

Dynamic Managerial Capabilities and Competitive Advantage

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Abstract

The literature on dynamic capabilities (DCs) has received wide attention in the field of strategic management. Although studies have tended toward the organizational level, some have begun to examine action at the managerial level via the concept of dynamic managerial capabilities (DMCs). The purpose of the study, which involved inductive theory building in the underdeveloped DMC literature, was to investigate empirically what DMC managers used in practice to create competitive advantage during episodes of significant external environmental change. A multi-case study was conducted with CEOs from five small-to-medium sized enterprises (SMEs) in the finance/insurance and real estate sectors. The results were further developed in a survey study. They show that DMCs employed by managers include learning-based and innovation-based capabilities, and involve managers engaging in participative leadership. These capacities are mutually interdependent and reinforcing, are technically and evolutionarily fit, and also impact on ordinary and other dynamic capabilities toward achieving advantage.

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

Introduction

The dynamic capabilities (DCs) framework was developed in order to understand how firms achieve and sustain competitive advantage when faced with rapidly changing environmental conditions, and thus to build theory on firm performance, and inform managerial practice (Teece et al., 1997, p. 509).

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The DC literature has attracted attention in the field of strategic management and there have been many significant contributions (Amit and Zott, 2001; Eisenhardt and Martin, 2000; Teece et al., 1997; Zahra and George, 2002; Zollo and Winter, 2002); however, there is a critical literature gap. Leading scholars have called for research into DCs as they relate to achieving and sustaining competitive advantage particularly at the level of managerial action or behavior (Adner and Helfat, 2003; Augier and Teece, 2009). Research into dynamic managerial capabilities (DMCs), defined as the “*capacity*” to “create, extend, or modify the *resource base* of the organization” (Helfat et al., 2007, p. 121, emphasis original), has begun to address this. Nevertheless, few empirical studies have been done. This paper addresses the above gap by exploring and characterizing managerial action in terms of DMCs expressed during times of significant change in five case-study firms. The main contribution of the paper is the identification and illustration of specific interacting DMCs concerned with learning, innovation, and participative leadership. The paper begins with a review and critique of the literature on DCs and DMCs, then presents the research design and method, before describing both the case study and survey work. It concludes with a discussion of the academic and practical implications of the study with regard to the DMC literature and strategic management, respectively.

DC Literature

The DC literature is expansive, and it reflects earlier writings that helped influence it. As such it reflects and expresses 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 (Learned et al., 1965; Selznick, 1957); evolutionary theories of economic change (Nelson and Winter, 1982); developing strategic capabilities (Prahalad, 1983); and the resource-based view of the firm (Barney, 1991; Wernerfelt, 1984). The intellectual core of the DC literature (Di Stefano et al., 2010) has conceptualized that the DC framework provides an understanding of creating and capturing wealth in regimes of rapid change; that competitive advantage is derived from resource allocation “processes” and asset base “positions” and “paths” the firm takes (Teece et al., 1997p. 509); that DCs consist of identifiable processes and routines; and, although DCs are idiosyncratic in detail, they have common features (Eisenhardt and Martin, 2000), involve absorptive capacities (Zahra and George, 2002), and include knowledge and experience (Zollo and Winter, 2002).

Nevertheless, the DC literature is limited in that it tends to focus on the firm as opposed to its employees (Adner and Helfat, 2003), and the human element has largely been overlooked (Powell, 2014). The literature on DMCs has begun to address this, although few empirical studies have been conducted. Adner and Helfat (2003) introduced the DMC concept, and proposed the importance of underlying attributes of “managerial human capital, managerial social capital, and managerial cognition” (p. 1013). Other studies looked at linkages between DMCs and performance—such as the work of Sirmon and Hitt (2009), which showed that when managers deviate from rivals with respect to investing in human/physical capital, performance might suffer. Martin’s (2011) research found DMCs (1) improved information flow, (2) reduced barriers within an organization, and, (3) enhanced innovation, and Kor and Mesko (2013) found critical linkages with DMCs and the firm’s dominant logic.

Limitations to the Literature

The DC literature has produced a rich yet “complex, and somewhat disconnected, body of research” (Barreto, 2010, p. 257). It has been criticized for being “riddled with inconsistencies, overlapping definitions and outright contradictions” (Zahra et al., 2006, p. 917), and faulted with having underlying tautologies (Priem and Butler, 2001; Zollo and Winter, 2002). The framework has also been referred to as “vague and elusive” and “resistant to observation and measurement” (Kraatz and Zajac, 2001, p. 653). As a result, “many strategy scholars remain skeptical about the value of the concept” (Winter, 2003, p. 991). These limitations to the DC literature involve lack of clarity regarding (1) creation and/or development mechanisms, their (2) nature and/or specific role, (3) overall purpose (if any), the (4) relevant context in (i.e., environmental conditions) in which they occur, (5) heterogeneity assumptions, and linkages with (6) performance outcomes (Barreto, 2010). Other limitations include that the DC literature has tended toward the conceptual, and empirical studies have tended to be industry and/or firm specific (Akwei, 2007; Wang and Ahmed, 2007), using larger firms (Zahra et al., 2006). Finally, and most importantly for this paper, the DC literature has focused on the *organization*—not the *individuals* in it. Indeed, this limitation has been a primary contributor to the other limitations discussed here. Many of the difficulties faced by the DC literature are rooted in the underdeveloped treatment of individual and collective action on the part of managers, strategists, workers etc. 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—as opposed to *how* they are used and what people actually do. The strategist (i.e., manager) has largely been forgotten as a result.

Literature Gap

Because the literature has called for additional research into DMCs (Adner and Helfat, 2003; Martin, 2011; Sirmon and Hitt, 2009), this involves researching managerial capacities (and activities) used in creating, extending, or modifying the resource base, and their relation with value creation and capture during regimes of rapid change. The discovery of the primary literature gap regarding the subject of DMCs has led to the observation that there are other cracks and crevices in the empirical literature. These areas relate directly to how DCs, and by extension DMCs, have been identified, classified, and, critically, relate to generating competitive advantage. This critical literature gap is addressed here first through empirical identification of DMCs, second by then classifying them, and third by measuring these classifications in terms of the ability to achieve and/or sustain competitive advantage in using them—helping bridge the gap between the RBV and DC literatures. The research helps fill other gaps. 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 (Adner and Helfat, 2003). The literature has also referenced the “dearth” of studies using small-to-medium sized enterprises (SMEs) (Zahra et al., 2006, p. 920), and because studies have also tended to be industry (or firm) specific, there have been calls for more research across different firms in different industries (Wang and Ahmed, 2007).

Research Question, Aim, and Objectives

The research question posited: “what DMCs are used in practice during episodes of significant external environmental change toward generating competitive advantage?” The research aim—to build theory by addressing objectives which sought to (1) identify DMCs by using and testing constructs put forth in the extant literature, (2) classify DMCs in order to show what DMCs managers used in practice, and (3) assess DMCs in generating competitive advantage.

Research Design and Methodology

The research design and methodology provided a framework in getting from the initial research question to the conclusions answering it. The approach was exploratory. Yin (2009) wrote “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 multi-case study consisted of researching the CEOs of five SMEs, from the finance/insurance and real estate sectors. Although there is no ideal number of cases, “between four and ten cases usually works well” (Eisenhardt 1989, p. 545). Semi-structured interviews were conducted with each of the managers. These focused on the “deep, lived meanings that events have for individuals, assuming that these meanings guide actions” (Marshall and Rossman, 2006, p. 105). The field researcher had extensive experience in the financial services sector for many years, and therefore a theoretical sensitivity to it (Glaser, 1978). The researcher, as reflective practitioner (Schön, 1983) recognizes “important human activity” where the respondents recall and evaluate experience (Boud et al., 1985), enhancing deconstruction of the respondent’s narrative (Boje, 2001) and the ability to discern meaning as a peer within a “community of practice” (Wenger, 1998). 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” and can “convey certain details and understandings of the field obtainable only by having ‘been there’” (p. 77).

The constant comparison of data (i.e., primary and secondary) in and across cases and with the literature was used to build theory (Eisenhardt, 1989; Eisenhardt and Graebner, 2007). The multi-case study was designed to ensure the overall reliability and validity (Yin, 2009) of the research. This included 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 linking questions, evidence, and research findings (Merriam, 2009; Remenyi et al., 2005; Stake, 2006; Yin, 2009). The CEOs of five SMEs selected for the multi-case study were 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/insurance and real estate sectors are highly dynamic, and the managers that informed the research study would have experienced significant change in the external environment (i.e., the financial crisis and severe recession, referred to as the Great Recession of 2007-2009).

Multi-Case Study Data

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 with a research objective to develop theory and concepts connected to, grounded in, and/or emergent from real life events and circumstances (Cohen and Crabtree, 2006). The multi-case process was therefore iterative, with theoretical concepts emerging from the data, with the goal of developing a rich understanding (Miles and Huberman, 1994) and building a “thick description” (Geertz, 1973). 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 and Graebner, 2007).

DMC Identification

The identification of DMCs involved open or substantive coding, which refers to the first unrestricted 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 examples in which managers discussed how they reconfigured their resource base, given significant change to the external environment in order to compete, are referred to as “episodes.” This involved determining how managers created, extended, and/or modified resources, as well as the managerial search, selection, and configuration and/or coordination of resources involved. The open coding process was followed by use of axial coding (Strauss and Corbin, 1990, 1998), which established additional linkages. The concepts used to identify DMC are referred to as first-order constructs. The literature has noted asset orchestration (AO) is an activity involving managerial capacities, and conceptualized that “sensing” and “seizing” opportunities and managing threats is also a DC (Teece, 2007), and that “ordinary” capabilities (Winter, 2003) achieve technical fitness, and DCs can achieve evolutionary fitness (Martin, 2011). These are the first-order constructs that emerged from the literature review and that were used, developed, and tested.

They included; DMC, AO, technical fitness, (TF) and evolutionary fitness (EF), as in Helfat et al. (2007), with Teece's (2007) disaggregation of DCs used for analytical purposes. Where a case episode included the constructs collectively, it was considered evidence of a DMC, subject to further analysis.

DMC Classifications

The constant comparative analysis continued after DMCs were identified, as new data were analyzed, and previously collected data reassessed as new insights emerged. The primary and secondary data collected were re-reviewed and compared and contrasted with the extant 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. The emergent DMC categories were then subject to selective coding (Glaser, 1998). The emergent classifications of DMCs resulted from a rigorous approach to continuously assessing "who, what, when, where, why, how and with what consequences" (Strauss and Corbin, 1998, p. 22). Table 1 presents the emergent classification of DMCs, also referred to as second-order constructs. These 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. The firm-level constructs RC and ABDC were developed in Helfat et al. (2007), and are applied to DMCs here. The data revealed that DMCs consist of managerial capacities that involve LBDMC, IBDMC, and PL.

Table 1: Classification of DMCs: Constructs and Case Illustrations

Second-Order Constructs	Construct Definition	Illustrations from Case Episodes
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>

Also of interest as regards potential sources of heterogeneity of DMCs, was that the data indicated that each manager used DMCs in different combinations, referred to as DMC portfolios. DMC portfolios involve using two or more DMC constructs together. 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.

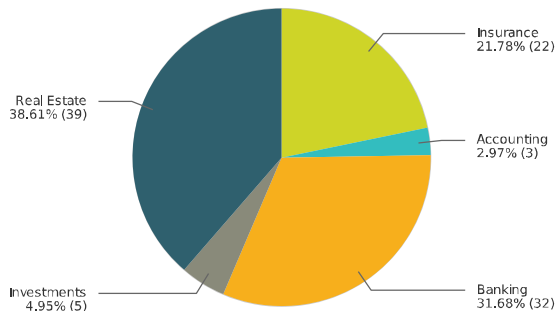
Competitive Advantage of DMCs

The VRIO framework (Barney, 1995) was used to assess DCs, answering calls from the literature to do so (Barreto, 2010). The framework stipulates whether a capability has competitive potential through the value, rarity, imitability, and organization of it. For example, if a capability is valuable, rare, costly to imitate, and exploited by the organization, it could provide 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. The data from the multi-case study showed LBDMC, IBDMC, PL, and RCs enabled the insurer; LBDMC, IBDMC, and PL enabled the banker; and LBDMC and PL enabled the realtor to achieve advantage.

Survey Data

The survey was administered through a “software as service (SaaS)” company that has 15 million customers, inclusive of all of the Fortune 500 companies. The survey questionnaire was e-mailed to managers in the finance/insurance and real estate sectors segmented by NAICS codes (North American Industry Classification System). There were 101 surveys answered from managers in these sectors, with a response rate ranging between 63.4% and 100%. There were 59.41% of respondents from firms with 250 or less employees, and 40.59% were from larger firms. Figure 1 presents the survey respondents by industry.

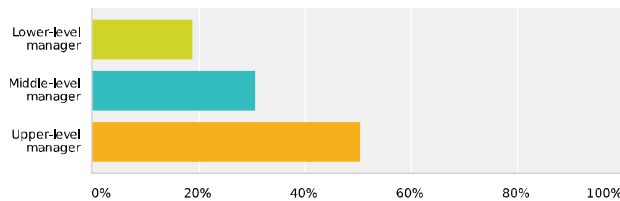
Figure 1: Survey Respondents by Industry



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

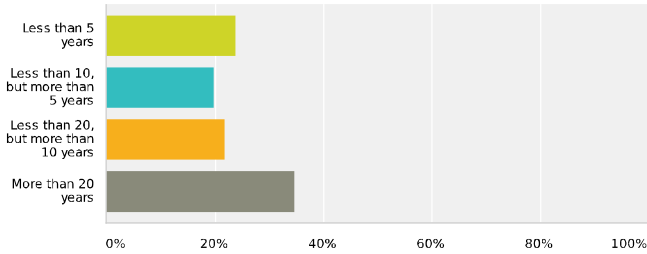
Figure 2 presents data on managerial level and Figure 3 length of employ. More than one-half of the respondents were upper-level management, and more than four-fifths were mid-level and above. Half of the respondents had been in management more than 10 years, and greater than a third had been in management more than 20 years, and would have therefore experienced periods of rapid change.

Figure 2: Survey Respondents by Managerial Level



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

Figure 3: Survey Respondents Length of Employment



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

The managers (1) ranked DMC classifications in terms of importance, (2) discussed joint-usage of the capabilities, and (3) expressed how the capabilities affected each other. In terms of ranking the capabilities according to their level of importance, respondents selected IBDMC, followed by LBDMC, PL, and RC as presented in Table 2. In terms of joint-usage of capabilities, data in Table 3 shows IBDMC ranked first, followed by LBDMC, PL, and RC. With respect to how the capabilities affect each other, respondents indicated that each of the DMCs would do so. The managers ranked IBDMC first, PL second, LBDMC third, and RC fourth as in Table 4.

Table 2: Ranking Capabilities

DMC Classifications	1	2	3	4	Total Respondents
LBDMC	30.36% 17	26.79% 15	21.43% 12	21.43% 12	56
IBDMC	36.36% 20	30.91% 17	21.82% 12	10.91% 6	55
PL	23.21% 13	32.14% 18	26.79% 15	17.86% 10	56
RC	18.03% 11	18.03% 11	24.59% 15	39.34% 24	61

Table 3: Joint Usage of Capabilities

DMC Classifications	Yes	No	Total
LBDMC	77.59% 45	21.41% 13	58
IBDMC	82.14% 46	17.86% 10	56
PL	75% 45	25% 15	60
RC	69.09% 38	30.91% 17	55

Table 4: Capabilities Used in the Development and Operation of Others

DMC Classifications	Yes	No	Total
LBDMC	76.92% 40	23.08% 12	52
IBDMC	82.35% 42	17.65% 9	51
PL	79.63% 43	20.37% 11	54
RC	73.47% 36	26.53% 13	49

The respondents to the survey provided qualitative data, in the form of written responses. 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. 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 more than 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 more than 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 more than 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 more than 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 more than 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 more than 20 years experience.*

The analysis further showed the most important words and phrases in Cloud View (Figure 4). The pattern recognition software highlights “distinguishing” rather than common words (i.e., 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 most unique words the managers used, by percentage, reflects the constructs LBDMC, IBDMC, and PL as shown in Figure 3. The unique words found include the terms “innovation” (19.44%), “employees” (11.11%), “knowledge” (8.33%), “decision making” (5.56%), and “experience” (5.56%).

Figure 4: Text Analysis Showing Most Important Words and Phrases

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

Academic and Practical Implications

The case and survey data support Helfat et al.’s (2007) view that DMCs involve creating, extending, and modifying resources, which includes AO (e.g., search, selection, and coordination activity) and manager’s sensing and seizing opportunities and managing threats. DMCs also impact on “ordinary” capabilities (winter, 2003), and are technically and evolutionarily fit. The DMC classifications have common features, although the capabilities (individually and collectively) are unique to specific managers who used them in different ways, and certain behavioral capacities (i.e., specific DMC classifications found as a result of the research—IBDMC, LBDMC, and PL) are considered transformational.

LBDMC

The classification of LBDMC builds on studies from the DC literature, including the intellectual core, that have conceptualized the importance of learning to the creation and development of DCs (Zollo and Winter, 2000), as micro-foundational (Teece, 2007), and as a “component factor” reflecting common features of DCs (Wang and Ahmed, 2007). LBDMC, by definition, includes common elements (e.g., experiential learning), although LBDMC is heterogeneous and unique to the specific manager. This supports earlier conceptualizations, which posit that, although a firm’s DCs exhibit commonalities, they are idiosyncratic in detail (Eisenhardt and Martin, 2000). LBDMC is further reflective of studies expressing the relevance of learning and experience in how DCs evolve (Eisenhardt and Martin, 2000; Malik and Kotabe, 2009; Pisano, 1994; Winter, 2003), as well as studies showing the importance of assimilating, transforming, and exploiting knowledge (Zahra and George, 2002, p. 186) and experience (Zollo and Winter, 2002, p. 339), and on Adner and Helfat’s (2003) findings of the importance of synthesizing “managerial cognition” and “managerial human capital.”

In practice managers can assess how they learn, and/or how their employees do so (Kolb and Kolb, 2005). The effective transfer of tacit knowledge can be achieved, such as through understanding how knowledge is created (Nonaka and 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 (Goffin and Koners, 2011; Polanyi, 1966; Schmidt and Hunter, 1993). The manager can develop LBDMC to impact on ordinary capabilities to facilitate a learning environment (Senge, 1990), which can be assessed in terms of effectiveness in practice (Garvin et al., 2008, p. 110).

IBDMC

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 (Teece et al., 1997) with respect to innovation-based competences and creative destruction (Schumpeter, 1942).

IBDMC is compatible with notions of evolutionary fitness (Penrose, 1952), adaptation to the changing environment (Dixon et al., 2014), and Augier and Teece's (2009, p. 411) assertion that "entrepreneurial management" is requisite to the success of a firm, and that the antecedents to innovation are found at the individual level (Rothaermel and Hess, 2007). Nevertheless, studies with respect to DMCs have not focused specifically on the area of managerial innovation, and more research is needed therefore into these managerial capacities. The research conducted here empirically finds the critical importance of innovation-based managerial capacities of managers to introduce new ideas, methods, processes, products, and/or services in order to reconfigure resources, and therefore to impact on ordinary capabilities. This involves entrepreneurial management and developing, using, and maintaining IBDMC and establishing a culture of innovation. Since Drucker (1985, p. 20) had found that innovation "is capable of being presented as a discipline, capable of being learned, capable of being practiced," and other research has shown that culture is an important driver of innovation (Tellis et al., 2009), building a culture of innovation is critical using "resources, processes, values, behavior, climate and success" in doing so (Rao and Weintraub, 2013, p. 29), and in conducting ongoing cultural maintenance processes (Dyer et al., 2011; Miller and Wedell-Wedellsborg, 2013; Rao and Weintraub, 2013).

PL

The managers in the multi-case study were leaders who practiced PL, allowing employees to be engaged in the critical processes of the firm (Lewin et al., 1939). PL reflects aspects of Theory Y (McGregor, 1960) and can be thought of as integrating with Maslow's (1943, 1954) needs hierarchy regarding employees' self-actualization and esteem needs, incorporating effective leadership with employee self-fulfillment (Maslow, 1969; Ouchi, 1981) within an organizational structure that is more organic (Burns and Stalker, 1961; Wilden et al., 2013). PL allows for employees to participate in the process, which can help with realizing goals (firm-level and personal). In this respect, PL contains elements of transformational leadership (Bass, 1985; Burns, 1978; Seltzer and Bass, 1990). PL can be developed using leadership style inventories (Hersey and Blanchard, 1974, 1977; Lewin, 1939), providing feedback on competencies (e.g., showing empathy, acting as a positive teacher, mentor and coach, and helping employees to realize their potential (The Ohio State University, 1957)).

Discussion and Conclusions

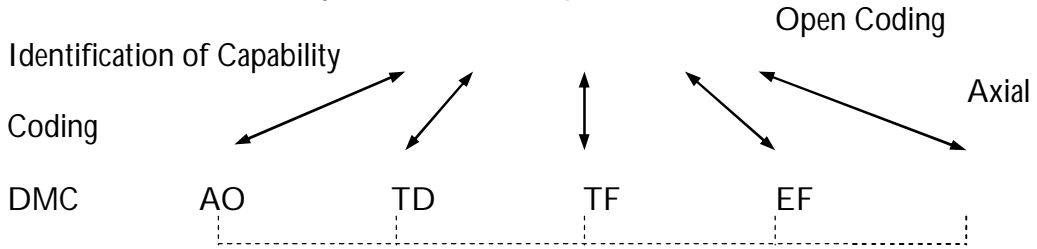
DMCs have micro-foundational behavioral elements to them, which exhibit common features that are idiosyncratic in detail. They include learning- and innovation-based capabilities and participative leadership. The behavioral capacities, classified as LBDMC, IBDMC, and PL, are considered essential as a 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 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, 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. The strategic management process involves establishing the strategy/structure relation (Chandler, 1962) and determining the highest-level objectives of the firm. 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 on 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 and Stalker, 1961). It involves creating a culture of innovation and learning and practicing participative leadership.

Appendix: DMC Constructs and Linkages

First-Order Constructs

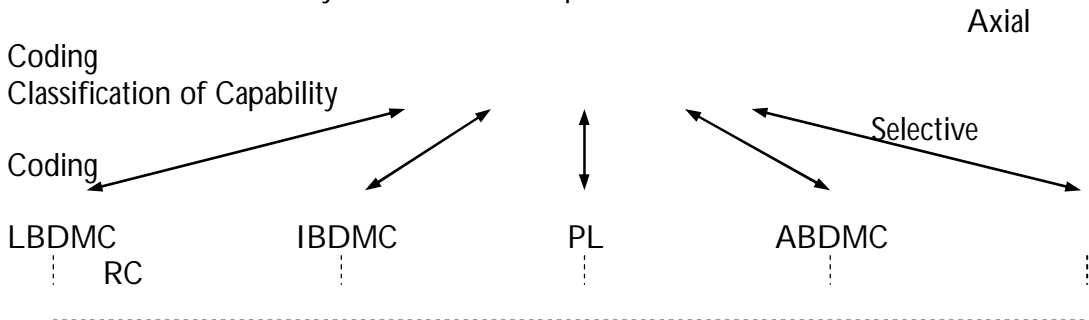
Data Collection and Analysis/Constant Comparison



(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

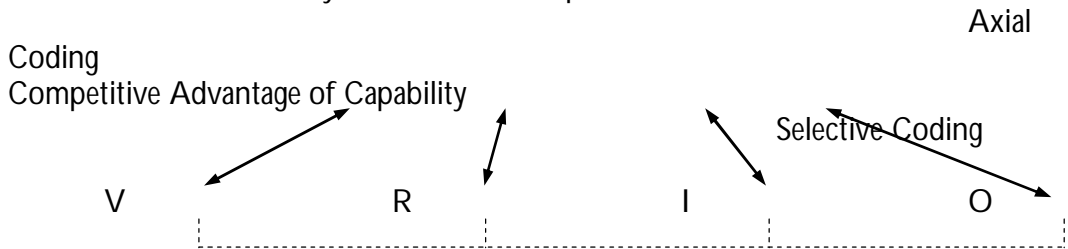
Data Collection and Analysis/Constant Comparison



(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)

Theoretical Coding

(Formulate propositions/conduct survey study)

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