perspective for strategic management research? Yes. *Academy of Management Review*, 26(1), 41-56.
- Barney, J. B. (2001b). Resource-based *theories* of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, 27(6), 643-650.
- Barney, J. B., & Hesterly, W. S. (2012). *Strategic management and competitive advantage* (4th ed.). Boston: Prentice Hall.
- Barney, J. B., Wright, M., & Ketchen Jr., D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625-641.
- Barney, J. B., Wright, M., & Ketchen Jr., D. J. (2011). The future of resource-based theory: Revitalization or decline? *Journal of Management*, 37(5), 1299-1315.
- Barreto, I. (2010). Dynamic capabilities: A review of past research and an agenda for the future. *Journal of Management*, 36(1), 256-280.
- Bass, B. M. (1985). Leadership: Good, better, best. *Organizational Dynamics*, 13(3), 26-40.
- Bass, B. M., & Stogdill, R. M. (1990). *Bass and Stogdill's handbook of leadership: Theory research and managerial applications* (3rd ed.). New York: Free Press.
- Baumol, W. (1968). Entrepreneurship in economic theory. *American Economic Review*, 58(2), 64-71.
- Becker, G. (1964). *Human capital*. New York: Columbia University Press.
- Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review*, 28(2), 238-256.
- Boje, D. M. (2001). *Narrative methods for organizational and communication research*. London: Sage.
- Boud, D., Keogh, R., & Walker, D. (1985). *Reflection, turning experience into learning*. London: Routledge.

- Bradley, J. (1993). Methodological issues and practices in qualitative research. *Library Quarterly*, 63(4), 431-449.
- Brown, S. L., & Eisenhardt, K. M. (1998). *Competing on the edge: Strategy as structured chaos*. Boston: Harvard Business School Press.
- Burns, J. M. (1978). *Leadership*. New York: Harper & Row.
- Burns, T., & Stalker, G. M. (1961). *The management of innovation*. London: Tavistok.
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge: Harvard University Press.
- Çakar, N. D., & Ertürk, A. (2011). Comparing innovation capability of small and medium sized enterprises: Examining the effects of organizational culture and empowerment. *Journal of Small Business Management*, 48(3), 325-359.
- Caloghirou, Y., Protegerou, A., Spanos, Y., & Papagiannakis, L. (2004). Industry versus firm-specific effects on performance: Contrasting SMEs and large-sized firms. *European Management Journal*, 22(2), 231-243.
- Chandler, A. D. (1962). *Strategy and structure: Chapters in the history of American industrial enterprise*. Cambridge: MIT Press.
- Chamberlin, E. H. (1933). *The theory of monopolistic competition*. Cambridge: Harvard University Press.
- Coase, R. H. (1937). The nature of the firm. *Economica*, 4(16), 386-405.
- Cohen, D., & Crabtree, B. (2006). *Qualitative research guidelines project*. Princeton: Robert Wood Johnson Foundation.
- Cohen, L., & Manion, L. (1994). *Research methods in education* (4th ed.). New York: Routledge.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.
- Collis, D. J. (1994). How valuable are organizational capabilities? *Strategic Management Journal*, 15(8), 143-152.
- Conklin, J. (2006). *Dialogue mapping: Building shared understanding of wicked problems*. New York: Wiley.
- Cooper, D. R., & Schindler, P. S. (2011). *Business research methods* (11th ed.). New York: McGraw-Hill.
- Crook, T. R., Ketchen, D. J., Combs, J. G., & Todd, S. Y. (2008). Strategic resources and performance: A meta-analysis. *Strategic Management Journal*, 29(11), 1141-1154.
- Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the corporation*. New York: Prentice Hall.
- Daneels, E. (2002). The dynamics of product innovation and firm competences. *Strategic Management Journal*, 23(12), 1095-1121.
- Daneels, E. (2008). Organizational antecedents of second order competences. *Strategic Management Journal*, 29(5), 519-543.

- Daneels, E. (2010). Trying to become a different type of company: Dynamic capability at Smith Corona. *Strategic Management Journal*, 32(1), 1-31.
- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2009). Optimal structure, market dynamism, and the strategy of simple rules. *Administrative Science Quarterly*, 54(3), 413-452.
- Dess, G. G., Lumpkin, G. T., Taylor, M. L., & Thompson, A. A. (2011). *Strategic management: Creating competitive advantages* (6th ed.). Boston: McGraw-Hill.
- Dewey, J. (1933). *How we think*. New York: Heath.
- Dewey, J. (1938). *Experience and education*. New York: Macmillan.
- Di Stefano, G., Peteraf, M., & Verona, G. (2010). Dynamic capabilities deconstructed: A bibliographic investigation into the origins, development, and future directions of the research domain. *Industrial and Corporate Change*, 19(4), 1187-1204.
- Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12), 1504-1511.
- Dixon, S. E. A., Meyer, K. E., & Day, M. (2010). Stages of organizational transformation in transition economies: A dynamic capabilities approach. *Journal of Management Studies*, 47(3), 416-436.
- Dörfler, V., & Ackermann, F. (2012). Understanding intuition: The case for two forms of intuition. *Management Learning*, 43(5), 545-564.
- Dosi, G., Nelson, R. R., & Winter, S. G. (2000). *The nature and dynamics of organizational capabilities*. New York: Oxford University Press.
- Døving, E., & Gooderham, P. N. (2008). Dynamic capabilities as antecedents of the scope of related diversification: The case of small firm accountancy practices. *Strategic Management Journal*, 29(8), 841-857.
- Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. *Strategic Management Journal*, 32(3), 254-279.
- Drucker, P. F. (1964). *Managing for results*. New York: Harper & Row.
- Drucker, P. F. (1985). *Innovation and entrepreneurship*. New York: Harper Collins.
- Drucker, P. F. (1994). The theory of business. *Harvard Business Review*, 72(5), 95-105.
- Dyer, J., Gregersen, H., & Christensen, C. M. (2011). *The innovator's DNA: Mastering the five skills of disruptive innovators*. Boston: Harvard Business School Press.
- Ehrlich, E., Flexner, S. B., Carruth, G., & Hawkins, J. M. (Eds.), (1980). *Oxford American dictionary*. New York: Oxford University Press.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). Crossroads—microfoundations of performance: Balancing efficiency and flexibility in dynamic environments. *Organization Science*, 21(6), 1263-1273.

- Eisenhardt, K. M., & Galunic, D. C. (2000). Coevolving: At last, a way to make synergies work. *Harvard Business Review*, 78(1), 91-101.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1), 25-32.
- Eisenhardt, K. M., & Martin, A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10-11), 1105-1121.
- Elstein, A. S., & Schwarz, A. (2002). Clinical problem solving and diagnostic decision making: Selective review of the cognitive literature. *British Medical Journal*, 324 (7339), 729-732.
- Fayol, H. (1916). *Industrial and general administration*. Paris: Dunod.
- Fernández, W. D. (2004). Using the Glaserian approach in grounded studies of emerging business practices. *Electronic Journal of Business Research Methods*, 2(2), 83-94.
- Fernández, W. D. (2005). The grounded theory method and case study data in IS research: Issues and design. In D. Hart, and S. Gregor (Eds.), *Information systems foundations: Constructing and criticizing*. Canberra: Australian National University E-Press.
- Flyvbjerg, B. (2011). Case study. In N. K. Denzin, and Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (4th ed.). Thousand Oaks: Sage.
- Galunic, D., & Eisenhardt, K. M. (2001). Architectural innovation and modular corporate forms. *Academy of Management Journal*, 44(6), 1229-1249.
- Gannon, C., Lynch, P., Holden, M. T., & Harrington, D. (2010). *Does sustainable competitive advantage exist? And, if so how can it be achieved?* In: 13th Irish Academy of Management Conference, September 2010, Cork Institute of Technology.
- Garvin, D. A., Edmondson, A. C., & Gino, F. (2008). Is yours a learning organization? *Harvard Business Review*, 86(3), 109-116.
- Geertz, C. (1973). *The interpretation of cultures: Selected essays*. New York: Basic Books.
- Gelatkanyecz, M. A., & Hambrick, D. C. (1997). The external ties of top executives: Implications for strategic choice and performance. *Administrative Science Quarterly*, 42(4), 654-681.
- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (1994). *The new production of knowledge: The dynamics of science and research in contemporary societies*. London: Sage.
- Gilbert, C. G. (2006). Change in the presence of residual fit: Can competing firms coexist? *Organization Science*, 17(1), 150-167.
- Glaser, B. G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley: Sociology Press.
- Glaser, B. G. (1998). *Doing grounded theory: Issues and discussions*. Mill Valley: Sociology Press.

- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.
- Goffin, K., & Koners, U. (2011). Tacit knowledge, lessons learnt, and new product development. *Journal of Product Innovation Management*, 28(2), 300-318.
- Golden-Biddle, K., & Locke, K. (2007). *Composing qualitative research* (2nd ed.). Thousand Oaks: Sage.
- Grant, R. M. (2010). *Contemporary strategy analysis* (7th ed.). New York: Wiley.
- Grover, R., & Vriens, M. (2006). *The handbook of marketing research: Uses, misuses, and future advances*. London: Sage.
- Guba, E. G. (Ed.), (1990). *The paradigm dialog*. Newbury Park: Sage.
- Hambrick, D. (1987). Top management teams: Key to strategic success. *California Management Review*, 30(1), 88-108.
- Hansen, G. S., & Wernerfelt, B. (1989). Determinants of firm performance: The relative importance of economic and organizational factors. *Strategic Management Journal*, 10(5), 399-411.
- Harvey, C., Kelly, A., Morris, H., & Rowlinson, L. (2010). *The association of business schools academic journal quality guide*. London: The Association of Business Schools.
- Hayes, R., Wheelwright, S., & Clark, K. (1988). *Dynamic manufacturing: Creating the learning organization*. New York: Free Press.
- Helfat, C. E. (1997). Know-how and asset complementarity and dynamic capability accumulation: The case of R&D. *Strategic Management Journal*, 18(5), 339-360.
- Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24(10), 997-1010.
- Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J., & Winter, S. G. (2007). *Dynamic capabilities: Understanding strategic change in organizations*. Malden: Blackwell.
- Hersey, P., & Blanchard, K. H. (1974). So you want to know your leadership style? *Training and Development Journal*, 28(2), 22-37.
- Hersey, P., & Blanchard, K. H. (1977). *Management of organizational behavior* (3rd ed.). Upper Saddle River: Prentice Hall.
- Hoopes, D. G., Madsen, T. L., & Walker, G. (2003). Guest editors' introduction to the special issue: Why is there a resource-based view? Toward a theory of competitive heterogeneity. *Strategic Management Journal*, 24(10), 889-902.
- Hisrich, R. D., & Peters, M. P. (2002). *Entrepreneurship* (5th ed.). Toronto: McGraw-Hill.

- Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2013). *Strategic management: Concepts: Competitiveness and globalization* (10th ed.). Cincinnati: South-Western.
- Hrebiniak, L. G. (2005). *Making strategy work: Leading effective execution and change*. Upper Saddle River: Prentice Hall
- Huberman, A. M., & Miles, M. B. (2002). *The qualitative research companion*. London: Sage.
- Itami, H., & Roehl, T. W. (1987). *Mobilizing invisible assets*. Cambridge: Harvard University Press.
- Johnson, G., Scholes, K., & Whittington, R. (2008). *Exploring corporate strategy* (8th ed.). Harlow: Prentice Hall.
- Kale, P., & Singh, H. (2007). Building firm capabilities through learning: The role of the alliance process in alliance capability and firm-level alliance success. *Strategic Management Journal*, 28(10), 981-1000.
- Karim, S. (2006). Modularity in organizational structure: The reconfiguration of internally developed and acquired business units. *Strategic Management Journal*, 27(9), 799-823.
- Kay, N. (2011). Dynamic capabilities as context: The role of decision, system and structure. *Industrial and Corporate Change*, 19(4), 1205-1223.
- Kim, D. H. (1993). The link between individual and organizational learning. *Sloan Management Review*, 35(1), 37-50.
- Kim, J., & Mahoney, J. T. (2010). A strategic theory of the firm as a nexus of incomplete contracts: A property rights approach. *Journal of Management*, 36(4), 806-826.
- Kinni, T. (2003). Exploit what you do best: How companies are getting bottom-line results by leveraging what they already do well. *Harvard Management Update*, 8(8), 6-7.
- King, A. A., & Tucci, C. L. (2002). Incumbent entry into new market niches: The role of experience and managerial choice in the creation of dynamic capabilities. *Management Science*, 48(2), 171-186.
- Knight, F. H. (1957). *Risk, uncertainty and profit*. New York: Kelley & Millman.
- Kolb, A. Y., & Kolb, D. A. (2005). *The Kolb learning style inventory—version 3.1 technical specifications*. London: Hay Resources Direct.
- Kolb, A. Y., & Kolb, D. A. (2008). Experiential learning theory: A dynamic, holistic approach to management learning, education and development. In S. J. Armstrong, and C. Fukami (Eds.), *Handbook of management learning, education and development*. London: Sage.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs: Prentice Hall.
- Kor, Y. Y., & Mahoney, J. T. (2005). How dynamics, management, and governance of resource deployments influence firm-level performance. *Strategic Management Journal*, 26(5), 489-496.

- Kor, Y. Y., & Mesko, A. (2013). Dynamic managerial capabilities: Configuration and orchestration of top executives' capabilities and the firm's dominant logic. *Strategic Management Journal*, 34(2), 233-244.
- Kraaijenbrink, J., Spender, J., & Groen, A. J. (2010). The resource-based view: A review and assessment of its critiques. *Journal of Management*, 36(1), 349-372.
- Kraatz, M. S., & Zajac, E. J. (2001). How organizational resources affect strategic change and performance in turbulent environments: Theory and evidence. *Organization Science*, 12(5), 632-657.
- Kuhn, T. S. (1970). *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Lampel, J., & Shamsie, J. (2003). Capabilities in motion: New organizational forms and the reshaping of the Hollywood movie industry. *Journal of Management Studies*, 40(8), 2189-2210.
- Learned, E. P., Christensen, C. R., Andrews, K. R., & Guth, W. D. (1965). *Business policy: Text and cases*. Homewood: Irwin.
- Leedy, P. D. (1989). *Practical research: Planning and design*. New York: Macmillan.
- Lehman, H. P. (2001). *A grounded theory of international information systems*. Ph.D. thesis, University of Auckland.
- Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, 13(S1), 111-125.
- Lewin, K. (1945). The research center for group dynamics at Massachusetts Institute of Technology. *Sociometry*, 8(2), 126-135.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2(4), 34-46.
- Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of aggressive behavior in experimentally created "social climates." *Journal of Social Psychology*, 10(2), 271-299.
- Lieberman, B., & Montgomery, D. B. (1988). First-mover advantages. *Strategic Management Journal*, 9(S1), 41-58.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 22(140), 1-55.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills: Sage.
- Lippman, S. A., & Rumelt, D. P. (1982). Uncertain imitability: An analysis of interfirm differences in efficiency under competition. *The Bell Journal of Economics*, 13(2), 418-438.
- MacLean, D., MacIntosh, R., & Grant, S. (2002). Mode 2 management research. *British Journal of Management*, 13(3), 189-207.
- MacLennan, A. (2011). *Strategy execution: Translating strategy into action in complex organizations*. Abingdon: Routledge.
- Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal*, 13(5), 363-380.

- Mahoney, J. T. (1995). The management of resources and the resource of management. *Journal of Business Research*, 33(2), 91-101.
- Makadok, R. (2001a). Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic Management Journal*, 22(5), 387-401.
- Makadok, R. (2001b). Dialogue: A pointed commentary on Priem and Butler. *Academy of Management Review*, 26(4), 498-499.
- Malhotra, N. K. (2006). Questionnaire design and scale development. In R. Grover, and M. Vriens (Eds.), *The handbook of marketing research: Uses, misuses, and future advances*. London: Sage.
- Malhotra, N. K., & Peterson, M. (2005). *Basic marketing research: A decision-making approach* (2nd ed.). Boston: Pearson.
- Malik, O. R., & Kotabe, M. (2009). Dynamic capabilities, government policies, and performance in firms from emerging economies: Evidence from India and Pakistan. *Journal of Management Studies*, 46(3), 421-450.
- March, J. G., & Simon, H. A. (1958). *Organizations*. New York: Wiley.
- Marcus, A. A., & Anderson, M. H. (2006). A general dynamic capability: Does it propagate business and social competencies in the retail food industry? *Journal of Management Studies*, 43(1), 19-46.
- Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Los Angeles: Sage.
- Martin, J. A. (2011). Dynamic managerial capabilities and the multibusiness team: The role of episodic teams in managerial leadership groups. *Organization Science*, 22(1), 118-140.
- Martin, P. Y., & Turner, B. A. (1986). Grounded theory and organizational research. *The Journal of Applied Behavioral Science*, 22(2), 141-157.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harper.
- Maslow, A. H. (1969). Theory Z. *Journal of Transpersonal Psychology*, 1(2), 31-47.
- Mason, E. S. (1939). Price and production policies of large-scale enterprise. *American Economic Review*, 29(1), 61-74.
- Mason, E. S. (1949). The current status of the monopoly problem in the United States. *Harvard Law Review*, 62(8), 1265-1285.
- Mauri, A. J., & Michaels, M. P. (1998). Firm and industry effects within strategic management: An empirical examination. *Strategic Management Journal*, 19(3), 211-219.
- McGahan, A. M., & Porter, M. E. (1997). How much does industry matter, really? *Strategic Management Journal*, 18(S1), 15-30.
- McGrath, R. G. (2013a). *The end of competitive advantage*. Watertown: Harvard Business Review Press.
- McGrath, R. G. (2013b). Transient advantage. *Harvard Business Review*, 91(6), 62-70.

- McGregor, D. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- Menguc, B., & Auh, S. (2006). Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness. *Journal of the Academy of Marketing Science*, 34(1), 63-73.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.
- Messick, S., & Jackson, D. N. (1961). Acquiescence and the factorial interpretation of the MMPI. *Psychological Bulletin*, 58(4), 299-304.
- Minichiello, V., Aroni, R., Timewell, E., & Alexander, L. (1990). *In-depth interviewing: Researching people*. Hong Kong: Longman Cheshire.
- Mintzberg, H. (1973). *The nature of managerial work*. New York: Harper Collins.
- Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). *Strategy safari: A guided tour through the wilds of strategic management*. New York: Free Press.
- Mintzberg, H., & Waters, J. A. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal*, 6(3), 257-272.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks: Sage.
- Miller, P., & Wedell-Wedellsborg, T. (2013). *Innovation as usual: How to help your people bring great ideas to life*. Boston: Harvard Business Review Press.
- Miller, R. L. (2014). *Economics today* (17th ed.). Boston: Pearson.
- Misangyi, V. F., Elms, H., Greckhamer, T., & Lepine, J. A. (2006). A new perspective on a fundamental debate: A multi-level approach to industry, corporate, and business unit effects. *Strategic Management Journal*, 27(6), 571-590.
- Moss, S. (2009). Cultivating the regulatory focus of followers to amplify their sensitivity to transformational leadership. *Journal of Leadership and Organizational Studies*, 15(3), 241-259.
- Neisser, U. (1967). *Cognitive psychology*. New York: Appleton-Century-Crofts.
- Nelson, R., & Winter, S. (1982). *An evolutionary theory of economic change*. Cambridge: Harvard University Press.
- Newbert, S. L. (2007). Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*, 28(2), 121-146.
- Ng, D. W. (2007). A modern resource based approach to unrelated diversification. *Journal of Management Studies*, 44(8), 1481-1502.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. New York: Oxford University Press.
- Nonaka, I., & Konno, N. (1998). The concept of “Ba:” Building a foundation for knowledge creation. *California Management Review*, 40(3), 40-54.
- Nonaka, I., & von Krogh, G. (2009). Tacit knowledge and knowledge conversion: Controversy and advancement in knowledge creation theory. *Organization Science*, 20(3), 635-652.

- The Ohio State University (1957). *Leadership behavior survey questionnaire*. Columbus: Fisher College of Business.
- Oliver, C., & Holzinger, I. (2008). The effectiveness of strategic political management: A dynamic capabilities framework. *Academy of Management Review*, 33(2), 496-520.
- Ouchi, W. G. (1981). *Theory Z*. New York: Avon.
- Pablo, A. L., Reay, T., Dewald, J. R., & Casebeer, A. L. (2007). Identifying, enabling and managing dynamic capabilities in the public sector. *Journal of Management Studies*, 44(5), 687-708.
- Patton, M. Q. (1990). *Qualitative research and evaluation methods* (2nd ed.). Newbury Park: Sage.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Newbury Park: Sage.
- Penrose, E. (1952). Biological analogies in the theory of the firm. *American Economic Review*, 42(5), 804-819.
- Penrose, E. (1959). *The theory of the growth of the firm*. Oxford: Oxford University Press.
- Peteraf, M. A. (1993). The cornerstone of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3), 179-191.
- Peteraf, M. A., Di Stefano, G., & Verona, G. (2013). The elephant in the room of dynamic capabilities: Bringing two diverging conversations together. *Strategic Management Journal*, Published online EarlyView in Wiley Online Library (wileyonlinelibrary.com).
- Pil, F. K., & Cohen, S. K. (2006). Modularity: Implications for imitation, innovation, and sustained advantage. *Academy of Management Review*, 31(4), 995-1011.
- Pisano, G. P. (1994). Knowledge, integration, and the locus of learning: An empirical analysis of process development. *Strategic Management Journal*, 15(S1), 85-100.
- Polanyi, M. (1966). *The tacit dimension*. Garden City: Doubleday.
- Popper, K. R. (1959). *The logic of scientific discovery*. London: Hutchinson.
- Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York: Free Press.
- Porter, M. E. (1981). The contributions of industrial organization to strategic management. *The Academy of Management Review*, 6(4), 609-620.
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. New York: Free Press.
- Porter, M. E. (1994). Fundamental issues in strategy: A research agenda. In R. P. Rumelt, D. E. Schendel, and D. J. Teece (Eds.), *Toward a dynamic theory of strategy*. Boston: Harvard Business School Press.
- Posner, R. A. (2001). *Antitrust law* (2nd ed.). Chicago: University of Chicago Press.
- Prahalad, C. K. (1983). Developing strategic capability: An agenda for top management. *Human Resource Management*, 22(3), 237-254.

- Prahalad, C. K., and Bettis, R. A. (1986). The dominant logic: A new link between diversity and performance. *Strategic Management Journal*, 7(6), 485-501.
- Prahalad, C. K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), 79-91.
- Priem, R. L., & Butler, J. E. (2001a). Is the resource-based theory a useful perspective for strategic management research? *Academy of Management Review*, 26(1), 22-40.
- Priem, R. L., & Butler, J. E. (2001b). Tautology in the resource-based view and implications of externally determined resource value: Further comments. *Academy of Management Review*, 26(1), 57-66.
- Rao, J., & Weintraub, J. (2013). How innovative is your company's culture? *MIT Sloan Management Review*, 54(3), 29-37.
- Reed, R., & DeFillippi, R. J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, 15(1), 88-102.
- Remenyi, D. (1995). So you want to be an academic researcher in business and management studies! Where do you start and what are the philosophical issues to think about? Working Paper. Johannesburg: Henley Management College, University of the Witwatersrand.
- Remenyi, D., Williams, B., Money, A., & Swartz, E. (2005). *Doing research in business and management: An introduction to process and method*. London: Sage.
- Ricardo, D. (1817). *Principles of political economy and taxation*. London: J. Murray.
- Rindova, V. P., & Kotha, S. (2001). Continuous "morphing:" Competing through dynamic capabilities, form and function. *Academy of Management Journal*, 44(6), 1263-1280.
- Robbins, S. P., DeCenzo, D. A., & Coulter, M. (2013). *Fundamentals of management: Essential concepts and applications* (8th ed.). Boston: Pearson.
- Robbins, S. P., & Judge, T. A. (2013). *Organizational behavior* (15th ed.). Boston: Pearson.
- Roberts, A., & MacLennan, A. F. (2003). *Making strategies work*. Harlow: Pearson.
- Roberts, A., & Pitt, S. (1990). Strategy implementation: A dynamic process guide. Working Paper. London: London Business School.
- Roberts, A., Wallace, W., & O'Farrell, P. (2003). *Introduction to business research 1: The research proposal*. Edinburgh: Edinburgh Business School, Heriot-Watt University.
- Robinson, J. (1933). *The economics of imperfect competition*. London: Macmillan.
- Rosenbloom, R. S. (2000). Leadership, capabilities and technological change: The transformation of NCR in the electronic era. *Strategic Management Journal*, 21(10-11), 1083-1103.

- Rothaermel, F. T., & Hess, A. M. (2007). Building dynamic capabilities: Innovation driven by individual-, firm-, and network-level effects. *Organization Science*, 18(6), 898-921.
- Rothaermel, F. T. (2013). *Strategic management: Concepts and cases*. New York: McGraw-Hill.
- Rothaermel, F. T. (2015). *Strategic management: Concepts and cases* (2nd ed.). New York: McGraw-Hill.
- Rumelt, R. P. (1984). Towards a strategic theory of the firm. In B. Lamb (Ed.), *Competitive strategic management*. Englewood Cliffs: Prentice Hall.
- Rumelt, R. P. (1991). How much does industry matter? *Strategic Management Journal*, 12(3), 167-186.
- Rumelt, R. P. (2011). *Good strategy bad strategy: The difference and why it matters*. New York: Crown Publishing Group.
- Salvato, C. (2003). The role of micro-strategies in the engineering of firm evolution. *Journal of Management Studies*, 40(1), 83-108.
- Salvato, C. (2009). Capabilities unveiled: The role of ordinary activities in the evolution of product development processes. *Organization Science*, 20(2), 384-409.
- Sapienza, H. J., Autio, E., George, G., & Zahra, S. A. (2006). A capabilities perspective on the effects of early internationalization on firm survival and growth. *Academy of Management Review*, 31(4), 914-933.
- Say, J. B. (1803). *Traité d'économie politique: Ou simple exposition de la manière dont se forment, se distribuent, et se consomment les richesses*. Paris: De l'imprimerie de Crapelet.
- Schmalensee, R. (1985). Do markets differ much? *American Economic Review*, 75(3), 341-351.
- Schmalensee, R. (1987). Industrial organization. In J. Eatwell, M. Milgate, and P. Newman (Eds.), *The new Palgrave: A dictionary of economics*. Basingstoke: Palgrave Macmillan.
- Schmidt, F. L., & Hunter, J. E. (1993). Tacit knowledge, practical intelligence, general mental ability, and job knowledge. *Current Directions in Psychological Science*, 2(1), 8-9.
- Schön, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schreyögg, G., & Kliesch-Eberl, M. (2007). How dynamic can organizational capabilities be? Towards a dual-process model of capability dynamization. *Strategic Management Journal*, 28(9), 913-933.
- Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge: Harvard University Press.
- Schumpeter, J. A. (1942). *Capitalism, socialism, and democracy*. New York: Harper.
- Seltzer, J., & Bass, B. M. (1990). Transformational leadership: Beyond initiation and consideration. *Journal of Management*, 16(4), 693-703.

- Selznick, P. (1957). *Leadership in administration: A sociological interpretation*. Evanston: Row, Peterson.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization* (Revised Edition). New York: Doubleday.
- Shamsie, J., Martin, X., & Miller, D. (2009). In with the old, in with the new: Capabilities, strategies, and performance among the Hollywood studios. *Strategic Management Journal*, 30(13), 1440-1452.
- Schwandt, T. A., & Halpern, E. S. (1988). *Linking auditing and metaevaluation: Enhancing quality applied research*. Newbury Park: Sage.
- Shuen, A. (1994). *Technology sourcing and learning strategies in the semiconductor industry*. Ph.D. thesis, University of California, Berkeley.
- Shepherd, W. (1985). *The economics of industrial organization* (2nd ed.). Englewood Cliffs: Prentice Hall.
- Simon, H. A. (1947). *Administrative behavior: A study of decision-making processes in administrative organization*. New York: Macmillan.
- Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, 69(1), 99-118.
- Simon, H. A. (1991). Bounded rationality and organizational learning. *Organization Science*, 1(2), 125-134.
- Sirmon, D. G., & Hitt, M. A. (2009). Contingencies within dynamic managerial capabilities: Interdependent effects of resource investment and deployment on firm performance. *Strategic Management Journal*, 30(13), 1375-1394.
- Slater, S. F., Olson, E. M., & Hult, G. T. M. (2006). The moderating influence of strategic orientation on the strategy formation capability-performance relationship. *Strategic Management Journal*, 27(12), 1221-1231.
- Smith, A. (1776). *An inquiry into the nature and causes of the wealth of nations*. London: W. Strahan and T. Cadell.
- Song, M., Droge, C., Hanvanich, S., & Calantone, R. (2005). Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic Management Journal*, 26(3), 259-276.
- Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355-374.
- Stake, R. E. (2006). *Multiple case study analysis*. New York: The Guilford Press.
- Stake, R. E. (2008). Qualitative case studies. In N. K. Denzin, and Y. S. Lincoln (Eds.), *Stages of qualitative inquiry* (3rd ed.). Thousand Oaks: Sage.
- Strauss, A. L., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Thousand Oaks: Sage.
- Strauss, A. L., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques* (2nd ed.). Thousand Oaks: Sage.

- Stigler, G. J. (1961). The economics of information. *Journal of Political Economy*, 69(3), 213-225.
- SurveyMonkey (2013). *What is text analysis?* Retrieved September, 27, 2013, from http://help.surveymonkey.com/articles/en_US/kb/What-is-Text-Analysis.
- Teece, D. J. (1984). Economic analysis and strategic management. *California Management Review*, 26(3), 87-110.
- Teece, D. J. (1986). Profiting from technological innovation. *Research Policy*, 15(6), 285-305.
- Teece, D. J. (1987). Profiting from technological innovation: Implications for integration, collaboration, licensing, and public policy. In D. J. Teece (Ed.), *The competitive challenge*. Cambridge: Ballinger.
- Teece, D. J. (1988). Technological change and the nature of the firm. In G. Dosi, C. Freeman, R. Nelson, G. Silverberg and L. Soete (Eds.), *Technical change and economic theory*. New York: Pinter.
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.
- Teece, D. J. (2009). *Dynamic capabilities & strategic management: Organizing for innovation and growth*. Oxford: Oxford University Press.
- Teece, D. J. (2012). Dynamic capabilities: Routines versus entrepreneurial action. *Journal of Management Studies*, 49(8), 1395-1401.
- Teece, D. J., & Pisano, G. (1994a). The dynamic capabilities of firms: An introduction. Working Paper No. 94-103. Laxenburg: International Institute for Applied Systems Analysis.
- Teece, D. J., & Pisano, G. (1994b). The dynamic capabilities of firms: An introduction. *Industrial and Corporate Change*, 3(3), 537-556.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Tellis, G. J., Prabhu, J. C., & Chandy, R. K. (2009). Radical innovation across nations: The preeminence of corporate culture. *Journal of Marketing*, 73(1), 3-23.
- Thomas, H., & Pollock, T. (1999). From IO economics' SCP paradigm through strategic groups to competence-based competition: Reflections on the puzzle of competitive strategy. *British Journal of Management*, 10(2), 127-140.
- Thompson, A. A., Peteraf, M. A., Gamble, J. E., & Strickland III, A. J. (2014). *Crafting and executing strategy: The quest for competitive advantage* (19th ed.). New York: McGraw-Hill Irwin.
- Tirole, J. (1988). *The theory of industrial organization*. Cambridge: MIT Press.
- Tomer, J. F. (1987). *Organizational capital: The path to higher productivity and well-being*. New York: Praeger.

- Verona, G., & Ravasi, D. (2003). Unbundling dynamic capabilities: An exploratory study of continuous product innovation. *Industrial and Corporate Change*, 12(3), 577-606.
- Walsh, J. P. (1995). Managerial and organization cognition: Notes from a trip down memory lane. *Organization Science*, 6(1), 280-321.
- Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International Journal of Management Reviews*, 9(1), 31-51.
- Wang, D., Su, Z., & Yang, D. (2011). Organizational culture and knowledge creation capability. *Journal of Knowledge Management*, 15(3) 363-373.
- Watson, Dorothy. (1992). Correcting for acquiescent response bias in the absence of a balanced scale: An application to class consciousness. *Sociological Methods and Research*, 21(1), 52-88.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180.
- Wernerfelt, B. (1989). Determinants of firm performance: The relative importance of economic and organizational factors. *Strategic Management Journal*, 10(5), 399-411.
- Westerman, G., McFarlan, F. W., & Iansiti, M. (2006). Organization design and effectiveness over the innovation life cycle. *Organization Science*, 17(2), 230-238.
- White, W. B. (1989). Competing technologies, increasing returns, and lock-in by historical events. *Economic Journal*, 99(394), 116-131.
- Williamson, O. E. (1975). *Markets and hierarchy: Analysis and antitrust implications*. New York: Free Press.
- Winter, S. G. (1987). Knowledge and competence in strategic assets. In D. J. Teece (Ed.), *The competitive challenge*. Cambridge: Ballinger.
- Winter, S. G. (2000). The satisficing principle in capability learning. *Strategic Management Journal*, 21(10-11), 981-996.
- Winter, S. G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, 24(10), 991-995.
- Witcher, B. J., & Chau, V. S. (2012). Varieties of capitalism and strategic management: Managing performance in multinationals after the global financial crises. *British Journal of Management*, 23(S1), S58-S73.
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). London: Sage.
- Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization and extension. *Academy of Management Review*, 27(2), 185-203.
- Zahra, S. A., Sapienza, H. J., & Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: A review, model and research agenda. *Journal of Management Studies*, 43(4), 917-955.

- Zhang, Y., & Wildemuth, B. M. (2009). Qualitative analysis of content. In B. M. Wildemuth (Ed.), *Applications of social research methods to questions in information and library science*. Westport: Libraries Unlimited.
- Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13(3), 339-351.
- Zott, C. (2003). Dynamic capabilities and the emergence of intraindustry differential firm performance: Insights from a simulation study. *Strategic Management Journal*, 24(3), 97-125.
- Zúñiga-Vicente, J. Á., & Vicente-Lorente, J. D. (2006). Strategic moves and organizational survival in turbulent environments: The case of Spanish banks (1983–97). *Journal of Management Studies*, 43(3), 485-519.