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The author of this dissertation is:

Alexandro Armour
8970 Birch Bay Circle
Lorton, VA 22079

The director of this dissertation is:

Daniel Robey
Robinson College of Business
Georgia State University
35 Broad Street, NW, Suite 427
Atlanta, VA 30303

Achieving Contextual Ambidexterity Through the Implementation of High Performance Work
Systems (HPWS)

BY

Alexandro Frontone Armour

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Executive Doctorate in Business

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY

ROBINSON COLLEGE OF BUSINESS

2015

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ACCEPTANCE

This dissertation was prepared under the direction of the Alexandro Frontone Armour Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Executive Doctorate in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

Richard D. Phillips, Dean

DISSERTATION COMMITTEE

Dan Robey

Richard Baskerville

Balasubraman Ramesh

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LIST OF ABBREVIATIONS

(In Alphabetical Order)

CA – Contextual Ambidexterity

HRM – Human Resource Management

HPWS – High Performance Work Systems

IT – Information Technology

MC – Management Consulting

SME – Small and Medium-Sized Enterprises

SOW – Statement of Work

ABSTRACT

Achieving Contextual Ambidexterity Through the Implementation of High Performance Work Systems (HPWS)

BY

Alexandro Frontone Armour

May 2nd, 2015

Committee Chair: Dan Robey

Major Academic Unit: Robinson College of Business

Small information technology and management consulting businesses face increasingly contradictory strategic choices as they develop products and services for the marketplace. Building contextual ambidexterity is essential to the survival of small businesses as they seek to attain a desired balance of alignment and adaptability. Human Resource Management practices facilitate the development of ambidexterity within individuals thereby facilitating ambidexterity of the organization as a whole. Studies suggest that in order for an organization to be ambidextrous, its human resource management function also needs to be ambidextrous. High-performance work systems are human resource practices designed to enhance the ability, motivation, and opportunity of employees with the overarching goal of attracting, retaining, and motivating human resources toward the completion of organizational goals. Based on Gibson and Birkinshaw's concept of organizational ambidexterity, a qualitative case study of a small technology solution provider was conducted to explore the process by which CloudCo attempted to build contextual ambidexterity by implementing a high-performance work system. Findings show that executive management of small technology solution providers can build contextual ambidexterity and sustain a competitive advantage through the implementation of high-performance work systems but must overcome a series of important tensions to do so.

I INTRODUCTION

Technology coordination in consulting organizations involves choices between contradictory options such as efficiency *vs* flexibility (Adler et al., 1999), exploitation *vs* exploration (March, 1991), and evolutionary *vs* revolutionary change (Tushman & O'Reilly, 1996). Entrepreneurs often strive to optimize the efficiency of existing development processes while simultaneously adapting them to individual customer needs. Therefore, they seek to emphasize “repeatability” of development processes on the one hand and “response-ability” to dynamic market conditions on the other (Boehm, 2002; Napier et al., 2006). Managers may try to exploit the organization’s current capabilities in relation to existing customers while at the same time exploring new technology and market opportunities. As a result, they must ensure that their product and project portfolios satisfy existing customers while also allowing for market expansion (Markowitz, 1952; McFarlan, 1981; De Reyck et al., 2005). Moreover, executive management needs to engage in both evolutionary and revolutionary change (Tushman & O'Reilly, 1996). Organizations have for many years implemented incremental innovations like software process improvements (Humphrey, 1989; CMMI Product Team, 2006) and new project management techniques (Fonstad & Robertson, 2006; Woolridge et al., 2007) but less attention has been paid to radical innovations like cloud computing and big data (Lyytinen & Rose, 2003, 2006). Instead of choosing between these options, technology consultancies could become ambidextrous. Ambidextrous organizations compete by optimizing efficiency, cost, and incremental innovation while simultaneously exhibiting flexibility, speed, and radical innovation (Tushman & O'Reilly, 1996; Raisch et al., 2009).

One way to implement ambidexterity is by developing opposing capabilities in different organizational units (i.e. structural ambidexterity); another is to build ambidexterity by developing capabilities for both alignment and adaptability within existing organizational units (i.e., contextual ambidexterity) (Gibson & Birkinshaw, 2004). The literature on High Performance Work Systems (HPWS) has consistently argued that although HPWS practices in themselves do not produce competitive advantages, performance gains can be achieved by developing human resources through an HPWS (Patel et al., 2013). Meanwhile, the human resource literature on organizations of all sizes has focused on structural ambidexterity (Boehm & Turner, 2004; Vinekar

et al., 2006), but little attention has been paid to investigating how small technology management consultancies can achieve contextual ambidexterity (CA) through the implementation of a HPWS.

As a result, this study seeks to answer the following research question: How can small technology solution providers build contextual ambidexterity through the implementation of a HPWS? This paper examines the process by which a small technology solution provider attempted to build CA via high performance work system implementation over time. This question is explored through a qualitative case study about CloudCo (pseudonym), a small technology solution consultancy. Not only does this study focus on understanding CA in small businesses, it also seeks to understand how human resource practices can facilitate this objective.

II CONTEXT

Building CA may be instrumental to the survival of small businesses as they seek to attain the desired balance of alignment and adaptability. Small information technology (IT) and management consulting (MC) businesses face contradictory strategic choices as they develop products and services for the marketplace. Past studies suggest that in order for an organization to be ambidextrous, its human resource management (HRM) function also needs to be ambidextrous ((Kang et al. (2007), Kang and Snell (2009)). HPWS are systems of human resource practices designed to enhance both the ability and motivation of employees in order to attract, retain, and motivate them toward the completion of organizational goals. Based on Gibson and Birkinshaw's (2004) concept of organizational ambidexterity, the following will explore the process by which a small technology solution provider attempts to build and maintain CA through the implementation of elements of HPWS. As a result, principles will be established for how executive management of small technology solution providers can build CA and sustain a competitive advantage through the implementation of a HPWS.

III THEORETICAL FRAMEWORK

Past studies have drawn upon a variety of sources to establish a theoretical background for exploring questions related to the factors affecting the establishment of successful ambidextrous environments. This body of research will be reviewed in order to construct a theoretical foundation that will inform a case study on the process of developing CA within a small technology solution company. This research seeks to make three valuable contributions: 1) examine and expound the processes through which HPWS shapes CA at a small business; 2) provide insights into the complex and dynamic process of allocating resources within organizations and; 3) demonstrate how CA, coupled with an intense focus on HPWSs, can be used as a framework for studying, managing, and developing the innovation process in small business.

III.1 Ambidexterity

Organizations constantly face challenges in pursuing both sustainability and innovativeness over time. Managers and organizations must strive to implement both incremental and revolutionary change within the organization without excluding one or the other (Tushman & O'Reilly, 1996). The capacity of an organization to leverage existing assets while also being able to search for and seize new opportunities is referred to as 'exploitation' and 'exploration' respectively (March, 1991). Tushman and O'Reilly (1996) suggest that the ability to exploit and explore simultaneously contributes significantly to firm performance, an ability they refer to as *ambidexterity*. Ambidexterity is defined colloquially as the ability to be skillful and agile at using both hands, or in a business context, as the ability to focus on and balance the differing strategies of alignment and adaptability with equal success rates.

Alignment focuses on maintaining consistency in the activities where the organization has gained competence while allowing for incremental innovation. Alignment refers to coherence among all the patterns of activities in the business unit; they are working together toward the same goals. The opposite of alignment is adaptability (De Clerq et al., 2013), which refers to the capacity to quickly reconfigure activities in the business unit to meet changing demands in the task environment, allowing for radical innovation (Gibson & Birkinshaw, 2004).

These two strategies are associated with the previously-mentioned qualities of exploitation and exploration: alignment is achieved through exploitation, while adaptability is achieved through exploration (March, 1991). Exploitation is characterized by terms such as "refinement, choice,

production, efficiency, selection, implementation, and execution”, while exploration includes such things as “search, variation, risk taking, experimentation, play, flexibility, discovery, innovation,” (March, 1991). Exploitation represents efficiency, productivity, control, certainty, and taking action based on tried-and-true absolutes. Further, exploitation is associated with mechanistic structures, tightly coupled systems, path dependence, routinization, control and bureaucracy, and stable markets and technologies (He & Wong, 2004; Ancona et al., 2001; Brown & Eisenhardt, 1998; Lewin et al., 1999). Conversely, exploration is linked with organic structures, loosely coupled systems, path-breaking, improvisation, autonomy and chaos, and emerging markets and technologies (He & Wong, 2004). Exploration portrays concepts that contribute to adaptation, such as search and discovery, autonomy, innovation, and embracing the unknown (O’Reilly & Tushman, 2007).

The research literature suggests that an organization’s ability to exploit existing assets in a profit-producing way, *as well as* its capability to explore new technologies and markets and capture new opportunities, are both essential to organizational success. The concept of an ambidextrous organization is “a firm’s ability to *simultaneously* explore and exploit, enabling a firm to succeed at adaption over time” (O’Reilly & Tushman, 2007), rather than pursuing one of the two activities exclusively. Organizational ambidexterity is often discussed through two models: *structural ambidexterity* and *contextual ambidexterity*.

Structural ambidexterity. The concept of structural ambidexterity promotes the idea that organizational design should separate exploitative and explorative activities into distinct organizational units, each with distinct competencies, systems, incentives, processes, and cultures, while at the same time establishing a planned level of integration between exploration and exploitation (Schulze, Heinemann & Abedin, 2008; Benner & Tushman, 2003). Essentially, the literature indicates that the structural route to ambidexterity is to implement two trajectories that allow business units—or groups within business units—to focus on alignment, while others focus on adaptation (Birkinshaw & Gibson, 2004). To illustrate this division, research and development (R&D) efforts can be split into long-term R&D projects that focus on breakthrough innovations, and short-term projects that pursue incremental developments. The argument supporting such an approach is that exploration and exploitation are completely different activities that require unique organizational structures, metrics, incentives, and management philosophies in order for each to be successful. If they are left in a single organizational

structure, the needs and priorities of one may take precedence over the other, resulting in a lack of balance between the two.

Structural approaches have been popular solutions for achieving ambidexterity in the past. High-tech firms such as IBM and HP split off their R&D organizations (IBM Labs and HP Labs, respectively) from their main operating business units many decades ago, and have achieved a great deal of success with several breakthrough innovations. HP's founders, Bill Hewlett and David Packard, decided to establish a central research lab in 1966, with hopes to prove that "researchers freed from day-to-day problems could more clearly focus on ideas that would help shape the company's future." (Hewlett Packard, 2011).

Despite these successes, structural ambidexterity is not a perfect solution for every situation, and does not assure competitive growth and innovation across the entire organization (Duncan, 1976; Gibson & Birkinshaw, 2004; McDonough & Leifer, 1983; Tushman & O'Reilly, 1996). Further, it can be argued that in recent years structural ambidexterity has not shown as much promise as it has in the past. Birkinshaw and Gibson (2004) cite two potential causes that inhibit the success of structural approaches: organizational isolation, and the development of a "country club culture".

Organizational isolation is the tendency for separate exploration units to lose touch with the needs of the core business and produce breakthrough innovations for which there is no viable route to market. Innovations cannot effectively be translated into profitable future businesses without a clearly defined technology transfer function that bridges the gap between the exploration and exploitation units of an organization. Additionally, the development of a "country club culture," in which there is a high degree of social support for the ultimate goals of the organization but a low degree of expectations with regard to results, is detrimental to success (Birkinshaw & Gibson, 2004).

Contextual ambidexterity. Unlike structural ambidexterity, contextual ambidexterity is a solution that enables organizations to balance exploitative and explorative tasks without separating them (Schulze, Heinemann & Abedin, 2008). Gibson and Birkinshaw (2004) define CA as an interplay of system capacities for alignment and adaptability that simultaneously permeate an entire business unit and rely on the behavioral capacity of the organization to accomplish this task successfully (see Table 1 for overview). Within the business framework, *context* refers to the processes, systems, and beliefs that individual behaviors design and shape to enable and encourage

every individual to make a choice between exploitation and exploration in their work (Ghoshal & Bartlett, 1994). Ambidextrous organizations build a high-performing organizational context that allows and encourages the flexibility of employees to use their own judgment in how they will balance the pursuit of alignment and adaptability, and how best to divide their time between the conflicting demands of exploitation and exploration across the entire business unit (Gibson & Birkinshaw, 2004). In this way, CA helps firms to overcome the problematic structural inertia that results from overemphasizing continuity, and to avoid accelerating in a direction of change without regard to its bottom line (Levinthal & March, 1993). This type of environment supports the argument of Tushman and O'Reilly (1996) that a firm that is capable of exploring and exploiting simultaneously is likely to achieve superior performance compared to firms that favor one over the other.

Table 1 - Differences Between Contextual and Structural Ambidexterity

	Structural Ambidexterity	Contextual Ambidexterity
How is it achieved?	Alignment-focused and adaptability-focused activities are done in separate units or teams.	Individual employees divide their time between alignment-focused and adaptability-focused activities.
Where are key decisions made?	At the top of the organization.	On the front line by salespeople, supervisors, office workers.
Role of top management	To define the structure, to make trade-offs between alignment and adaptability.	To develop the organizational context in which individuals act.
Nature of roles	Relatively clearly defined.	Relatively flexible.
Skills of employees	More specialist.	More generalist.

Source: Birkinshaw, J. & Gibson, C. (2004). Building ambidexterity into an organization, *MIT Sloan Management Review*, 45, p. 50.

Challenges to the achievement of both contextual and structural ambidexterity are noted in the literature (March, 1991; Tushman and O'Reilly, 1996; Ghoshal & Bartlett, 1994). One challenge to the task of exploitation is allowing the efficiencies gained by the proven competencies of the current business to dictate the entire business path. O'Reilly and Tushman (2007) refer to this as the "competency trap", in which repetitious success of exploitative strategies drives out exploration. Focusing solely on the strategy of leveraging current capabilities may enable

immediate profits, but eventually fosters an environment of stagnation, leaving firms unable to respond to market and technological changes (Atuahene-Gima, 2005). The uncertainty of exploration can make it harder for organizations to invest or engage in activities that merely have potential future benefit (O'Reilly & Tushman, 2007). Further, engaging in exploration to the exclusion of exploitation could cause organizations to suffer the costs of experimentation while relinquishing many of its benefits. This can result in exhibiting too many undeveloped new ideas and too little distinctive competence (March, 1991).

The premise of CA, achieved by enabling and encouraging individuals to determine how to allocate their attention between exploitative and explorative activities, challenges the more traditional concept of structural ambidexterity. It has been argued that CA is potentially a more sustainable model than structural ambidexterity because it facilitates adaptation across an entire business unit, not separate subunits (Gibson & Birkinshaw, 2004).

Having considered that ambidexterity is a desirable quality for almost any organization, it is important to discover the necessary prerequisites for developing this quality. Since not all organizations are ambidextrous, and not all attempts at ambidexterity are successful, there must be certain factors influencing the development and maintenance of an ambidextrous environment.

III.2 Antecedents to Ambidexterity

Antecedents to contextual ambidexterity. Gibson and Birkinshaw (2004) offered four characteristics of organizational context (Ghoshal & Bartlett, 1994) as precursors for CA: discipline, stretch, support, and trust. Each of these are described in more detail below. Of note, there is some ambiguity whether discipline, stretch, support, and trust are indicators or antecedents of ambidexterity. While Gibson and Birkinshaw (2004) appear to allude to these elements as antecedents, Ghoshal and Bartlett frame them as behaviors resulting from a context. Gibson and Birkinshaw note:

Ghoshal and Bartlett (1994) did not argue explicitly that these contextual features will develop the capacity for contextual ambidexterity. Rather, they described discipline, stretch, support, and trust as engendering individual-level behaviors that result in initiative, cooperation, and learning. But according to Ghoshal and Bartlett, individuals take these actions of their own volition. A context does not dictate specific types of action; rather, it

creates a supportive environment that inspires an individual to do “whatever it takes” to deliver results. (p. 213).

As contributors to context, Gibson and Birkinshaw argue that these behaviors represent a type of inspiration to engage in exploitation and exploration which results in CA. As a result, CA could be characterized as an environment in support of and influenced by the presence of discipline, stretch, support, and trust which act as antecedents for CA-based activity. Thus, we extend their framework by arguing that when a supportive organization context is created, individuals engage in both exploitation-oriented actions (geared toward alignment) and exploration oriented actions (geared toward adaptability), and this results in contextual ambidexterity, which subsequently enhances performance.

Discipline. Discipline, from the perspective of ambidexterity, refers to organizational and cultural standards that encourage individuals to meet or exceed the expectations of the business, as established by the “implicit or explicit commitments” made by individuals to the organization (Gibson & Birkinshaw, 2004). Specific organizational expressions of discipline include a) unambiguous standards for both performance and conduct, b) systems that provides for rapid and candid feedback, and c) consistent application of standards, performance measures, and sanctions (Gibson & Birkinshaw, 2004; Ghoshal & Bartlett, 1994). The establishment of clear standards of performance and behavior, a system of open, candid, and rapid feedback, and consistency in the application of sanctions contribute to the establishment of discipline (Ghoshal & Bartlett, 1994).

Stretch. Stretch refers to the organizational attributes that help individuals “voluntarily strive for more, rather than less, ambitious objectives” (Ghoshal & Bartlett, 1994). This involves the development of “shared ambition”, a “collective identity”, and “personal meaning”. These characteristics ostensibly enable individuals to contribute to achieving the goals of the overall organization (Gibson & Birkinshaw, 2004; Ghoshal & Bartlett, 1994). Employees not only have focused targets, but also develop a clearer understanding of how their individual tasks contribute to the overall performance of the company, thus creating a sense of personal involvement (Ghoshal & Bartlett, 1994).

Support. Support refers to the organizational attributes that allow individuals access to resources controlled by others, and the individual freedom to utilize those resources to achieve organizational goals. This includes the organization providing the support and guidance of senior

management without doing so in an overly controlling or authoritarian fashion (Gibson & Birkinshaw, 2004; Ghoshal & Bartlett, 1994). A supportive environment is one in which members are induced to lend assistance and countenance to others. Increased access to company resources, and help-oriented vs control-focused management—that is, supportive leaders and flexible managers—are elements that enable support in the organizational context (Ghoshal & Bartlett, 1994; Tushman & O'Reilly, 1997). Support may also manifest itself in the use of IT systems to increase shared knowledge of other parts of the business, as well as sharing best practices (Birkinshaw & Gibson, 2004).

Trust. The concept of trust involves perceptions of equity and fairness in the decisions of senior management, and involving individuals in the decisions that affect them (Gibson & Birkinshaw, 2004; Ghoshal & Bartlett, 1994). Trust produces an environment where members are able to rely on commitments. Fairness and equity in a business unit's decision processes, involvement of individuals in decisions and activities affecting them, and staffing positions with people who possess and are seen to possess required capabilities contribute to the establishment of trust (Ghoshal & Bartlett, 1994). The three key elements of a high-trust organization have been identified as consistency, competency, and congruence of the organization (Adler et al., 1999).

Gibson and Birkinshaw (2004) plotted the attributes of CA along the dimensions of alignment and adaptability to establish two dimensions of organizational context: *performance management*, a combination of discipline and stretch, and *social support*, a combination of support and trust. These relationships are shown in Figure 1.

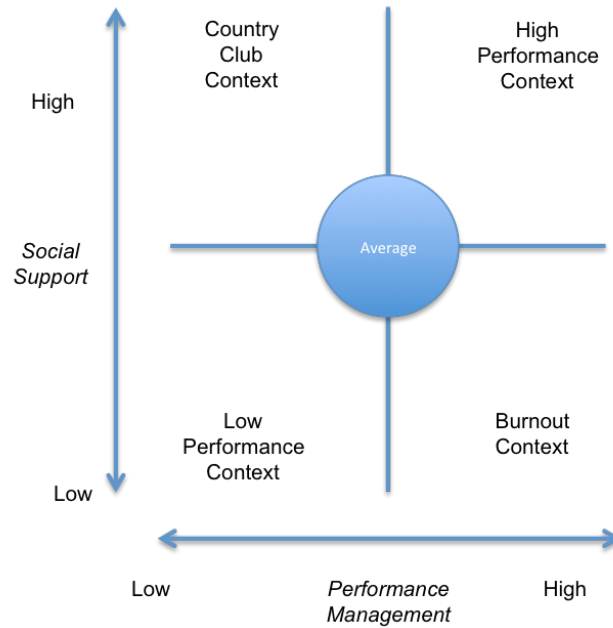


Figure 1 – Performance Consequences of Contextual Ambidexterity

In order to fully integrate a CA strategy, a culture of activation and engagement must exist throughout the organization. Together, discipline, stretch, support, and trust shape the individual and collective behaviors, and an organization’s distinctive values, culture, and leadership, which in turn shape business-unit capacity for CA and superior performance (Birkinshaw & Gibson, 2004; Adler et al., 1999). Moreover, examining CA with regard to these antecedents suggests a strong link between employees’ qualities and attitudes, and the success of creating and maintaining an ambidextrous environment. Using this framework, CA can be viewed as a shared responsibility of individual employees within the firm (Napier, 2011).

Ghoshal and Bartlett (1994) emphasized the primacy of an organization's work ethic as a strong influence on the behaviors and actions of its members. Birkinshaw and Gibson (2004) supported this sentiment by arguing that discipline, stretch, support, and trust are interdependent and complementary features of context that are non-substitutable. That is, all four must be present in order for a business unit to become ambidextrous, and subsequently, to perform well. However, as of yet, no study has conclusively tested whether all four antecedents need to be fully present for

ambidexterity to be achieved, or whether certain circumstances may allow one or more element to be absent with affecting performance.

III.3 Contextual Ambidexterity and Small Business

Thus far, ambidexterity has been presented in general terms relating to businesses of any size. Next, applying contextual ambidexterity principles in a small business environment is considered. Although a major premise of ambidexterity research posits that ambidextrous organizations exhibit better performance, the ambidexterity–performance relationship remains unclear. Some researchers extol the benefits of ambidexterity (Gibson & Birkinshaw, 2004; He & Wong, 2004; Lubatkin et al., 2006); others argue that firms should choose either alignment or adaptability in order to avoid being mediocre at both (Ghemawat, 1993). Some even question whether there are any performance benefits of ambidexterity at all (Van Looy et al., 2005). Regardless, the path from ambidexterity to organizational performance is strewn with implementation challenges, particularly related to the need to devote sufficient resources to different functional areas (Bierly & Chakrabarti, 1996; Kyriakopoulos & Moorman, 2004; O’Reilly & Tushman, 2004) and achieve flexibility in the allocation of company resources across alignment and adaptability activities (O’Reilly & Tushman, 2004; Van Looy et al., 2005). Ambidexterity researchers typically assume that resources are abundantly available and that managers across the organization have equal access to them (O’Reilly and Tushman, 2004; Simsek et al., 2009), yet this assumption is not universally tenable (Kyriakopoulos & Moorman, 2004). The amount of capital required clearly favors larger businesses’ efforts to increase ambidexterity. The paucity of research into internal contextual factors that might underlie the performance consequences of ambidexterity (Raisch & Birkinshaw, 2008) leaves an unanswered question: what contingencies define a firm’s ability to translate its simultaneous pursuit of alignment and adaptability into enhanced performance?

Since the CA literature focuses so directly on human resources, the HR function in businesses of all sizes that have employees would appear to play an important role in achieving organizational ambidexterity. Small businesses with limited funds may even find their staff to be a more valuable investment than equipment or other resources. Although the HR literature has focused on structural ambidexterity (Boehm & Turner, 2004; Vinekar et al, 2006), there has been

no research investigating how small technology management consultancies can achieve CA through the implementation of HPWS. In addition, larger businesses typically have more capital to invest in a wider variety of ambidexterity-increasing efforts, and larger companies have most often been the subject of previous research. It remains unclear, therefore, how small businesses may develop ambidexterity.

III.3.1 Applications of contextual ambidexterity theory

The concept of CA is versatile. Ambidexterity essentially means the ability to balance two different and often opposing things at once. This notion can easily frame any number of topics that focus on the tensions between dualities. March (1991) discusses the tensions between exploration and exploitation as they apply to organizational learning. Learning, analysis, imitation, regeneration, and technological change are major components of any effort to improve organizational performance and strengthen competitive advantage. Ghoshal and Bartlett (1995) delve into the concept of organizational context by exploring the elements of discipline, stretch, support, and trust and their impact on the organizational structures and processes of companies—specifically, on the roles and relationships of individuals within their organizations. In continuing March’s analysis of these tensions, Tushman and O’Reilly (1996) argued that, in order to sustain long-term success and sustain organizational evolution, managers and organizations must be ambidextrous and simultaneously balance the evolutionary and revolutionary changes associated with alignment and adaptability. This ambidexterity, combined with a senior team that continually reinforces the core values of autonomy, teamwork, initiative, accountability, and innovation, allows companies to successfully avoid decline (Tushman & O’Reilly, 1996).

One successful case study on ambidexterity (Adler, Goldoftas, and Levine, 1999) focused on an automobile manufacturing plant, examining the contextual factors that contribute to ambidexterity between firm flexibility and efficiency. They conclude that reconciling the contextual factors of support—in the form of training—and trust increased the organization’s capacity for flexibility at a given level of efficiency, and created capabilities that served to improve efficiency (Adler, Goldoftas, & Levine, 1999). In later research, He and Wong (2004) explored the positive effect of ambidexterity on technological innovation. Their study focuses on how firms commercialize new technological knowledge and ideas into new products or processes. He and

Wong conclude that the continuous management of the struggle between exploration and exploitation alongside the prioritization of resources for innovation support the value inherent in an ambidextrous organization.

In other research, Tiwana (2008) applies CA to understand the tensions between bridging and strong ties among innovation-seeking alliances. Bridged ties span structural gaps to provide the potential for innovation, but can lack the capacity to be fully integrated. Strong ties provide integration capacity but are deficient in innovation possibilities. By pursuing dual strategies ('ambidexterity' as defined by Gibson and Birkinshaw (2004)) and applying them to the context of alliances at the project level, alliance performance can theoretically be enhanced. Alignment with alliance objectives combined with the capacity to change in the environment is conceptualized as alliance ambidexterity (Tiwana, 2008).

Similarly, Rothaermel and Alexandre (2009) apply a contextually ambidextrous approach to firm technology-sourcing strategies. In general, an organization's technology-sourcing strategy consists of pursuing exploration and exploitation through combining internal and external sources of knowledge. Rothaermel and Alexandre (2009) conclude that simultaneously balancing these two endeavors contributes to a reduction in risk, an increase in competitive advantage, and gains in the return on investment for innovation activities. Successfully developing CA allows software firms to broaden the scope of combinations between internal and external sources of existing and new knowledge, which would, ideally, have a positive effect on performance (2009).

In addition, Napier et al. (2011) integrate existing theories on CA with research on software improvement processes in order to develop a framework to analyze how software organizations manage the tensions between exploitation and exploration. They propose principles for how software managers can build ambidextrous capabilities to improve firm-level coordination of products, projects, and innovation efforts (Napier et al., 2011). Their results show that the role of ambidexterity in the support of a software organization's firm-level coordination is developed through a process of first diagnosing the context of a firm's alignment, adaptability, performance management, and social support already in place (Napier et al., 2011). The next stage establishes an approach to build up CA and then acts to transform practices. The last principle to improve firm-level coordination suggested by Napier et al. (2011) is to take those new practices and processes, disseminate them throughout the organization, and ensure that they are learned and fully implemented.

A more recent investigation on CA was performed by Ramesh, Mohan, & Cao (2012). They learned that distributed development is linked to increased globalization, where project team members are often separated along geographical, temporal, or organizational boundaries, and is characterized by infrequent face-to-face contact, or short, sporadic, selective, and formal meetings (Ramesh et al., 2012). Conversely, agile software development utilizes methods that respond to change resulting from turbulent business environments, such as a strong emphasis on constant communication among team members and customers, particularly through face-to-face interaction and interpersonal coordination (Ramesh et al., 2012). There are conflicting challenges when these two methods of development are both required on a single project. However, by introducing the concept of CA, the issue can be addressed with more strategic approaches that guide the development of processes which foster both agile and distributed development.

III.3.2 Resource Constraints for Small Businesses

This is the first qualitative case study that examines the process of how CA can be fostered through introducing the components of HPWS. In turn, this study is a response to a call for multi-faceted research into organizational ambidexterity by Raisch and Birkinshaw (2008). To date, the realization of discipline, stretch, support, and trust in a corporate environment has not been integrated in a HPWS. As a result, this research is one of the rare examinations of ambidexterity in SMEs using HPWSs as a framework.

The study also responds to Lubatkin et al. (2006)'s call to extend research into the antecedents and consequences of CA in SMEs. SMEs make up a significant element of the world economy and play a key role in both job and wealth creation. As such, they are considered a significant driver of future economic growth in most economies (e.g., Wolff & Pett, 2006).

III.3.3 Human Resource Management and High Performance Work Systems

How to fulfill the strategic potential and contribution of human resource management (HRM) to enhance an organization's competitiveness has been an ongoing debate in the HR community (Huang & Kimb, 2013). Huang and Kimb posit that in order for an organization to be ambidextrous, its HRM function also needs to be ambidextrous. Kang and Snell (2009) explain that CA assumes that the ambidexterity of an organization as a whole derives from specific actions of individuals so that it is inextricably tied to a firm's efforts to manage human resources. Gibson and Birkinshaw (2004) explore where the decisions are made about the split between alignment

and adaptability. They identify that the important decisions are made on the front line, by individual employees. Further, in order to ensure that an organization is populated appropriately with employees capable of making those decisions, a strategic HRM system must be developed and implemented. A review of the HRM literature supports the idea that strategic HR practices support the human capital factors that enable an organization to become contextually ambidextrous.

Two key themes characterize the strategic HRM literature. First, coherent systems of mutually-reinforcing HR practices are more likely to support sustainable performance outcomes than any individual practices. Second, not all HR systems are equally effective (Kehoe & Wright, 2013). In response, strategic human resource management (SHRM) scholars have suggested that organizations can use performance- and commitment-oriented human resource practices to drive organizational effectiveness (Kehoe & Wright, 2013). Certain sets of human resource practices have been found to improve employee effectiveness and to predict higher levels of organizational performance. These sets of practices, or “bundles”, are referred to as HPWS or high involvement work systems (Gittell et al., 2009).

This term has generally been used to describe systems of horizontally- and vertically-aligned employment practices designed to affect both the ability and the motivation of employees (Huselid, 1995). The consensus is that these practices include selection (or hiring), training, mentoring, incentives, and knowledge-sharing mechanisms, and that these practices are most effective when they are implemented in bundles because of their combined effects on performance (Gittell et al., 2009). High-involvement HR systems generally include coherent sets of HR practices that enhance employees’ abilities, motivations, and opportunities to put forth discretionary effort (Prieto & Santana, 2012). High-performance HR systems rely on the creation of a mutual investment-based employment relationship, wherein an organization invests in workforce skills and opportunities and, in turn, expects employees to be qualified and motivated to make valuable work-related investments in the organization (Kehoe & Wright, 2013).

A commonality across practices in any high-performance HR approach is the focus on promoting workforce ability, motivation, and opportunities to perform behaviors consistent with organizational goals (Kehoe & Wright, 2013). Furthermore, Prieto and Santana (2012) suggest that practices based on commitment and involvement influence employees’ collective attitudes and behaviors, since these practices impact employees’ perceptions of the organizational social

climate as being conducive to superior performance outcomes. This social climate determines what employee behavior is appropriate at work, serves as a guideline for molding employees' behavior toward the goals of the organization, and improves employees' abilities, motivation, and opportunities to access and mobilize one another's knowledge. Activities related to hiring, training, placement, socialization, and compensation are particularly relevant in this regard. Thus, a strategic HR function serves as an important enabler by designing policies and practices by which the firm encourages, supports, and sustains innovation, knowledge creation, and values creation to support effective strategy formulation and implementation (Buller & McEvoy, 2012). Employees' behavioral integration through HR practices serves as a way to achieve a balance between the alternative processes of exploration and exploitation (Raisch, Birkinshaw, Probst & Tushman, 2009).

Gibson and Birkinshaw (2004) explain that ambidexterity is developed by building a business unit context that encourages individuals to make their own judgments as to how best to divide their time between the conflicting demands for alignment and adaptability. Organizations using high-involvement HR practices make a significant investment in their pool of human resources so that employees are well-trained, skilled, motivated, and empowered to conduct their jobs, all factors which contribute greatly to the goals of an ambidextrous organization (Prieto & Santana, 2012). Adler et al. (2009) note that much of a firm's success can be attributed to its investments in the human resource practices that boost employee motivation, skill, and adaptability. The causal mechanisms through which HPWS influence performance outcomes constitute two main groups: human capital and skill on the one hand, and motivation and commitment on the other (Gittell et al., 2009).

Despite the theoretical support which posits that certain employee attributes lead to improved performance, there remains a lack of research that directly connects HRM approaches with the process of developing ambidexterity. For instance, it is unknown whether offering HPWS ability-enhancing activities, like training, will entice existing employees to exhibit the qualities necessary to enable antecedents like trust. In addition, it is also unknown whether HPWS motivation-enhancing activities, like compensation, are enough to enable antecedents like stretch. Overall, little is known about how HPWSs can help resolve the tensions resulting from an organization's attempt to become more contextually ambidextrous.

III.3.4 Performance management, social support, and the A-M-O model of HRM

Ghoshal and Bartlett (1997) identify four behavioral antecedents of discipline, stretch, support, and trust, as being the main enabling factors to achieve CA in an organization. Patel et al. (2013) suggest that integrating these antecedents into organizational practice offers a straightforward theoretical link between HR practices and performance management.

As previously reviewed, *discipline* exists within an organization when employees understand what is expected of them, are provided with the proper skills to meet those expectations, and are held accountable for their actions. *Stretch* occurs when employees are given goals that “raise the bar” compared to previous performance targets. *Support* refers to the ability of the company to provide resources, care, and autonomy to employees. Finally, *trust* is influenced by perceptions of equity within the organization, the competence of organizational leaders, and the level of involvement offered to employees. These antecedents combine to form the organizational contexts of performance management and social support as depicted in Figure 1.

An HR system can be useful in building a context with both performance management and social support by helping to form an organizational system that encourages the attainment of more and more ambitious goals, supporting performance management (Patel et al., 2013). Social support, or the employee relations system, includes attachment, socialization, advancement, and inducement while the performance management system includes job design, workflow, performance appraisal, supervision, and empowerment mechanisms (Kang & Snell, 2009). Researchers taking a behavioral perspective suggest that the value of employees' human capital cannot be realized unless they are willing to use their capabilities to their full extent (Jackson & Schuler, 1995). To encourage employees to do so, organizations must utilize HR practices to enhance employees' intrinsic and extrinsic motivation at work in order to evoke desired work behaviors and discretionary efforts contributing to operational outcomes. Bundling HR practices into a high-performance work system provides organizations the freedom to tailor practices to specific organizational needs. While *individual* HR practices may be geared toward building discipline, stretch, trust, or support alone, it is likely that combining these different sets of practices into an HPWS promotes a context that helps to create an ambidextrous workforce.

There is no consensus in the literature on the best approach to implementing a strong HRM system. Some researchers have suggested that HR practices affect organizational outcomes by

influencing employee role behaviors. Meanwhile, others have adopted more of a human capital and resource-based perspective, focusing on the potential contributions of employees' competencies—that is, their knowledge, skills, and abilities (Jiang et al., 2012). Jiang et al. note that although employees contribute through both their competencies and their actions, researchers have typically focused on only one perspective to understand how HR systems impact organizational outcomes. As a result, Jiang et al. strongly recommend considering multiple perspectives simultaneously which will provide a broader and more complete picture of the relationship between HRM and organizational outcomes.

III.3.5 Contextual Ambidexterity and the A-M-O model of HRM

A theoretical link between CA and human resource management can be strengthened by drawing upon the ability-motivation-opportunity (AMO) model of HRM (Appelbaum, Bailey, & Berg, 2000). The theory states that HR practices contribute to developing employees' by focusing on three domains: abilities (A), motivation (M) and opportunities (O) (Lepak et al., 2006). The fundamental tenet of the AMO model is that people perform best when they have the motivation and when their work environment provides the necessary support and avenues for expression. A major corporate trend today is for firms to innovate in order to achieve a sustainable competitive advantage. However, the focus of corporate innovation should be based on the understanding that organizations themselves do not "perform". Rather, it is individuals who perform in ways that allow the organization to achieve desirable effectiveness and performance outcomes (Lepak, Liao, Chung, & Harden, 2006). As attitudes and behaviors are shared between team members, these individual characteristics will emerge at the organizational level as collective human capital, and only then will constitute a source of competitive advantage and performance (Nyberg, Moliterno, Hale, & Lepak, 2014).

Extending this logic, HR systems designed to deliberately maximize performance management and social support in order to achieve ambidexterity can be viewed as a combination of those practices intended to enhance employee ability, motivation, and opportunity to contribute (Jiang et al., 2012). The AMO framework purports that employees who have the opportunity to participate in HPWS (e.g., decision-making, self-directed teams) and who have the requisite skills and incentives to do so will perform better than those that do not have these attributes (Buller & McEvoy, 2012). Widely-used as a micro-level theoretical framework for examining the HRM–

performance relationship, the AMO model also implies that organizations need to use HR practices in order to recruit and retain talented employees and realize operational and financial objectives (Jiang et al., 2012). Motivation and discretionary effort underlie the association between human resource practices and performance, and are triggered by a strong human resource system (Gittell et al., 2009).

It is therefore useful to conceptualize HR practices as falling into one of three primary dimensions: skill (or ability)-enhancing, motivation-enhancing, and opportunity-enhancing. Skill-enhancing HR practices are designed to ensure appropriately skilled employees and these activities such as comprehensive recruitment, rigorous selection, and extensive training. Ability-enhancing practices include formal selection tests, structured interviews, hiring selectivity, high pay, and training opportunities (Kehoe & Wright, 2013). Jiang et al. (2012) conclude that organizations can increase the benefits of investing in HRM by sharpening their focus on practices that enhance employee skills, such as recruitment, selection, and training. Motivation-enhancing HR practices typically include efforts such as developmental performance management and formal performance evaluation mechanisms, competitive compensation, incentives and rewards based on individual and group performance outcomes, extensive benefits, merit-based promotion and career development, and job security (Jiang et al., 2012; Kehoe & Wright, 2013). Lastly, opportunity-enhancing HR practices are designed to empower employees to use their skills and motivation to achieve organizational objectives. Flexible job design, work teams, formal employee involvement and participation in processes, autonomy in work-related decision-making, and regular communication and information-sharing efforts are generally used to offer these opportunities.

A consistent theme in the literature is the argument that successful human resource management must have the overarching goal of attracting, retaining, and motivating human resources toward the completion of organizational goals by creating a fit between the knowledge, skills, and abilities of a person and the tasks, duties, and responsibilities required by a job (Patel et al., 2013). HR research identifies that high performing human capital is the primary determinant of an organization's productivity and a source of competitive advantage. Human capital is also difficult to replace without significant costs, and not easily imitated by rivals. Consequently, well-staffed organizations are more likely to achieve operational goals such as high productivity and quality, great service, and innovation (Jiang et al., 2012).

III.4 Summary

Ambidexterity is desirable for many organizations in order to simultaneously discover new directions for innovation while maintaining the development of established successful trajectories. The traditional approach of structural ambidexterity has largely given way to CA, which is considered to be a superior method. Research focused on promoting ambidexterity from a human resource management perspective supports the 4-factor “discipline, stretch, support, trust” foundation for successful ambidextrous environments. In turn, this suggests the value of Ability – Motivation – Opportunity theory for its potential explanatory power to understand the influences of these factors at a deeper level.

Most theories regarding ambidexterity assume that organizations are large enough to allocate sufficient resources to creating and maintaining an ambidextrous environment. However, the ideal route for small businesses with fewer resources to pursue ambidexterity requires more attention. How can small technology solution providers build CA through the implementation of HPWS? This study evaluates a small solution provider’s attempts to build CA through implementing a high-performance work system implementation over time. Furthermore, this study focuses on understanding both how to achieve CA in small businesses, and how human resource practices might facilitate this achievement. We turn now to a description of the methodology used in this case study.

IV METHOD

IV.1 Research Design

Myers (2009) explains that understanding context is a key benefit of using a qualitative case study as adopted in this study. The scope of this case study is the process undertaken by the subject of the study, CloudCo, in pursuing the development of an ambidextrous environment. The events related to this endeavor took place from January 2004 through January 2015 within all levels of CloudCo, including executive management, site managers, and line employees so our data collection will focus on this context.

A combination of CA and HPWS (Gibson & Birkinshaw, 2004; Patel et al., 2013) are used as a framework to examine the process of building CA in a small technology consultancy. Based on Gibson and Birkinshaw's description of organizational ambidexterity, we integrate existing theories of CA with practices of HPWS. Previous research has established a theoretical framework of four key antecedents of ambidexterity which affect employee behavior to produce ambidexterity. This study explores the temporal building of CA in a small business setting and the creation of such antecedents through a variety of actions taken by executive management, onsite project managers, and line staff of the organization.

As a case study, this research examines contemporary events for which the researcher may or may not be able to manipulate relevant behaviors. Yin (2003), described the case study as a viable option for engaged scholars who can exercise control. As Yin (1981, 2003) points out, in situations when "how or "why" questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context, a case study approach may be the preferred research method. As a case study of organizational processes, this research has the advantages of face validity (a real, contemporary situation which other researchers or organizations can identify with or may be facing), "retain[ing] the holistic and meaningful characteristics of real-life events" (Yin, 2003), and allowing the researcher to investigate complex human interactions. It necessarily also has the usual disadvantages of case studies, including problems of access, control, relevant focus, and time required (Myers, 2009: 80-82). However, these are mitigated through engaged scholarship, since the researcher has access, control, and a focus on producing results (both scholarly and practical) in a timely manner.

In studying this “how” question, this research is designed as a process study, considering process as a developmental event sequence (Van de Ven, 2007, pp. 196-197). As such, its central focus is on the progressions (nature, sequence, and order) of activities or events that an organization undergoes rather than on a category of concepts primarily concerned with variables. Traditional approaches to researching ambidexterity have situated it as the consequence of certain prerequisite factors, rather than the result of an ongoing process. Given the timeline of this case study, it will become evident through the data analysis whether a discrete ambidextrous state was reached immediately upon completion of its antecedents, or whether it developed more slowly over time -- suggesting a more nuanced and continuous process at work. The previous literature on CA has implied a discrete cause-effect series of stages, but has yet to make clear whether the real-world implementation of such a strategy would in fact allow for a more gradual or even haphazard transition.

As a retrospective study, this analysis provides the advantage of already being aware of the “big picture;” how events ultimately developed and the outcomes that resulted. This post hoc knowledge is helpful in interpreting events and constructing a narrative, since unlike real-time observations a retrospective study incorporates afterthought concerning critical events that the researcher may see more easily than if trying to identify such events as the process unfolds. Unfortunately, retrospective approaches may create certain biases, events may be filtered out that do not fit, or minority views may be censored (Van de Ven, 2007, p. 208). Where possible, we triangulate interviewee responses against each other, and against other data sources to lessen bias and improve reliability.

Lastly, to increase its relevance to real-world practice, the pluralistic methodology of engaged scholarship is employed (Van de Ven, 2007; Van de Ven & Poole, 1995). This is a participative approach which requires obtaining the perspectives of various stakeholders in order to understand complex problems (Van de Ven, 2007, p. 9). More specifically, this particular engaged scholarship study uses an informed basic research approach, in which advice and feedback is solicited from various key stakeholders and informants such as board members, employees, managers, lab participants, prospective employees and other researchers in each step of the research process: design, theory-building, problem solving, and problem formulation.

As engaged scholarship, this research adopts a realist philosophy of science, described by Van de Ven (2007) as a philosophical movement contending that there is a real world existing

independently of our attempts to know it; that we humans can have knowledge of that world; and that the validity of our knowledge is, at least in part, determined by the way the world is. Realism as a philosophical position is partly metaphysical and partly empirical. Reality transcends observed experience, but is approachable through research methods. Since the key researcher is the company owner and a key stakeholder, he will be included as an engaged participant observer.

IV.1.1 Research site

The subject of this research is a small privately-held technology consulting company in the northeastern United States. Interview data is used to establish antecedents to various elements of ambidexterity, as well as changes that have occurred over time. This study is analyzed at the organizational level. In contrast to structural ambidexterity, CA can be studied at multiple levels of analysis. CA generally plays out in real-world organizations at an individual level (Birkinshaw & Gibson, 2004). However, CA can also be viewed primarily as an organizational phenomenon; that is, the supporting processes, norms, and support structures are what ultimately cause individuals to act in an ambidextrous way. Thus, one can argue that CA is best studied at the organizational level.

Although the researcher is in control and directs all research activities, advice and feedback is solicited from various key stakeholders and informants such as board members, managers, and other researchers in each step of the research process including research design, theory building, problem solving, and problem formulation (Van de Ven, 2007). The research follows data analysis procedures and display methods suggested by Miles and Huberman (1994) for qualitative case studies, using three concurrent flows of activity: data reduction, data display, and conclusion drawing and verification.

Through a variety of data collection methods, the researcher closely examines the creation of exploratory processes over time in a single technology management consulting firm, CloudCo, whose executive management desires to significantly increase its competitive advantage. This business is chosen because its profile is similar in nature to many small businesses throughout the United States. To deepen understanding and to help achieve satisfactory validity, the researcher draws on data from several sources gathered using different methods, including formal interviews with stakeholders, analysis of email correspondence, observations of advisory board and management meetings, and review of archival documents. A

retrospective approach is used in order to gain an in-depth understanding of how levels of ambidexterity have changed since CloudCo's founding in August 2003.

Initially, the company involved four partners who possessed a common technical and functional background in Enterprise Resource Planning (ERP) systems. Within 18 months of startup, two partners left the firm to pursue other interests, and the remaining two immediately brought in another partner who focused on the Higher Education marketplace. Upon recognizing their desire to focus on the Washington D.C. target market, the Higher Education partner left the company to pursue other interests. These rapid changes make it clear that within 3 years of startup, CloudCo had experienced tremendous uncertainty, lack of a shared vision, and professional turmoil.

The two remaining partners agreed to maintain a strict business relationship at an equal 50% ownership stake under the existing corporate entity. This relationship was characterized by a sole focus on individual partner financial accomplishments with little consideration of the company as a whole. Each partner retained 100% of their customer billable hours and no investment dollars were retained in the company. By the end of 2009, one partner aspired to create a more robust company instead of a loosely-coupled partnership. That partner bought out 1% of the ownership stake and became the CEO in March of 2010. Growth ensued over the next 30 months and the company doubled in size and added a higher level of complexity. In late 2012, the CEO began focusing on the management of that complexity in an effort to prepare for another period of firm growth. The simultaneous activity associated with both exploitation and exploration became the subject of corporate analysis, leading to the creation of the Solutions Optimization and Innovation Lab (SOIL™) in late 2013 to institutionalize practices necessary to ensure the continuing balance of exploitation and exploration in CloudCo.

IV.2 Data Collection

The data for this research consists of three primary sources: 1) existing employee and management interview data from an earlier study on the analysis of CloudCo's efforts to improve performance through strategic planning, while sustaining current business performance; 2) semi-structured interviews with key personnel, senior project managers, corporate executives, and other key employees; and 3) historical content of participant-observer focused on understanding CloudCo's organizational context. Since the primary researcher is the owner of the company, all

interviews were conducted by an independent, third-party interviewer, working with formal, semi-structured interview scripts in interviews with executive management, staff employees, onsite project managers, and line staff. Having a third party involved in data collection ensured that employees did not feel pressured to cooperate through the employer/employee relationship. The interview data was sanitized of all identifying data for confidentiality of the data source. Archival documents such as website information, emails, presentations, budgets, and meeting minutes were reviewed as part of the database. To organize and document data and increase the reliability of the information by maintaining a chain of evidence, the researcher used NVivo 9.1 software (NVivo qualitative data analysis software; QSR International Pty Ltd. Version 10, 2014) with the collected data coded as detailed in Table 3-6 below.

IV.3 Semi-structured interviews

The interview was conducted in a manner conducive to recall over a period of as little as 6 months to a period of 12 years, given the tenure of the interviewee. The semi-structured interviews were centered on the primary antecedents of ambidexterity to determine the degree to which ambidexterity was achieved at CloudCo and the specific forms and characteristics of ambidexterity that were present. During the course of the semi-structured interviews their format changed slightly to allow for a deeper understanding of emerging trends and themes (Eisenhardt, 1989).

The main targets for the semi-structured interviews were members of CloudCo's executive team and employees. A total of fifteen interviews were conducted with each lasting approximately 30 minutes. The interviews were primarily conducted face to face, with one conducted over the phone. Each interview was recorded in audio format and transcribed. Eight of the interviewees were longer-term (2+ years) CloudCo employees and thus able to give both a medium-term historical perspective as well as a current perspective. Three of the interviewees were long-term employees/consultants (4+ years) and able to give a long-term historical perspective along with a current perspective. The absence of an interviewee from the human resource department might seem peculiar. At the time of the interviews, the company was conducting a search for a new human resource professional.

Figure 2 indicates the specific individuals who were selected for interviews, highlighted in green.

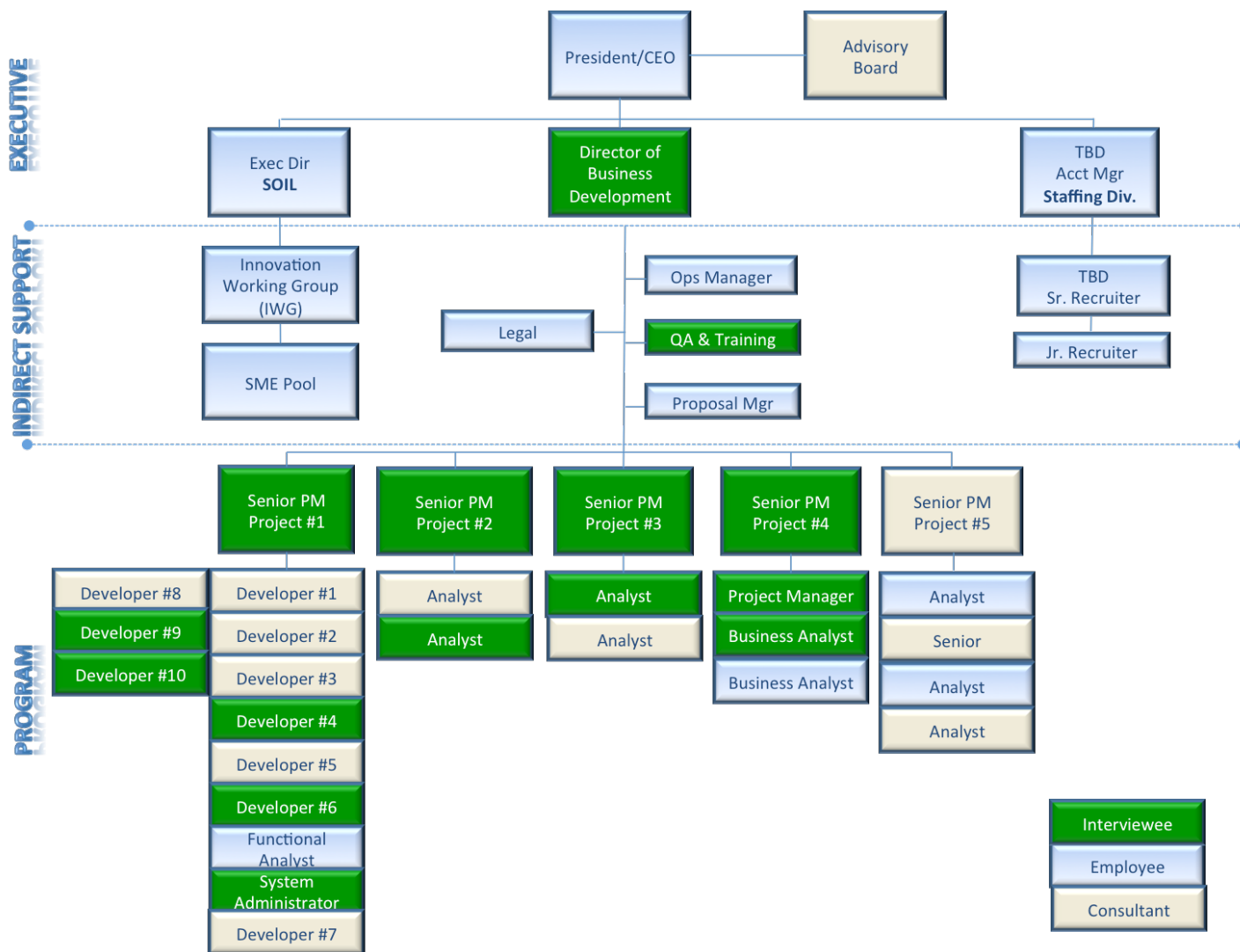


Figure 2 - CloudCo Interviewees

Finally, Table 3 provides a list of each role and interviewee tenure with CloudCo.

Table 2 - Participant Titles and Organizational Roles

Role Description	Interviewee
Senior Project Manager – Project #1	12 years
Senior Project Manager – Project #2	2 years
Senior Project Manager – Project #3	2 years
Senior Project Manager – Project #4	12 years
Project Manager - Project #3	2 years
Business Analyst – Project #3	2.5 years
Analyst – Project #2	1 year
Analyst – Project #3	3 years
Technical Developer #4 – Project #1	4 years
Technical Developer #6 – Project #1	4 years
Technical Developer #9 – Project #1	4 years
Technical Developer #10 – Project #1	4 years
Systems Administrator – Project #1	4 years
Systems Administrator #2 – Project #1	4 years
QA & Training	6 months
Director of Business Development	1.5 years

IV.4 Data Analysis

The role of the researcher in this process of data analysis is to understand the possibilities that the data can reveal. Thematic analysis with constant comparison is used to interpret the transcribed text, and the human actions and situations that were observed during data collection.

As described in Braun and Clarke (2006), there are six phases to conducting thematic analysis, which consist of (1) becoming familiar with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and finally (6) producing the report. In the first phase of thematic analysis, the researcher read all of the interviews several times to establish an overall understanding. In the second phase, the researcher read the transcribed texts of the interviews to generate initial codes and extract significant statements. In phase three, the researcher formulated those significant statements into clustered themes. In phase four, the researcher reviewed the themes by referring back to the initial text and, if necessary, created diagrams that illustrate relationships between concepts. In phase five, the researcher further defined and named the themes by identifying recurring concepts and topics, reflecting on common meanings, and identifying emergent relationships. In the final phase, the researcher produces the analysis report by presenting a final synthesis of themes and motifs that emerge from the narrative data (Kostere & Percy, 2008; Braun & Clarke, 2006). Through examining the relationships between the codes in the context of the research question, the research literature, and the goals of the company to become more contextually ambidextrous, the narrative used to portray the findings emerged.

As part of phase three, the researcher leveraged the major themes within both theoretical frameworks; CA and A-M-O model of HPWS. This gave the researcher an initial coding structure that integrated discipline, stretch, support, and trust with ability-enhancing, motivation-enhancing, and opportunity-enhancing activities within an HPWS. This formed the following initial matrix:

Table 3 - Initial Coding Matrix

CA Characteristic	HPWS Characteristic
Discipline	Ability-enhancing
	Motivation-enhancing
	Opportunity- Enhancing
Stretch	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing
Support	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing

Trust	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing

Following the initial review of the interview data, themes began to emerge and formed a narrative related to barriers associated with achieving CA over time. These barriers began to shape the overall findings. In order to analyze these barriers further, another round of coding was completed on the interview data from those interviewees whose tenure was greater than 3 years. A review of this data would establish a deeper historical context and the temporality of becoming contextually ambidextrous over time. As this round of coding was initiated the second round of coding established the following hierarchy:

Table 4 - Second Round Coding Matrix

CA Characteristic	HPWS Characteristic
Discipline	Ability-enhancing
	Motivation-enhancing
	Opportunity- Enhancing
Stretch	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing
Support	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing
Trust	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing
Other Contributions	Philosophical Alignment
	Site Dynamics

This second round of coding led to more focus on the “tensions” associated with becoming contextually ambidextrous. Competing agendas, lack of trust, site dynamics and philosophical alignment began to transform into three primary areas of tension that played a significant role in the process of CloudCo becoming contextually ambidextrous. The final coding scheme is explained exhibited in the following table:

Table 5 - Final Coding Matrix

CA Characteristic	HPWS Characteristic
Discipline	Ability-enhancing
	Motivation-enhancing
	Opportunity- Enhancing
Stretch	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing
Support	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing
Trust	Ability-enhancing
	Motivation-enhancing
	Opportunity-enhancing
Tension	Intrapersonal Tension
	Interpersonal Tension
	Operating Tension

There were instances where data was focused primarily on the site dynamics including the detailed technical work. Several CloudCo interviewees possessed deep technical expertise but were unable to articulate much depth regarding the antecedents of CA and HPWS within the CloudCo environment. Those technical discussions were curtailed as much as possible and redirected to the practices that CloudCo implemented in order to become contextually ambidextrous. Useful data was retained and non-useful data was discarded. Some examples of useful data include responses that exhibited tension associated with client site dynamics which was coded to *operating tension*. Another example of useful data included responses and participant-observer data associated with lack of shared vision which was coded into *interpersonal tension*. Examples of non-useful data included explanations of the technical details of the project tasks. Unless these details led to some phenomenon coinciding with CA and HPWS, it was discarded.

IV.4.1 Special considerations

The author of this paper was the Co-Founder and current CEO of CloudCo during the full course of this research study. This insider knowledge presents both opportunities for a deeper understanding of the company context, as well as challenges in the form of bias (Van de Ven,

2007). This keen understanding of the desired strategic direction, enabled the author to identify and delve more deeply into those issues than a typical external researcher. On the other hand, any time a researcher is embedded within an organization for a long period of time, the chance of unintentional bias increases. The author employed several mitigation strategies to account for this potential bias:

1. Using multiple sources of objective data to triangulate and reinforce conclusions that were reached during analysis of the subjective data (Myers, 2009:10-12; Miles & Huberman, 1984: 266-267).
2. Using his dissertation advisor as an independent and unbiased sounding board to validate both data collection and analysis strategies (Yin, 2009: 72).
3. Reminding each interview participant to attempt to the best of their ability to treat the author as though he was not a CloudCo employee and did not have any prior knowledge (Miles & Huberman, 1984: 266). In addition, a 3rd party interviewer was used, who anonymized the data before any analysis was conducted.

V RESULTS

The focus of this research was on the process of development of CA through the implementation of a HPWS. The findings will be presented in three parts. First, a descriptive account of the antecedents of CA as they were observed in context will be presented. Second, the emergent themes from the data will be described as they pertain to the ongoing process of CloudCo’s movement toward CA. This temporal description will link key events, experiences, and sentiments to an overarching tension between exploitation (alignment) and exploration (adaptability). The theoretical tenets of HPWS and AMO exemplified in the data will be used to define this tension while several sub-tensions that served to buoy the alignment vs. adaptability balance will be presented to show how CloudCo struggled to create its envisioned CA identity. Finally, this section aims to identify how and when such tensions were resolved. This includes observations as a participatory researcher and executive leader of CloudCo and the implications this evolution has on the future stewardship of CA for the company.

V.1 Capacity for Contextual Ambidexterity and HPWS in Context

In the CA and HPWS literature, several antecedents are characterized that indicate the presence of these concepts in practice. The study data was subsequently coded (Table 6) in accordance with this theoretical framework.

Table 6 - Coding Matrix

CA Characteristic	HPWS Characteristic	Sources	Instances
Discipline	Ability-enhancing	8	24
	Motivation-enhancing	10	25
	Opportunity- Enhancing	10	26
Stretch	Ability-enhancing	15	51
	Motivation-enhancing	14	70
	Opportunity-enhancing	13	73
Support	Ability-enhancing	15	83
	Motivation-enhancing	15	198
	Opportunity-enhancing	14	110
Trust	Ability-enhancing	12	33
	Motivation-enhancing	14	122
	Opportunity-enhancing	15	73

Other Contributions	Philosophical Alignment	2	8
	Site Dynamics	5	10
	Lack of Trust Tension	2	7
Tension	Interpersonal Tension	4	14
	Intrapersonal Tension	7	11
	Operating Tension	9	13

The data analysis revealed CloudCo’s inconsistent application of the HPWS activities associated with the A-M-O model resulting in both positive and negative feedback from interview participants. However, the pool of interviewees were able to articulate at least one instance where discipline, stretch, support, or trust were recognized. As expected, there were some interviewees who responded negatively to the presence of these antecedents. Throughout the areas of ability-enhancing, opportunity-enhancing, and motivation-enhancing, there were some events that cut across all antecedents. These include goal-setting and the importance of consistent communication. The following shows key exemplars of each AMO characteristic as they occurred in the daily life of CloudCo employees.

V.1.1 Ability-Enhancing Activities

A recurring theme in the data was the fact that training and the latest tools were always available. However, these ability-enhancing activities were seldom used and/or pursued as part of daily execution of the job. Onsite personnel recognized the importance of the current work and spent the vast majority of their time delivering only those items contained in the statement of work (SOW). The SOW represents the precise deliverables expected throughout the contract period of performance. These deliverables have acceptable quality levels and represent the degree to which CloudCo executed the project successfully. The capabilities of the onsite personnel are paramount to successful project execution. The following indicates what one onsite employee describes as the relative position of ability-enhancing activities for those carrying out disciplined project execution:

They have online tools that you can take advantage of to assist you with your work. They’ve made announcements about it at team meetings. And if there’s a certain application that you’re working with that you may not be familiar with, they usually have made that

application available through some kind of cloud service. So they make these resources available. – Technical Developer

As a small technology solution provider, most of CloudCo's personnel background is technical in nature. Therefore, technical training is a primary driver of ability-enhancing activity in a technical environment. Although there is a tendency for technical resources to focus strictly on the technical task at hand, which contributes to *discipline*, they recognize that training is very important and that CloudCo offers that ability-enhancing activity.

I think CloudCo absolutely supports that, or else they wouldn't encourage us to get more training. To set professional development goals for ourselves so that we can increase our marketability. I think CloudCo absolutely supports us in that way. – Business Analyst

Although personnel mobility could be considered in both opportunity-enhancing as well as ability-enhancing, it's clear that CloudCo enables its personnel the flexibility to move around to different projects to enhance their skillset. As the lifeblood of a professional services firm remains its human resources, CloudCo ensures that regular performance reviews are conducted to ensure that the goals of the corporation are aligned with the professional goals of the individual. This alignment engenders trust and support:

We've had a performance review after I initially started where we laid out some goals and basically the company was open to whatever I would define as my path. So if I wanted to pursue certain goals, that was the time at which we sat down and discussed what they would be and if I wanted to go forward with some plans then we could work together to do that. So the opportunities have been offered. – Business Analyst

Many of CloudCo's resources were given the opportunity to enhance their knowledge, skills, and abilities as a result of the support mechanisms offered. It was also interesting that some took far more advantage of these resources than others. Employees seemed to leverage the opportunities much more than contractors. At every level of the organization, it was clear that support was offered to enhance abilities.

I think (the CEO) does a good job providing the tools necessary for you to do your job and do it successfully. They support you by giving you the points as well as giving again the

software and technology in order to do your job in today's fast-paced environment, which you really need. – Senior Project Manager

V.1.2 Motivation-Enhancing Activities

Although CloudCo seems to exceed the typical motivation-enhancing activities such as compensation, benefits, and incentive rewards, onsite client dynamics play a relatively significant role in the areas of job security and career development. The compensation seems adequate enough to override the negative effects of general client neglect and lack of positive client communication. Regarding compensation, a resource said:

I am very well compensated. It's above market, and I have no concerns about it. And bonuses are amazing. You have individual bonuses and you have team bonuses. So if you bring something to the table, it benefits you as well as the whole team. So not only is it my project, it's me, it's everybody on my project. – Senior Project Manager

However, site dynamics matter. Although CloudCo does a meaningful job at the corporate level, the political environment of the client site seems to decrease the effect of the motivation that is enabled by above-average compensation. For instance, below are quotes from two different client sites that exhibit the stark difference in motivation-enhancing activities from the site. One manager exclaims:

The branch manager gives everybody Thanksgiving cards instead of Christmas cards. For like the last 3 years we've been there, he's like, "I just can't remember the last time that I've worked with such a professional organization that stays on top of what's going on in the industry and always bringing new ideas and better ways to solve the problems that we have". – Senior Project Manager

[Senior Project Manager] works extremely hard to try to get the customer to once again adapt in a bigger way to make themselves more relevant. However, they don't always follow his recommendations, which lead to a lot more stress just because us as a company inside of this difficult client, we're not getting the support that we need. – Technical Developer

There are clearly some resources that do not feel the presence of corporate CloudCo initiatives at the client site. However, among the respondents, the majority believe that the company provides an avenue for motivation-enhancing activities that allow them to stretch beyond the minimum acceptable standard.

Motivation in the context of *discipline* explores CloudCo's capacity to motivate its employees while meeting their organizational commitments. One of the first noticeable elements of the motivation of both employees and contractors was that they believed they were compensated very well. Compensation was never mentioned as a demotivator among any of the four antecedents of CA. There was, however, a temporal nature to the formality and effectiveness of the performance evaluation. One manager put it this way:

We needed the structure and discipline but not as formal. So we do have a formal review process now. I think it was about 3-4 years ago, where we have the initial at the beginning of the year, and then we have the interim, and then we have the final review for their performance at the end of the year. – Senior Project Manager

CloudCo management recognized the need for its employees, specifically the onsite employees, to maintain focus on daily tasks and limit their distractions. Swift problem resolution is paramount to maintaining *discipline*, enabling *stretch* and exhibiting *support*. Regarding problem resolution, a Business Analyst gave a great example:

We're all issued CloudCo laptops. I've had mine for over 2 years now. And for the past, I want to say at least 6 months I've been experiencing issues with it. It got to the point where I couldn't do my job. And it was very difficult. And I'll tell you, I sent [the CEO and the Director of Operations] an email. I sent them an email on Wednesday. By Friday, they responded and told me that my new laptop was available, and that I could come pick it up. And that, that, I'm telling you that support means the world. – Business Analyst

Effective communication has been important for CloudCo's success because the majority of its time is spent in a client-facing role. In addition, corporate communication to the staff is imperative in order to ensure the overall communication level of the organization. When all members of a team, department, or organization are able to communicate effectively with each

other and with people outside their group, they are much more likely to perform well. CloudCo, therefore, needs effective communication skills. Regarding communication, a resource said:

Oh absolutely. I think [the CEO] communicates that both verbally and in writing and in emails to the employees all the time. You know, when we say, when we address the employees for anything, for benefits, compensation or anything I mean it's always said in a stance if you have any suggestions or recommendations, feel free to let us know. And keep it kind of open-ended. – Director of Operations

V.1.3 Opportunity-Enhancing Activities

Opportunities seemed to be prevalent in CloudCo. From flexible job design, work teams, and autonomy, CloudCo has ensured that its employees and contractors still recognize opportunities as part of carrying out the discipline of onsite work. CloudCo gives their human resources the opportunity to be heard and to effect change in the organization. Employees also have the opportunity to share information for the mutual benefit of the employee and the company. As mentioned earlier, this is certainly site-driven as reflected in the following excerpt:

We actually had one opportunity come up that was a positive opportunity. I went through our chain of command. And he got [CEO Name and Director of Operations name]. They were very responsive, very professional, they responded quickly. It really demonstrated that everything worked fluidly in terms of the ability to reach out to upper management at the moment of opportunity and then upper management responded appropriately and we did everything in a good way. – Business Analyst

One item of note is that the industry environment plays a very significant role in CloudCo's resources' ability to stretch. The CloudCo environment is unique in that there are often strict limitations to the amount of flexibility that employees can wield while delivering against the SOW. The SOW deliverables override all attempts to stretch employee behavior through the opportunities that manifest during project execution. The *stretch* antecedent is therefore constrained by the SOW in most instances. CloudCo clients are primarily public sector clients which include federal, state, and local government. CloudCo employees must monitor themselves accordingly as evidenced by this sentiment:

The best we can do is instill trust in our client. If they assign a task to us, we can get it done. They don't want to get egg on their face. They're in a high-stress environment, and need to rely on our ability to perform for them. They're risk averse. They want known solutions. – Business Analyst

Although CloudCo resources encounter this restriction, its leadership seems to have found ways of adding value to their onsite projects by leveraging non-standard resources within the company. Not only do the resources find ways to *stretch* to add more project value but they take pride in that expertise and the availability of such a corporate resource:

SOIL is the perfect example of that. I was able to tap into that CloudCo service and the ability I have in the company in order to develop a solution that we did not have the expertise on site to do. And also to show the customer that we have the ability to develop, I'll call it innovative solutions, to a problem they have that they couldn't do themselves. – Senior Project Manager

As with most organizations, the tone is set at the executive level. If executive management expects its employees to monitor the landscape for opportunity, it has to ensure that the corporate environment is conducive to the *stretch* associated with that effort. Perhaps most interesting, CloudCo resources seem to believe that its management is goal-oriented and that the *discipline* being exhibited onsite is in alignment with the organization as a whole:

This business, particularly when you're with the government, it's all about your qualifications. And the more qualifications you have, the more people you talk to, the more contracts you get, the more you continue to grow. – Senior Project Manager

Opportunity enhancement is also exhibited through social gatherings where ideas are discussed and analyzed. As a result of those conversations, opportunities flourish to explore new areas of growth with new personnel. Although communication cuts across all three performance-enhancing categories, CloudCo management considers communication most important in the opportunity-enhancing activity area. Consistent communications with staff enable the exchange of ideas with someone who can actually affect change. One CloudCo analyst said:

I've received a promotion each year I've been here. I'm currently an analyst and I'd like to step out of that role. And I've had a few conversations with [the CEO]. He's very supportive about transitioning me out of that into a lot of things that Offspring is currently working on. He's got several things in the works and he's assured me that he's taking me into consideration for those opportunities, which I appreciate. – Business Analyst

Within the AMO model of HPWS, it is clear that each bundle of activities has an effect on the achievement of CA. However, the tensions associated with the continuous effort to strive for this balance was a key result of this case study.

V.2 Contextual Ambidexterity as Tension

The previous sections show many examples of how CA manifested itself in the daily life of CloudCo through a series of participants' retrospective accounts of A-M-O activities. Although this data showed the capacity for CA through its HPWS efforts, these accounts do not provide deep insight into the process of CloudCo's becoming a CA organization. The data suggests that CloudCo had embodied the antecedents of CA; discipline, stretch, trust, and support and were evident through its high performance work system. However, at the organizational level, the process of establishing and maintaining CA over time was observable through dynamic tension between the competing demands that ambidexterity poses. This section identifies those tensions and the key events which led to their increase or resolution.

V.2.1 Tension between adaptability and alignment

The literature makes several key remarks regarding establishing a CA identity. Gibson and Birkinshaw (2004) posit that ambidexterity is developed by building a business-unit context that encourages individuals to make their own judgments as to how best divide their time between the conflicting demands for alignment and adaptability. In other words, organizations pursuing behavioral forms of ambidexterity must put in place practices that work to develop resource flexibility in their employee base, so that human resources have the discretion and motivation to devote their efforts to activities associated with both exploitation and exploration.

CA requires the embodiment of both strategies by its stewards. As such, the ambition of an organization to become ambidextrous without using structural methods to do so means that this

struggle can become a part of an employees lived experience. The following reviews the observed tensions in participant reflection about CA in the workplace. This will subsequently be contextualized further by outlining the key events in the company's history that either created, maintained, or alleviated such tensions. This will allow for a procedural account of CloudCo's journey to achieving CA through the participatory perspective of the CloudCo CEO.

Interpersonal tension. Interpersonal tension reflects a lack of balance in CA values between two individuals. There were several allusions that a lack of shared vision led to tension between two people. This Business Analyst identifies how her tension between colleagues and company leadership stemmed from a lack of support and trust. Below, the Business Analyst notes how interpersonal tension may have existed prior to certain organizational changes.

When the contract first started, [laughter] there were difficulties with the staff that were on board. And [the CEO] jumped right in there. He did what he had to do to make sure that the staff, the competent ones were well supported and got the help that they needed. And I appreciated that about him. All I had to do was make one phone call and [the CEO] jumped right on it. His credibility with me just jumped through the roof. – Business Analyst

Over time, there were interpersonal tensions at many levels. These include tensions between 1) owners and project managers, 2) executive management and project managers, 3) executive management and clients, and 4) project managers and clients. Each of these tensions represent a barrier to achieving CA.

Intrapersonal tension. Intrapersonal tension is different from interpersonal tension in that it reveals itself in personal feeling of imbalance across the two competing elements of CA. This form of tension appeared to be coupled with an acknowledgement of the company's strategic values for explorative initiative while performing in exploitive ways. For instance, the Project Manager below explains how easily it can be to be drawn toward exploitation without the appropriate support, through rewards, for exploration.

I have definitely been rewarded. But there's no formal process I can say, oh gosh, if I do this, then, if I meet this goal, then, you don't know of that. But I definitely think CloudCo is such a generous company. – Project Manager

The inner-conflict of the Project Manager shows how an instance of inconsistency in their motivation-enhancing strategy created doubt in whether her future exploitive efforts are valued.

The Administrative Assistant below exemplified intrapersonal tension as a new employee. She shows how a lack of company experience can lead to seeking alignment with its current practices. This general posture exhibits a lack of trust and support that must be established over time.

I still feel very much like a new employee. And I think a lot of that is I've worked remotely in my previous position. I'm still working remotely now, and I will be on site, but I think that I don't have that sense of interpersonal relationships. And I'm hoping, I anticipate that will change, again, once I'm in the office full time. – Administrative Assistant

For this participant, it appeared that the early stages of employment were important to learn what was expected. In this sense, through discussing belongingness, there was a willingness to align themselves with the values of CloudCo but they looked to others as models to how to act.

The Administrative Assistants' intrapersonal tension was supported by another participant. One Business Analyst showed that employees are willing to embody the strategic vision of the company but must understand the executive vision. Executive communication plays a significant role in this endeavour.

At one point it was a little bleak. Although I loved the company and I loved everything that [the CEO] represented, I just didn't know what was going on. And it was so quiet. We hadn't, at one point we hadn't communicated with headquarters. So it was just us, the contractors and [the Client]. So at one point I didn't feel like I was a part of a larger mission. But I do now. – Business Analyst

The Business Analyst sensed a lack of focus that she found confusing and demotivating. This lack of focus can lead to a lack of discipline, stretch, support, and trust which clearly serves as an obstacle to CA. Importantly, she revealed how this tension was eventually resolved by better communication from leadership.

Meanwhile, a few participants showed a general unwillingness to be a CA employee. That is, there were instances where employees shared that they preferred to act independently from the strategic vision of the company. This employee cohort usually had a longer tenure with the company and more years of professional experience. A clear example of this was offered by the following Technical Developer:

Just do your job. Don't involve me in all the discussions. But they give importance to opinions like whatever I say. So that feels good, actually. Someone is listening to what I feel. – Technical Developer

Although the technical developer felt supported in his work, his tension surfaced between the explorative discussions of leadership and the exploitive nature of his work. His work was biased towards alignment and he showed some frustration with discussions about adaptability as he deemed them irrelevant to his role in the company.

Operating tension. The third category of tension related to company operations. Operating tension is represented in the infrastructure, systems, and strategies that do not fit with a CA identity. As a result, the company continuously faces fundamental struggles which prevented it from fulfilling its exploitive ideals.

There were numerous instances of tension emerging through company operations. As with most small businesses, attention has to be given to the daily billable activities. Small businesses are particularly sensitive to this phenomenon since their very existence depends on their ability to complete the daily tasks to the customers' satisfaction. This creates a significant tension between a strategic vision and its daily execution. For example, this Senior Project Manager identified how certain procedures kept him in alignment and created dissonance between company performance and the aspirations to be CA.

As we grew and got more staff to assist with that, it's become easier. There's less, like some of those administrative tasks, like compiling the invoices, the status reports and things like that. And similarly when contract things need to be written up, we're at a point now where I don't have to write everything. I obviously provide content, but I can do that and somebody else will edit it and merge it with everything else. Again, those are huge

time savings and process improvements. [The CEO] drove those things because he saw the need, not only here but in the other sites. – Senior Project Manager

An Administrative Assistant alluded that the challenge of becoming CA might be in how employees sometimes have to be more generalist in younger, smaller companies, and, in particular, those that are contract-driven. More poignantly, this Senior Project Manager identified this operating tension from a wider perspective. He explained:

What we're trying to do as a company is build a strong culture. And as a small company that's focused on professional services, the tendency is to be a body shop. And as employees come and they stay less than 2 years, their contract ends, and they have to move on to another company in order to find work. That is kind of the typical mode for most of the consulting companies, especially the smaller ones that cannot afford a bench. So we're trying to build a culture where employees are in it for the long term. – Senior Project Manager

The challenge that this Senior Project Manager alludes to lies in how contracting is fundamentally biased toward exploitation whereby the contractors have less support, which hampers discipline and diminishes focus on exploration and adaptability.

Another strong operating tension was observed in the relationships contractors formed with the clients. Earlier, a Senior Project Manager referred to CloudCo as a possible “body shop”. Similarly, this Senior Project Manager identifies how the geographical distance between CloudCo leadership staff and client sites creates operational tension in maintaining an overall CA focus:

We're like in this island over here up in [1st state name]. So we don't interact with the folks down in [2nd state name] or [3rd state name] that often. Just maybe at a happy hour during the year or the Christmas party. I don't know that there's any specific awards given out or anything like that. I mean, we haven't been as good about getting those kind of things in place as we probably should. So I think we're getting there. I don't think we're 100% there yet. – Senior Project Manager

In essence, CloudCo employees and contractors seem to think differently about corporate relations. Contractors generally recognize work defined by particular deliverables and client satisfaction where the client is not necessarily the company they subcontract with. Generally, in doing business with the federal government, there is an unwritten rule where both employees and subcontractors ensure that they are accepted and liked by the client themselves. The relationship with the prime contractor company, although cordial, is not always the primary goal of the employee/subcontractor.

However, prime contractors must continuously monitor the relationship between its employees and subcontractors to ensure that there is low-risk of so-called “going native”. “Going native” is where the employee/subcontractor chooses to support the end client to a greater degree than they support the prime contractor. This phenomenon makes it critically important that the position most responsible for corporate success, the Project Manager, is a champion and loyalist of the prime contractor organization. One Senior Project Manager described in the following way:

I felt confident in what I saw from where (CEO name) wanted to take the company. His statements and his actions were aligned with what I thought for me a prime example of a great place to work for where everything was aligned - business strategy, execution, the commitment to develop people. And I worked in several small companies. (CEO name) showed the openness and the interest and the ability to make transformations. Because it was also an investment in my long-term future, because I wanted to go back, work back in a company that had that ethos, that corporate culture. – Senior Project Manager

Again, the environment does play a part in CloudCo’s ability to enhance the abilities of its staff as part of Support.

I think that’s the hard part in government contracting specifically. And I worked in the commercial space as well, which is different. Because in the government contracting world, a lot of employees are on site direct employees. And it’s a little bit harder to recognize those employees because you don’t see exactly what they’re doing. You hear what they’re doing and you can see documents as far as tasks are done on time and projects are done on time and things like that. But you don’t get the overall sense, because you’re not on site with

them, as if the employee was working next door to you in the office. So I think there are some challenges. – Senior Project Manager

The operating tensions were the most pervasive for CloudCo. The fundamental daily practices that are difficult to rapidly change proved to be a consistent creator of the overall tension in developing and maintaining a CA identity. However, they were perhaps most notable due to their availability in the data. It is easy for participants to identify the structures, strategies, and protocols that tend to divide focus between exploitive and explorative efforts. Meanwhile, divulging the intrapersonal and interpersonal tensions are more delicate in nature. So while the overarching CA tension could be heavily explained by CloudCo's operating tensions, as the next section will reveal, the importance of interpersonal tension between differing workplace values should not be discounted.

V.3 Evolution of Tension

The previous sections showed how the antecedents of CA revealed themselves in the daily work of CloudCo. The different types of emergent tensions were also described, indicating that the development and maintenance of a CA identity could be described as a negotiation of the balance between exploitive and explorative needs and values. Participant's comments were taken as evidence of discipline, stretch, support, and trust as key factors in the proliferation of these tensions. However, participant accounts do not clearly show the ongoing struggle for CA as a process. This is the result of the lack of executive broadcasting of CA achievement as a corporate aspiration.

This is where the participatory nature of this research brings added value. As both the CEO and researcher, measures were taken in order to minimize important biases and enhance data trustworthiness by using a 3rd party interviewer to collect the data. This allowed for more honest reflections by participants. After these tensions emerged, to create a richer account of CloudCo's quest to be CA, an account of the key events contributing to the creation or resolving of tension is required. As attitudes and behaviors are shared among the team members, these individual (AMO) characteristics will emerge at the organizational level as collective human capital and, only then, will constitute a source of competitive advantage and performance (Nyberg, Moliterno, Hale, & Lepak, 2014).

Birkinshaw & Gibson (2004) supported this conclusion by making the argument that discipline, stretch, support, and trust are interdependent, complementary features of context that are non-substitutable; all four must be present in order for a business unit to become ambidextrous, and subsequently, to perform well. This section identifies the critical incidents over the company’s history that were responsible for the creation or resolution of the overarching CA tension. In order to accomplish this, a list of key events was generated (Table 7). From this list, critical events were identified which, from a leadership perspective, influenced the pursuit of CA the most. Importantly, this will bring temporality to the tension and offer unique insight that being a “researcher as participant” (identified as Partner 1 or CEO in Table 7) can offer.

Table 7 - Critical Events of Lifespan of CloudCo

Date	Event	Note	Antecedent(s)	Tension(s)
8/2003	CloudCo charter starts with 4 partners.	Even the most bonded of partnerships will fray under the pressure of competing interests.	Trust	Interpersonal
8/2006	Expansion failure	Partner 1 leaves to go to Client 2 in hopes of business expansion. Partner 5 tries to expand the company into a new industry, Higher Education, which fails.	Trust	Operational Interpersonal
1/2010	Partner 1 buys 1% from Partner 2 to gain a majority ownership share at 51%.	Partner 1 becomes disenchanted with onsite project delivery and chooses to aggressively pursue full-time marketing and business development to grow the company. Partner 1 makes verbal commitment to work “on” vs “in” the company and becomes CEO.	Trust Support	Interpersonal Operational
8/2012	Partner 1 hires a highly qualified executive coach	The choice to choose an arms-length coach/mentor relationship with a resource who had been a successful CEO would enable accountability, historical context, and unbiased advice.	Support Stretch	Operational Intrapersonal
8/2012	CEO begins Executive Doctorate in Business (EDB) program to study organizational change and innovation	The ability to solve more complex issues through both a scientific and practical approach enabled enhanced differentiation in executive leadership style, sense of purpose, innovation capabilities and execution.	Stretch	Operational
9/2012	Revenue Generation Parity	Once revenue generation for both partners gained parity, the outlook for gaining CA increased dramatically. Distractions associated with non-parity dissipated.	Trust	Interpersonal Intrapersonal

12/2012	CEO develops a 2013 budget, strategic plan	Developed other components that will increase the probability of successful plan execution.	Discipline	Operational
4/2013	First COO starts with CloudCo Solutions	An employee referral, this employee was hired to manage the operations of the company thereby enabling the CEO to concentrate on exploration and revenue-generation activities.	Discipline Trust	Operational Interpersonal
6/2013	Proposal Manager hired	This was an effort to build the capacity for responding to a significantly greater number of opportunities, in an organized manner, through proposal responses.	Discipline Stretch	Operational
6/2013	Initial strategic charter completed.	Charter included detailed vision, strategic thrusts, critical success factors, and key performance indicators	Discipline	Operational
8/2013	Project Manager performance management system implemented.	New plan specifically for PMs to ensure alignment.	Discipline	Operational
9/2013	New bonus incentive program implemented for the Project Managers	This plan was meant to incentivize the position that should be our greatest onsite advocate and champion.	Trust Support	Operational Interpersonal
8/2013	CEO launches the Solutions Optimization and Innovation Lab (SOIL)	Formalized innovation processes/practices to increase adaptability.	Trust Support Stretch	Operational
7/2014	Partner buyout completed. CEO is 100% owner of the company	In an effort to overcome the lack of shared vision; a significant barrier to achievement of CA.	Trust Support	Interpersonal Intrapersonal Operational
9/2014	CEO releases COO, CEO hires new Director of Operations	Hiring strategy changed, "Fit" was reanalyzed, level of Trust changed	Trust Support Discipline	Interpersonal Operational
12/2014	AMO-based initiatives formally announced	Salesforce training, commuter benefits, SOIL, merit increases	Stretch Trust Support Discipline	Operational Interpersonal Intrapersonal

V.3.1 Critical Events

Among the key events in the company's history, several were more influential for their relationship with CA tension. The following describes these critical events in chronological order. Each will describe the mechanisms through which they influenced the CA trajectory of the company.

Start-up (8/2003). Interpersonal tensions began early and conflict occurred often. Although unaware of the theoretical antecedents of CA, there was a lack of trust and support within the partnership group at the outset. Four partners founded the company with no time spent discussing a vision, strategy, or execution plan that would form alignment of both personal and professional agendas. Part of the tension initially arose from this lack of communication. The aspirations by some partners seemed to diverge from that of others. This divergence was substantiated by the early (within 12 months) departure of two partners to work on their independent entrepreneurial initiatives.

Upon reflection, a primary reason for the operational tension seemed to be the lack of a clear decisive leader. Instead, the characterization would be that of a loosely associated group of individuals starting a company with no real shared vision. This translated into a lack of trust, and relative lack of support. In addition, there was no stretch since each partner was performing individually on separate billable contracts with little collaboration, exacerbating an operational tension. The divergent visions also created a festering interpersonal tension that would seem to go unresolved for many years serving as a foundation of mistrust.

Majority ownership (1/2010). After approximately 6.5 years and turnover within the partnership structure, only two partners remained. The interpersonal tension resulting from divergent visions intensified. With mutually waning trust between the CEO and the remaining partner seeming irreparable, bolstered by lack of communication and shared vision, a majority ownership of 51% of the company was acquired by the CEO of CloudCo. The catalyst for this event was the CEO's disenchantment with his individual onsite project growth limitations. After the ownership restructuring, the CEO focus on full-time marketing and business development to grow the company. This change in practice can be described as committing to work "on" rather than "in" the company. This stretch by the CEO began to create a culture much more conducive to CA than previously encountered. This is evidenced by the following quote from a cofounder:

So I think [the CEO] is moving things in that direction. And I know he's always thinking about other things, some products and stuff like that. So I haven't talked to him specifics about all those details. But I think he's not going to rest on his laurels and just let things cruise.

Executive coaching (8/2012). The next critical event in CloudCo's development of a CA identity occurred with the hiring of an executive coach. The introduction of insight from an external third party brought objectivity to the company's progress. The most important effect of this hiring was that it brought some key concepts related to CA into strategic consciousness. Coupled with the CEO's entry into a doctoral business program (see next event), this allowed CloudCo to be able to articulate its aspirations academically, technically, and strategically.

CEO begins Executive Business Doctorate (8/2012). The transition into strategic consciousness was crystallized by CEO enrollment in further studies. In essence, this represented stretch, whereby the CEO learned about balancing exploitation and exploration to improve the organization. Combined with the education obtained with executive coaching, a vision of ambidexterity emerged.

The significance of these two events cannot be understated. Not only did a stronger awareness of the antecedents of CA emerge, but this awareness directly informed CloudCo's leadership behavior. Up to this point, discipline, trust, support and stretch were evident at times but with little consistency. For CA to develop, these elements must work in concert. While the reflections from the interviews with other participants showed how these elements manifested themselves in their experiences, these could only be considered haphazard occurrences. The hiring of an executive coach and enrollment in a doctorate were leadership ability-enhancing developments that allowed CA to be cultured deliberately rather than randomly.

Revenue parity (9/2012). Revenue parity is defined as the point at which one partner's business development efforts led to an equal amount of corporate annual revenue generation. The executive training that had commenced may have offered respite for the operational and intrapersonal tension experienced by the CEO in balancing exploitation and exploration, but it did not resolve key interpersonal tensions between the remaining partners. In fact, CA awareness showed how the hypothesized solution for the tension between partners was incorrect. The CEO believed that through gaining 'parity', or balance, in revenue generation between the partners, the tension would be relieved.

In fact, the tension intensified as this measure did nothing to address the fundamental disconnection.. One partners' viewpoint seemed to indicate that the newly acquired revenue was

primarily non-technical, and relatively inferior, to core technology-related work. This indicated strong entrepreneurial, philosophical and strategic differences between partners. This resulted in the full emotional divestment from the partnership by the CEO. At that point, although the CEOs' entrepreneurial drive was heightened, the current business partnership itself became an unwanted distraction. Contract dynamics dictated that the partnership remain intact until July 2014. In order to manage this temporarily uncontrollable situation, the CEO focused primarily on building the business versus enhancing the partnership relations.

2013 strategic plan (12/2012). The 2013 strategic plan marked one the first formal directives that would be put into place for CA-focused initiatives. This included a budget that deliberately focused on increasing CA capacity. Its highlights included increasing activities that would directly increase discipline through opportunity-enhancing activities such as increased information-sharing as well as through enhancing motivation by introducing improved developmental performance management components. Within a few months, a strategic charter was established which defined the benchmarks for corporate discipline.

SOIL Launch (8/2013). The CEO launched the Solutions Optimization and Innovation Lab (SOIL) as a mechanism to formalize innovation processes and practices and directly increase adaptability. SOIL represented stretch through opportunity-enhancing measures. This included flexible job design and increasing employee involvement. Below are two employee impressions of the introduction of SOIL. The first explains why this program was needed while the second captures its perceived benefits

Well, Excel doesn't react well to millions of records. So we had to come up with a solution. And the solution was developing an Access database in order to do the reconciliation for them. That's when we reached out and did SOIL. I actually participated in developing the sub-contract for the consultant that we brought in to do that. So using that, I felt that has helped tremendously. – Senior Project Manager

[The CEO] has a SOIL program which he's developing, which is a little bit that I've seen other companies provide, which is a laboratory to assist develop new processes and new things like that. In fact, I actually utilized it to build an access program for our program support, which has been received very well by the customer. So we got a pretty nifty benefit

for no expense to them. A plus for us was that I was able to engage some expertise that we did not have on site in order to develop a solution that the customer needed. – Senior Project Manager

Partner Buyout (7/2014). As mentioned, although some of the key factors contributing to the operational tension was holding CloudCo back from being more contextually ambidextrous, the pervasive tension between company leaders had become its biggest obstacle. Without a unified interest in enhancing CloudCo's CA capacity, the relationship between the remaining partners had deteriorated.

It was clear that the company could not achieve the objectives of becoming CA without relieving this tension. This culminated in the ultimate rupture in the overarching CA tension for CloudCo; a buyout. In hindsight, the CEO seems to recognize that he could have done a substantially better job at communicating the viewpoint and vision over time. However, it became clear that the communication was poor as a result of a strong lack of trust accrued over many years by at least one party, possibly both.

AMO-Based Initiatives Announced (12/14). Nearly 6 months after the departure of the last remaining partner, CloudCo announced its most ambitious attempt to facilitate CA with a purposeful collection of AMO-based initiatives. With a deliberate strategy in place, Salesforce training, commuter benefits, SOIL expansion, and the commencement of new recruitment capabilities were introduced.

Current positioning (1/2015). This timeline of critical events leads to the current positioning of CloudCo. The relief offered by the buyout in July of 2014 had a significant short-term effect and will likely have longer term implications. For example, over the past 9 months since the buyout, discipline has been enhanced through the communication of a single vision across all project sites. Discipline is also being enhanced through recruitment and hiring strategies that have changed dramatically to rebuild a staff that fits the single vision of exploiting current technical professional services expertise while also exploring future software-as-a-service (SaaS) product-based revenue-generation.

Stretch is being made more conducive through the comprehensive explanation of SOIL and its use as a tool to manifest exploratory activities onsite. Employees are being incentivized, with both financial and non-financial rewards for developing and communicating ideas to executive management. Stretch is built into the performance management process to ensure that all employees are keenly aware of what constitutes stretch and the cognizance that executive management will support these endeavors. Additional lines of business are being explored and exploited given the skillsets of new hires.

Support has been enhanced through a significant increase in executive communications through email in addition to a monthly happy hour designed to allow line employees to talk with executive management without interference from the onsite Project Manager. Opening this communication channel has led to stark revelations about client site dynamics which, had they been understood, would have also removed obstacles to CA achievement. This open communication channel now engenders more trust from line employees to executive management. They understand that they can be heard and swift action will be taken. More direct employee communication is expected to further enhance an environment conducive to CA.

Trust has been enhanced through the swift reconciliation of personnel issues. Once a personnel issue has been uncovered, personnel expect them to be reconciled or trust will be impossible to gain and/or maintain. This also communicates an effort to involve employees in decisions that affect them, enhance their job security and advancement opportunities. Executive management has held All-Hands meetings that stress the importance of relying on the commitment of each other.

V.4 Summary

Early on, the founders of CloudCo experienced interpersonal tensions revolving around the vision for the company. It is clear that the interpersonal tensions germinated from the intrapersonal tensions of each partner as they ruminated on their role in a fledgling company. As the company experienced attrition at the executive level, there were fewer competing ideas and attitudes toward the growth of the company but the remaining partnership became the biggest obstacle to creating a CA culture. However, tension in the pursuit of a balance between exploitation and exploration did not materialize only in relationships; it also occurred within personnel as they were drawn to

alignment or adaptable activities and occurred through the confluence of operations that were biased to support one element of CA or the other. Although CA tension manifested itself in several ways, it was clear that each was important in its own way. After becoming more “CA conscious” through external and objective insight via an executive coach and doctoral studies, it became evident that the biggest obstacle to the company’s objectives was a fundamental difference in appreciation for CA that emerged as a lack of trust among the company’s two remaining leaders caused primarily by a lack of communication. Overall, these tensions told the story of how a small company becomes CA. The progression was not linear, static, or harmonious.

VI DISCUSSION

The purpose of this study was to understand how HPWSs can enable CA. Specifically, this study explored how a small technology solution provider can build CA through the implementation of a HPWS. The previous chapter overviewed the supporting data in response to this research question. A variety of critical events occurred during the case study that revealed confluences among several concepts that merit further explanation. The following elaborates on these findings as a series of key themes and contextualizes them among the relevant theory. Implications for practice, study limitations, and recommendations for future research are also presented.

VI.1 Critical Themes

In all, there are three compelling emergent themes associated with the pursuit of becoming contextually ambidextrous through the application of a HPWS. Each theme was selected for its value to either theoretical development, practice, or both.

Critical theme #1 – CA development is a matter of managing tension

Critical theme #2 – CA development is non-linear

Critical theme #3 – CA benefits from intentional strategic planning

The literature suggests that CA produces many desired performance effects. This section helps extract meaning from this case study's attempts to articulate CA as a process. Each critical theme will be discussed in the context of the overall purpose of this case study.

VI.1.1 Critical theme #1 – CA development is a matter of tension

The most prominent development of this case study on CloudCo was the emergence of CA as a process and product of tension. March (1991), Ghoshal and Bartlett (1994) and Gibson and Birkinshaw (2004) each allude to CA as a balance or a confluence of tension. By contrast, one of the advantages of structural ambidexterity is the relief it offers employees from being divergently focused in their jobs. By separating exploitation and exploration structurally within the organization, employees are freed from having to maintain the delicate balance between possible conflicting activities. Due to resource constraints, SMEs are typically not accorded the luxury of establishing divisions to avoid such potential strain.

CloudCo participants provided numerous accounts of different manifestations of tension. For example, the divergent focus on explorative and exploitive behavior affected employees intrapersonally as they were required to balance two opposing values. Stress and frustration can develop in the face of making decisions that have implications for the progression of a company's initiatives. Birkinshaw and Gibson (2004) argue that there is no single path to ambidexterity as evidenced by Renault achieving it by building a performance context around its existing social support while Oracle built a performance context first, then looked for ways of building support and trust across the organization. Based on the responses of CloudCo participants, it seems that it is postured similarly to Oracle in that it has a strong performance context while building social support mechanisms, enabling a strong CA environment. However, due to its relatively small size, CloudCo is perhaps more able to build both support and performance more simultaneously than Oracle. Overall, this relationship between support and performance could possibly be a result of CloudCo's selection of CA over SA.

In addition, tension could be observed between employees who espouse one initiative over the other. If, for instance, one employee does not embrace or embody CA and, instead, follows an exploitive philosophy, this can yield intrapersonal tension with the aligned employee possibly feeling that the unaligned individual isn't "pulling his or her weight". Benner (2003) argues that while exploitation and inertia may be functional for organizations with a given technological trajectory or for existing customers, these variance-reducing dynamics stunt exploratory innovation and responsiveness to new customer segments. Therefore, the employees that exhibit strict adherence to exploitation-centered activities could become an obstacle to CA. Nyberg et al. (2014) explained how, as these attitudes and behaviors crystalize, their total sum emerge as collective human capital at the organizational level. This identity, they note, is a source of competitive advantage and importance. This makes tension an important leverage point to possibly achieve very important ends.

Results supported that CloudCo's CA organizational identity could be affected by interpersonal and intrapersonal tension. Underlying tensions, as Lewis (2000) explains, are the sources of paradoxes and evident in interrelated, yet seemingly contradictory polarities. The process at CloudCo resembled a "trickle up" effect whereby behaviors of the organization's members accumulate at the organizational level. Meanwhile, operational tension level can

“trickle down” to its members, too. Andriopoulos (2009) argues that this resulting sensation is a cognitive tug-of-war with a typical reaction of pulling in one direction or the other. Operational tension was identified as infrastructure, systems, strategies that do not fit with a CA identity. Some company procedures can be classified as opposing forces, challenging the company’s balance of exploitation and exploration. Ultimately, CloudCo’s objective of becoming CA was observable as a process of identifying, managing, and resolving tension. Each level of the tension required a different response.

It appeared that not all tensions may be created equal. The lack of shared vision between partners regarding the direction of the company led to an eventual buyout. One partner seemed more exploitative and one more exploratory. This lack of agreement was personified by the partner tug-of-war engendering “competency traps” and “failure traps” (Gupta et al 2006). As Lewis (2000) explained, actors’ typical reactions to tensions are defensive, trying to resolve or eliminate their anxiety by stressing their preferred pole. The results were counterproductive. “In attempting to reduce the frustrations and discomfort of tensions, actors’ defensive behaviors initially produce positive effects but eventually foster opposite, unintended consequences that intensify the underlying tensions” (2000, p. 763). The divergent vision and execution practices of CloudCo’s management team seemed to be the primary reason for the vicious cycle leading to the buyout decision.

The research participant directly involved in this tense relationship, embodied the tension that clearly needed to be overcome if CloudCo were to become contextually ambidextrous. This experience has been described as a rupture as the pressure released felt like a great unburdening. This was not just the case interpersonally, but organizationally, the company was free from opposing forces preventing it from fulfilling the achievement of CA. Although there are limitations to case study research and participatory research (described later) this personification of tension could not have been appreciated in the same way by a more objective observer of the organization.

VI.1.2 Critical Theme #2 – CA development is non-linear

Prior to the deliberate practice of CA facilitating HR measures, it is fair to state that CA existed in sites in varying degrees. Its organic state only allowed for haphazard growth. Gibson

and Birkinshaw (2004) established that the process of achieving CA can vary greatly and take multiple paths. This sentiment was captured in the overall non-linearity in CloudCo's evolution in becoming more CA over time, even after the introduction of alignment activities.

In light of the aforementioned emergence of interpersonal, intrapersonal and operational tensions, the development of CA appeared to track in unpredictable ways. It is likely that certain tensions had more disruptive power than others and that some interventions were more effective than others. This is unsurprising given the social complexity of an organization. This complexity means the energy put into resolving tension will not always equate to the energy coming out, as evidenced by a more linear relationship. The resolution of certain tensions, like the one between CloudCo partners, over others created punctuations in progress.

Van den Ven & Poole (1995) drew upon 20 different theories explaining processes of change across several different disciplines. After inductive analysis, they distilled this collection of theories into four categories: evolution, dialectics, life-cycle, and teleology. The change pattern captured by this case study most resembles a combination of teleological and dialectic processes. Both change theories describe change as discontinuous and recurrent. However, a dialectic explanation of change is a product of conflict and confrontation. Meanwhile, teleology describes change as purposeful cooperation based on an envisioned end state. Teleological cooperation revolves around the collective pursuit of a goal. Dialectics describe how change emerges from the conflict of two opposing forces. For CloudCo, change resembled a combination of these two processes. The organizational goal of CA set by the CEO established aspirations that members of the company were expected to embrace. However, the tensions that emerged, particularly between competing values or philosophies within key relationships, resembled a dialectic reality as well. It could be argued that the vision of the CEO brought these conflicts to the surface, requiring successful resolution in order to fulfill such aspirations.

VI.1.3 Critical theme #3 – CA benefits from intentional strategic planning

The contrast of cultures prior to and after the key event of the conscious introduction of AMO-based elements revealed the potential that such deliberate practice can have on accelerating CA in a company. Theme 2 identified that CA development was non-linear at CloudCo. It could even be argued that prior to the introduction of a deliberate CA plan, CA was

as much a product of chance as anything else. It was clear from the tensions that existed that CA was unlikely to develop organically without instituting alignment-focused initiatives.

Kang and Snell (2009) explain that CA derives from specific actions of individuals that are inextricably tied to an organization's efforts to manage human resources. The HPWS described in this case study has never been attempted as a method to enhance the process of CA development. The findings suggest that the conscious integration of AMO theory with CloudCo's desired state of CA helped reduce the element of chance influencing CA's development. These events reinforced the importance of setting clear organizational goals for CA and not only aligning activities based on these goals but using a wide-reaching "bundled" approach that can be applied to multiple leverage points. However, due to the aforementioned complexity of the unit of analysis, it is inappropriate to champion any prescriptive measures over others. The implementation of the AMO model was clumsy at times, requiring experimentation and iteration in order to achieve its objectives.

In all, CloudCo's process of developing CA was fraught with tension that manifested in three distinct ways, intrapersonally, interpersonally, and operationally. These tensions and the original haphazard organic state (i.e., stasis) of CloudCo responded favourably from intentionally implementing an integrated HPWS designed at fostering the antecedents of CA. The findings of this case study support a sentiment from Buller and McEvoy (2012) who stated that a strategic HR function enables enhanced performance by encouraging, supporting, and sustaining innovation through well-designed best practices. The key to CloudCo's redirection toward CA from an organic, random culture to a CA-centric one came from the trickling down of strategic initiatives stemming from a clear organizational goal or attention. This goal became operationalized through AMO activities. The early activities of this approach focused on applying discipline, stretch, trust, and support to alleviate the tensions which are associated with being CA. This transition has offered lessons that will be used to execute the resolution and management of tension at CloudCo in the future.

Theoretical Implications

To date, there has been little qualitative exploration of CA in the literature. Moreover, there have been no qualitative case studies investigating the process of CA within an SME. The critical themes described above offer some unique contributions to the current state of the

literature on ambidexterity. Several implications of this research are described below. These implications will yield specific recommendations for further research on CA.

Overwhelmingly, the research on ambidexterity has focused on its effects rather than its processes. Although some studies (e.g., Napier et al., 2011; Gibson and Brickinshaw, 2004) deploy qualitative research methods, little attention has been given to the process of developing and maintaining CA as it manifests as tension between competing goals across the organization. The findings of this current case study suggest that the theoretical accounts of tension present in the literature are observable in three particular ways, offering additional nuance to the extant knowledgebase on the topic.

In addition, there is enough evidence to suggest that using a HPWS that applies the AMO model of HRM could be a useful tool in addressing the key tensions that prevent an organization from achieving its potential as contextually ambidextrous. A Model of Ambidextrous Tension (see Figure 3) visually depicts the interactions between the opposing goals that define ambidexterity, the role of HPWS in their management, and the AMO model as an HR management tool. Since key literature on CA refers to its achievement as a product of balancing opposing goals, this model also defines the role tension plays.

Model of Ambidextrous Tension

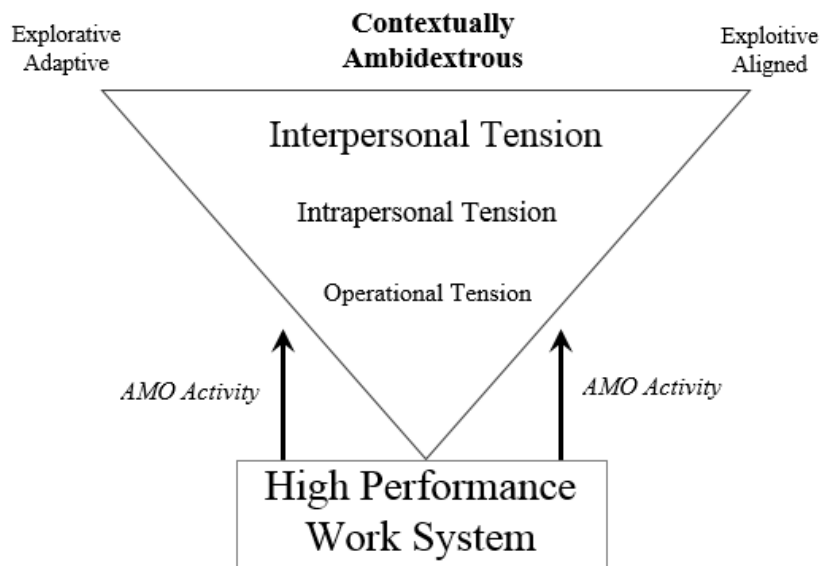


Figure 3 - Model of Ambidextrous Tension

As noted, the tensions that emerged at CloudCo were embodied interpersonally, intrapersonally, and operationally. The model weights them by the relative power each had to upset the balance required to fully function as a contextually ambidextrous organization. That is, operational tensions between procedural practices that placed exploitive goals against explorative required less effort to overcome than interpersonal ones. In fact, the fundamental philosophical differences resolved in the aforementioned buyout “rupture” required the most effort to resolve. The conflict between competing philosophies was extremely difficult for CloudCo to overcome and spanned many years. By comparison, operational restructuring is a much simpler activity. As a result, this model reflects a *relative* amount of weight each tension bears and places on the company’s HR management. The arrows show the deliberate injection of AMO activities that help fulfill CloudCo’s CA management strategy. For a HPWS to be effective, its stewards must be cognizant of the tension that result from this explorative-exploitive balancing act.

Of course, by no means is a single case study enough to establish that this particular bundled approach is the only useful way of resolving tension. The function of AMO activity could quite possibly be interchangeable with other approaches. Furthermore, it is safe to assume that the process of resolving tension is an ongoing one, regardless of the CA consciousness of the organization as a whole. However, it shows that an evidence-led HPWS can enhance the efficiency of CA development by understanding its strengths at addressing each unique tension.

The application of the AMO model was iterative as its effects were qualitatively monitored. Through this, CloudCo seemed to respond particularly favorably to opportunity-enhancing activities. This does not dispel the applicability of its other components (ability-enhancing and motivation-enhancing) but merely suggests that the needs of CloudCo were best served through this focus. It could be argued that the emergence of this imbalance was a product of a learning curve that followed the introduction and monitoring of a variety of AMO activities.

VI.2 Implications for Practice

Napier et al. (2011) highlight that ambidexterity is developed through diagnosing for the alignment, adaptability, and social support that is already in place. The Model of Ambidextrous Tension might support a perspective shift that could direct company diagnoses of CA, design a

more powerful HPWS, and help make key strategic decisions. For instance, knowing how tensions manifest themselves interpersonally, intrapersonally, and operationally might help identify and introduce the most appropriate mechanisms of change (i.e., discipline, stretch, support, and trust). That is, certain AMO activities will likely fit certain obstacles to CA better than others. This simple consideration of the nature of the tension and its origins can help CA evolve and develop more efficiently.

Another implication for practice identified in the findings relates to personnel. It is clear that unaligned employees can become significant obstacles in an SME that, out of necessity, requires a CA focus to grow and compete. Jiang et al. (2012) note that organizations need to use HR practices to recruit the appropriate employees to help it realize its operational and financial objectives. For CloudCo, this matter was elucidated by the interpersonal tensions that percolated within the original core leadership. The case of CloudCo shows that there is simply little room for conflicts in organizational philosophy between its leaders. As such, there are two practical implications to treating CA as a process of tension. First, hiring aligned people can be a strong preventive measure to the development of disruptive tension. Second, addressing interpersonal tension promptly should be a priority when it arises. It appeared that converting an exploitive-minded leader into an explorative-minded one was a dubious task. This is not to say this task is not achievable but, whenever possible, hiring practices should include screening for “CA friendly” qualities at the outset.

A final implication for practice is that the implementation of HPWS enabled CloudCo to become CA. The data supports that among many members of the interview sample, all recognize the four antecedents of CA at differing levels depending on the interviewee intrapersonal perspective, client site, and reporting manager. The implementation of AMO activities enabled CA in CloudCo over an extended period of time, changing the overall environment of the company.

VI.3 Limitations

The strength of case study research is that it can explore complex social units that entail interactions between multiple variables that can lead to better understanding of a particular phenomenon (Stake, 2005). It can yield unique insight that other research designs cannot offer because it explores the nuance and texture of lived experiences. However, what it achieves in

making sense of complexity it lacks in other areas. In general, qualitative research is difficult to generalize. Qualitative case studies must show even more caution in this regard. One of the key limitations of this study on CloudCo is that its results cannot be generalized beyond situations that are very similar in nature, like an SME of a similar size operating in a similar sector with a similar organizational structure. While this might appear to be a weakness, Flyvbjerg (2006) argues that the pursuit of general knowledge can be overvalued at the expense of the type of rich context-dependent knowledge that case studies can provide.

Despite this methodological limitation, some inferences and hypotheses can be postulated. For example, it is reasonable to believe that other businesses aiming to become contextually ambidextrous will observe tensions in their pursuit. As Gibson and Birkinshaw (2004) note, there are multiple paths to ambidexterity. However, given the findings of this study, CA can be seen more generally as a product of a struggle between behavior, choices, and organizational mandates. Thus, it can be argued that tension is a universal part of the process of becoming CA. Although the tensions manifest differently based on contextual differences, it is nonetheless reasonable to expect that they are likely to exist. If this argument is acceptable, it suggests that the study's findings are generalizable to theory of CA, if not to a specified population of organizations.

One methodological characteristic that has even clearer limitations was the retrospective nature of the data collection. It is undebatable that a more longitudinal focus with multiple interviews with participants over a longer period of time would have likely produced even richer data. Retrospective accounts of events or circumstances of the distant past can be subject to memory lapses and even inaccuracy. As such, this approach may not yield the most trustworthy data set. This limitation is at least partially offset by the direct experience of the researcher/participant and access to archival documents.

Of course, one of the concerns of conducting participatory research is the potential role bias might take in the collecting of data and the interpretation of results. As a leader of CloudCo, the researcher/participant, in the form of the CEO, asserts a form of power and authority that could influence the trustworthiness of the data. One way to mitigate the role of this bias was to allow for a 3rd party to conduct the interviews in order to ensure anonymity for each participant. However, it is possible that participant's may not have fully trusted this measure and, in turn,

provided incomplete perceptions, attitudes, and beliefs. The degree of this latter effect can never be fully known and, therefore, completely mitigated. As mentioned earlier, it is possible that interpersonal tension was under-disclosed due to the belief that being too forthcoming might harm them negative in some fashion (e.g., put their employment at risk). However, by transparently sharing researcher/participant awareness of this possible effect during the analysis and interpretation of the results, the researcher/participant have presented the reader with alternative explanations based on this bias as much as possible.

Finally, as the findings suggest, participants were readily able to identify operational tensions resulting from the strategic plan of CloudCo. On the surface, this result might suggest that operational tensions are indeed more pervasive. This is certainly a logical explanation and could be factual. However, because participants were members of CloudCo and the researcher held a dualistic role as the CEO, it is fair to assume that participants could have tempered the amount or perhaps the intensity of intrapersonal or interpersonal tensions they felt in the workplace. Although interviews were conducted by a third party, this may have not been enough to create the trusting conditions required for honest disclosure. In turn, it could be hypothesized that there is plenty of missing data about tensions than actually emerged. In fact, this possibility offers the promise of an intriguing study that investigates the tensions more deeply while methodologically accounting for this problem.

VI.4 Future Research

As is the case with exploratory research, deductive application of theory can give way to inductive analytical processes. This case study intended to explore how CA can develop through the application of a particular human resource management approach. Due to its retrospective nature, critical events in the history of the company must still be linked to the progression or regression of CloudCo's quest for CA as an organization with caution.

Still, the retrospective data from which the three themes of this study emerged provide the rationale to pursue additional research in this area. It is clear that further research on the tensions this study identified could further the understanding of CA as a process. As such, another in-depth qualitative study that specifically explored how the intrapersonal, intrapersonal, and operational conditions that a CA focus creates would be valuable. Perhaps a more effective

bundle of strategies could be delineated from such exploration, facilitating more effective planning.

In addition, a more rigorous design that allows for more structured ongoing analysis of CA longitudinally could add even more insight. Napier et al. (2011) examined the process of CA in a highly structured fashion by applying McFeeley's (1996) IDEAL model. This model espouses that the process is a series of actions and interactions between interested parties as they attempt to improve a type of practice. The iterative IDEAL model contains four phases including Diagnosing, Establishing, Acting, and Learning. By incorporating the IDEAL model, additional qualitative research can be more targeted in its data collection and produce more depth in understanding the evolving context of the case in view.

By accumulating richer knowledge from "in the field", more rigorous intervention-based research could be conducted. Such activity would yield a clearer set of best practices that could be suggested for companies that are unable or unwilling to use structural means to achieve ambidexterity. Although the emergent themes of the current study offer potentially valuable theoretical and practical lessons, more research is required to tease out exactly how a company can most efficiently manage CA development.

Finally, this study was dedicated to exploring the CA through a structured theoretical framework which included the antecedents of CA and the AMO HR model. As a result, a rather prescriptive and rigid coding matrix was applied, yielding an immense number of representations for each component of the matrix. Although inductive analyses were applied and led to the emergence of an important tension narrative, similar analysis should be applied to pre-set categories to allow for the emergence of possible sub-categories. In such a large data set, it is likely that nuances exist for this to occur. These nuances could hold exceptional value for application.

VII CONCLUSION

This qualitative case study attempted to elucidate how HPWSs can enable CA through ability-enhancing, motivation-enhancing, and opportunity-enhancing activities. In so doing, it produced rich and nuanced accounts of the strains and struggles endured intrapersonally, interpersonally, and operationally in order to achieve this objective. Through the conscious and deliberate introduction of the AMO model of human resource management, the random organic state of CA development was redirected on a pathway that actively attempted to resolve and manage key tensions. As a result, the AMO model shows promise for its ability to steer an SME towards its CA capacity.

In conclusion, this study is a good example of the concept of “engaged scholarship”. Defined as “a participative form of research for obtaining the different perspectives of key stakeholders (researchers, users, clients, sponsors, and practitioners) in studying complex problems” (Van de Ven, 2007, p. 9), engaged scholarship uncovers gaps in thinking that are hard to recognize. Leveraging engaged scholarship enables the ability to bring together concepts from both real-time “applied” practitioner experience and academic “theoretical” knowledge in order to better understand and solve a complex, multi-disciplinary problem.

REFERENCES

- Adler, P. S., Goldoftas, B., & Levine, D. I. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science, 10*, 43-68.
- Adler, P. S., Benner, M., Brunner, D. J., MacDuffie, J. P., Osono, E., Staats, B. R., Takeuchi, H., Tushman, M. L., & Winter, S. G. (2009). Perspectives on the productivity dilemma. *Journal of Operations Management, 27*, 99–113.
- Allden, N. & Harris, L. (2013). Building a positive candidate experience: towards a networked model of e-recruitment. *The Journal of Business Strategy, 34(5)*, 36-47.
- Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science, 20*, 696-717.
- Appelbaum, E. (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Ithaca, NY: Cornell University Press.
- Atuahene-Gima, K. (1995). An exploratory analysis of the impact of market orientation on new product performance: A contingency approach. *Journal of Product Innovation Management, 12*, 275–293.
- Auh, S., & Menguc, B. (2005). Balancing exploration and exploitation: The moderating role of competitive intensity. *Journal of Business Research, 58*, 1652-1661.
- Behrend, T., Baker, B. & Thompson, L. (2009). Effects of pro-environmental recruiting messages: The role of organizational reputation. *Journal of Business Psychology, 24*, 341–350.
- Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review, 28*, 238-256.
- Bierly, P. E., & Daly, P. S. (2007). Alternative knowledge strategies, competitive environment, and organizational performance in small manufacturing firms. *Entrepreneurship: Theory & Practice, 31*, 493-516.

- Birkinshaw, J., & Gibson, C. (2004). Building ambidexterity into an organization. *MIT Sloan Management Review*, 45, 47-55.
- Birkinshaw, J., & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. *Academy of Management Perspectives*, 27, 287.
- Boehm, B. (2002). Get ready for agile methods, with care. *Computer*, 35.
- Brown, S. L., & Eisenhardt, K. M. (1998). *Competing on the edge: Strategy as structured chaos*. Boston, MA: Harvard Business School Press.
- Buller, P.F. & McEvoy, G. (2012). Strategy, human resource management and performance-sharpening the line of sight. *Human Resource Management Review*, 22, 43-56.
- Busenitz, L. W., & Barney, J. W. (1997). Differences between entrepreneurs and managers in large organizations: biases and heuristics in strategic decision-making. *Journal of Business Venturing*, 12, 9-30.
- Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: dimensions, contingencies, and synergistic effects. *Organization Science*, 20, 781-796.
- Cappelli, P. (2001). Making the most of online recruiting. *Harvard Business Review*, 139-146.
- Chen, M.-J., & Hambrick, D. C. Speed, stealth, and selective attack: How small firms differ from large firms in competitive behavior. *The Academy of Management Journal*, 38, 453-482.
- Cober, R. T., Brown, D., Keeping, L., & Levy, P. (2004). Recruitment on the net: How do organizational web site characteristics influence applicant attraction? *Journal of Management*, 30, 623-64.
- Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (2004). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, 9, 371-395.
- Cordery, J., Sevastos, P., Mueller, W., & Parker, S. 1993. Correlates of employee attitudes toward functional flexibility. *Human Relations*, 46, 705-723.
- De Clercq, D., Thongpapanl, N., & Dimov, D. (2014). Contextual ambidexterity in SMEs: The roles of internal and external rivalry, *Small Business Economics*, 42, 191-205.

- De Reyck, B., Grushka-Cockayne, Y., Lockett, M., Calderini, S. R., Moura, M., & Sloper, A. (2005). The impact of project portfolio management on information technology projects. *International Journal of Project Management*, 23, 524-537.
- Duncan, R. (1976). The ambidextrous organization: Designing dual structures for innovation. *The management of organization*, 1, 167-188.
- Ebben, J. J., & Johnson, A. C. (2005). Efficiency, flexibility, or both? Evidence linking strategy to performance in small firms. *Strategic Management Journal*, 26, 1249-1259.
- Eisenhardt, K. & Tabrizi, B. (1995). Accelerating adaptive processes: Product innovation in the global computer industry. *Administrative Science Quarterly*, 40, 84-110.
- Fang, C., Lee, J., & Schilling, M. A. (2010). Balancing exploration and exploitation through structural design: The isolation of subgroups and organizational learning. *Organization Science*, 21, 625-642.
- Faste, R. (1994, November). Ambidextrous thinking: Innovations in mechanical engineering curricula for the 1990s. *American Society of Mechanical Engineers*.
- Fonstad, N., & Robertson, D. (2006). Transforming a company, project by project: The IT engagement model. *MIS Quarterly Executive*, 5, 3 - 9
- Furtmueller, E., Wilderoma, C., & Tateb, M. (2011). Managing recruitment and selection in the digital age: e-HRM and resumes. *Human Systems Management*, 30, 243–259.
- Flyvberg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12, 219-245.
- Geerts, A., Blindenbach-Driessen, F., & Gemmel, P. (2010). Achieving a balance between exploitation and exploration in service firms: A longitudinal study. *Academy of Management Annual Meeting Proceedings*, 1-6.
- Ghoshal, S., & Bartlett, C. A. (1994). Linking organizational context and managerial actions: The dimensions of quality of management. *Strategic Management Journal*, 15, 91-112.

- Ghoshal, S. & Bartlett, C.A. (1997). The individualized corporation: A fundamentally new approach to management. *Harper Business*.
- Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *The Academy Of Management Journal*, 2, 209 -225.
- Gittell, J., Seidner, R., & Wimbush, J. (2010). A relational model of how high-performance work systems work. *Organization Science*, 21, 1–17.
- Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, 49, 693.
- Hewitt-Dundas, N. (2006). Resource and capability constraints to innovation in small and large plants. *Small Business Economics*, 26, 257–277.
- Hewlett Packard. (2011). About HP Labs. <http://www.hpl.hp.com/about/> (accessed March 15th, 2015).
- Hobday, M., Boddington, A., & Grantham, A. (2012). Policies for design and policies for innovation: Contrasting perspectives and remaining challenges. *Technovation*, 32, 272-281.
- Holmqvist, M. (2004). Experiential learning processes of exploitation and exploration within and between organizations: An empirical study of product development. *Organization Science*, 1, 70 – 84.
- Hu, C., Hsiao-Chiao, C. & Chang-I, B. (2007). The effect of person–organization fit feedback via recruitment web sites on applicant attraction. *Computers in Human Behavior*, 23, 2509–2523.
- Huang, J., & Kimb, H. (2013). Conceptualizing structural ambidexterity into the innovation of human resource management architecture: The case of LG Electronics. *The International Journal of Human Resource Management*, 24, 922–943.
- Hughes, M., Hughes, P., & Morgan, R. E. (2007). Exploitative learning and entrepreneurial orientation alignment in emerging young firms: Implications for market and response performance. *British Journal of Management*, 18, 359-375.

- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635–672.
- Jansen, J. J. P., Simsek, Z., & Cao, Q. (2012). Ambidexterity and performance in multi-unit contexts: Cross-level moderating effects of structural and resource attributes. *Strategic Management Journal*, 33, 1286-1303.
- Jansen, J. J. P., Van Den Bosch, F. A. J., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, 11, 1661 – 1674.
- Jiang, K., Lepak, D., Hu, J, & Baer, J. (2012). How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms. *Academy of Management Journal*. 55, 1264-1294.
- Johansson-Skoldberg, U., Woodilla, J., & Çetinkaya, M. (2013). Design thinking: Past, present and possible futures. *Creativity and Innovation Management*, 22, 121–146.
- Judge, T. A., Piccolo, R. F., Podsakoff, N. P., Shaw, J. C., & Rich, B. L. (2010). The relationship between pay and job satisfaction: A meta-analysis of the literature. *Journal of Vocational Behavior*, 77, 157-167.
- Junni, P., Sarala, R.M., Taras, V., & Tarba, S.Y. (2013). Organizational ambidexterity and performance: A meta-analysis. *The Academy of Management Perspectives*, 27, 299–312.
- Kang, S., Morris, S., & Snell, S.A. (2007). Relational archetypes, organizational learning, and value creation: Extending the human resource architecture. *Academy of Management Review*, 32, 236–256.
- Kang, S. C., & Snell, S. A. (2009) Intellectual capital architectures and ambidextrous learning: A framework for human resource management. *Journal of Management Studies*, 46, 65–92.
- Kehoe, R., & Wright, P. (2013). The impact of high-performance human resource practices on employees' attitudes and behaviors. *Journal of Management*, 39, 366-391.

- Keller, T., & Weibler, J. (2014). Behind managers' ambidexterity-studying personality traits, leadership, and environmental conditions associated with exploration and exploitation. *Schmalenbach Business Review*, 66, 309–333
- Klein, H., & Myers, M. (1999). A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS quarterly*, 23, 67–93.
- Kyriakopoulos, K. & Moorman, C. (2004). Tradeoffs in marketing exploitation and exploration strategies: The overlooked role of market orientation. *International Journal of Research in Marketing*, 21, 219-240.
- Liao, H. et al. (2009). Do they see eye to eye? Management and employee perspectives of high-performance work systems and influence processes on service quality. *Journal of Applied Psychology*, 94, 371 - 377
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, 14, 95–112.
- Lewis, M. W. 2000. Exploring paradox: Toward a more comprehensive guide. *Acad. Management Rev.*, 25, 760–776.
- Love, J. & Roper, S. (2009). Organizing the innovation process: Complementarities in innovation networking. *Industry and Innovation*, 16, 273-290.
- Lovelace, K., Shapiro, D. L., & Weingart, L. R. (2001). Maximizing cross-functional new product teams' innovativeness and constraints adherence: A conflict communications perspective. *Academy of Management Journal*, 44, 779–794.
- Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small- to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, 32, 646-672.
- Lyytinen, K., & Rose, G. (2003). Disruptive information system innovation: The case of internet computing. *Information Systems Journal*, 13, 165-193.
- Lyytinen, K. & Rose, G. (2006). Information system development agility as organizational learning. *European Journal of Information Systems*, 15, 183-199.

- Madrid-Guijarro, A., Garcia, D., & Van Auken, H. (2009). *Journal of Small Business Management*, 47, 465–488.
- Man, T. W. Y., Lau, T., & Chan, K. F. (2002). The competitiveness of small and medium enterprises: a conceptualization with focus on entrepreneurial competencies. *Journal of Business Venturing*, 17, 123-142.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 1, 71-84.
- Markides, C. C. (2013). Business model innovation: What can the ambidexterity literature teach us? *Academy of Management Perspectives*, 27, 313-323.
- Markowitz, H. (1952). Portfolio selection. *Journal of Finance*, 7, 77–91.
- Mathiassen, L. (2002). Collaborative practice research. *Scandinavian Journal of Information Systems*, 14, 17-24.
- McDonough, E. F., & Leifer, R. (1983). Using simultaneous structures to cope with uncertainty. *Academy of Management Journal*, 26, 727-735.
- McFarlane, W. (1981). Portfolio approach to information systems. *Harvard Business Review*, 59, 142-150.
- McFeely, B. (1996). IDEAL: A user's guide for software process improvement. http://resources.sei.cmu.edu/asset_files/Handbook/1996_002_001_16433.pdf (accessed 13 February, 2015).
- McKay, J., & Marshall, P. (2001). The dual imperatives of action research. *Information Technology and People*, 14, 46-59.
- McKim, R. (1973). *Experiences in visual thinking*. Pacific Grove, CA: Brooks/Cole.
- Miles, M., & Huberman, A. (1994). *Qualitative data analysis: An expanded sourcebook*. London, UK: Sage.

- Mom, T. J., Van Den Bosch, M., Frans, A., & Volberda, H. (2007). Investigating managers' exploration and exploitation activities: The influence of top-down, bottom-up, and horizontal knowledge inflows. *Journal of Management Studies*, 44, 910-931.
- Morgan, R., & Berthon, P. (2008). Market orientation, generative learning, innovation strategy and business performance inter-relationships in bioscience firms. *Journal of Management Studies*, 45, 1329–1353.
- Mura, M. & Longo, M. (2013). Developing a tool for intellectual capital assessment: an individual-level perspective. *Expert Systems*, 30, 436-450.
- Napier, N. P., Mathiassen, L., & Robey, D. (2011). Building contextual ambidexterity in a software company to improve firm-level coordination. *European Journal of Information Systems*, 20, 674-690.
- Naranjo-Gil, D. (2009). The influence of environmental and organizational factors on innovation adoptions: Consequences for performance in public sector organizations. *Technovation*, 29, 810–820.
- Nord, W. R. & Tucker, S. (1987). *Implementing routine and radical innovations*. Lexington, MA: Lexington Books.
- Nyberg, A., Moliterno, T., Hale, D., & Lepak, D. (2014). Resource-based perspectives on unit-level human capital: A review and integration. *Journal of Management*, 40, 316-346.
- O'Reilly, C. A., Harreld, J. B., & Tushman, M. L. (2009). Organizational ambidexterity: IBM and emerging business opportunities. *California Management Review*, 51, 75-99.
- O'Reilly, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard Business Review*, 82, 74-81.
- Ozsomer, A., Calantone, R., & Di Benedetto, C. A. (1997). What makes firms more innovative? A look at organizational and environmental factors. *Journal of Business and Industrial Marketing*, 12, 400–416.

- O'Reilly, C. A., & Tushman, M. L. (2007). *Ambidexterity as a dynamic capability: Resolving the innovator's dilemma*. Cambridge, MA: Harvard Business School.
- Patel, P. C., Messersmith J. G., & Lepak, D. P. (2013). Walking the tightrope: An assessment of the relationship between high-performance work systems and organizational ambidexterity. *Academy Of Management Journal*, *56*, 1420-1442.
- Pfieffelman, B. & Wagner, S., Libkuman, T. (2010). Recruiting on corporate web sites: Perceptions of fit and attraction. *International Journal of Selection and Assessment*, *18*, 40-47.
- Pissarides, C., & Mortensen, D. (1999). New developments in models of search in the labor market. *Handbook of Labor Economics*, *3*, 2567-2627.
- Prieto, I., & Santana, P. (2012). Building ambidexterity: The role of human resource practices in the performance of firms from Spain. *Human Resource Management*, *51*, 189–212.
- Morgan, R.E, & Berthon, P. (2008). Market orientation, generative learning, innovation strategy and business performance inter-relationships in bioscience firms. *Journal of Management Studies*, *45*, 1329–1353.
- Revels, M., & Morris, M. (2012). Technology impacts in organizational recruitment and retention. *Franklin Business & Law Journal*, *1*, 61-69.
- Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, *34*, 375-409.
- Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational ambidexterity: balancing exploitation and exploration for sustained performance. *Organization Science*, *20*, 685-695.
- Ramesh, B., Mohan, K., & Cao, L. (2012). Ambidexterity in agile distributed development: An empirical investigation. *Information Systems Research*, *23*, 323-339.
- Rothaermel, F. T., & Alexandre, M. T. (2009). Ambidexterity in technology sourcing: The moderating role of absorptive capacity. *Organization Science*, *20*, 759-780.

- Schudy, C., & Bruch, H. (2010). Productive organizational energy as a mediator in the contextual ambidexterity-performance relationship. *Academy of Management Annual Meeting Proceedings*, 1-6.
- Schulze, P., Heinemann, F., & Abedin, A. (2008). Balancing exploitation and exploration. *Academy of Management Annual Meeting Proceedings*, 1-6.
- Schumpeter, J. A. (2008). *The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle*. Translated from the German by Redvers Opie: Transaction Publishers.
- Simon, H.A. (1969). *The sciences of the artificial*. Cambridge, MA: MIT Press.
- Simsek, Z. (2009). Organizational ambidexterity: Towards a multilevel understanding. *Journal of Management Studies*, 46, 597-624.
- Song, M. & Jinhong, X. (2000). Does product innovativeness moderate the relationship between cross-functional integration and new product performance in Japanese and U.S. firms? *Journal of International Marketing*, 8, 61-89.
- Song, M., Thieme, J., & Xie, J. (1998). Patterns of cross-functional joint involvement across product development stages: An exploratory study. *The Journal of Product Innovation Management*, 15, 289-303.
- Stake, R.E. (2005). *Qualitative case studies*. In N. K. Denzin & Y.S. Lincoln (Eds.) *The Sage handbook of qualitative research* (3rd ed.) (pp. 443-466). Thousand Oaks, CA: Sage.
- Susman, G. I., & Evered, R. D. (1978). An assessment of the scientific merits of action research. *Administrative Science Quarterly*, 22, 582-603.
- Tiwana, A. (2008). Do bridging ties complement strong ties? An empirical examination of alliance ambidexterity. *Strategic Management Journal*, 29, 251-272.
- Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38, 8-30.

- Van de Ven, A. (2007). *Engaged scholarship: A guide for organizational and social research*. Oxford, UK: Oxford University Press.
- Van de Ven, A. H., & Poole, M. S. (1995). Explaining development and change in organizations. *Academy of Management Review*, 20, 510–540.
- Van Looy B., Martens, T. & Debackere, K. (2005). Organizing for continuous innovation: On the sustainability of ambidextrous organizing. *Journal of Creativity and Innovation Management*, 14, 208-22.
- Vinekar, V., Slinkman, C. W., & Nerur, S. (2006). Can agile and traditional systems development approaches coexist? An ambidextrous view fostering both agile and traditional approaches in a systems development organization presents the challenge of simultaneously sustaining dual cultures. *Information Systems Management*, 23, 31-42.
- Wolff, J. A., & Pett, T. L. (2006). Small-firm performance: Modeling the role of product improvement and process improvement. *Journal of Small Business Management*, 44, 268-284.
- Zacher, H., Robinson, A., & Rosing, K. (2014). Ambidextrous leadership and employees' self-reported innovative performance: The role of exploration and exploitation behaviors. *The Journal of Creative Behavior*, 1, 1–25.
- Zi-Lin, H., & Poh-Kam, W. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science*, 15, 481-494.

APPENDIX

The employee interview data consisted of 30 questions that were asked to each selected CloudCo employee. The questions were mapped into two dimensions: the four primary antecedents of Contextual Ambidexterity as defined by Gibson and Birkinshaw: Discipline, Stretch, Support, and Trust (Gibson & Birkinshaw, 2004) and the three A-M-O elements of HPWS: Ability-enhancing, Motivation-enhancing, and Opportunity-enhancing.

To conduct this mapping, each question was evaluated to determine how well it fit the definitions of the four antecedents as listed in Table 4 (Gibson & Birkinshaw, 2004).

Contextual Ambidexterity Antecedent Definitions

Antecedent	Definition
Discipline	“Induces members to voluntarily strive to meet all expectations generated by their explicit or implicit commitments. Establishment of clear standards of performance and behavior, a system of open, candid, and rapid feedback, and consistency in the application of sanctions contribute to the establishment of discipline.”
Stretch	“An attribute of context that induces members to voluntarily strive for more, rather than less, ambitious objectives. Establishment of a shared ambition, the development of a collective identity, and the ability to give personal meaning to the way in which individuals contribute to the overall purpose of an organization contribute to the establishment of stretch.”
Support	“Induces members to lend assistance and countenance to others. Mechanisms that allow actors to access the resources available to other actors, freedom of initiative at lower levels, and senior functionaries giving priority to providing guidance and help rather than to exercising authority contribute to the establishment of stretch.”
Trust	“An attribute of context that induces members to rely on the commitments of each other. Fairness and equity in a business unit’s decision processes, involvement of individuals in decisions and activities affecting them, and staffing positions with people who possess and are seen to possess required capabilities contribute to the establishment of trust.”

Table 5 shows the specific question-to-antecedent mappings based upon the aforementioned definitions and pre-conditions.

Interview Guide

Question to Antecedent Mappings

Question	Antecedent
Do you feel that you have a good understanding of how your job impacts your department? The organization? How important do you believe your job role/function is to your department? The organization?	Discipline
What are the most important parts of your job?	Discipline
Would you prefer to work on a set of routine tasks with clear directions or special projects with clear end goals but little to no explicit directions?	Discipline
What are some of the routine tasks/activities that you perform in which you feel you have accumulated a lot of experience?	Discipline
Do you typically feel confident and well-prepared in your ability to perform most of your daily tasks/activities?	Discipline
When you have multiple and competing priorities, how well are you able to focus on the most important tasks? How do you handle obstacles that impede your goals?	Discipline
Do you prefer tasks/activities that are straightforward or require more intricate planning?	Discipline
Do you feel that you engage in tasks/activities that satisfy more long-term or short-term organizational goals?	Discipline
Do you know the organization's mission statement?	Discipline
In what ways do you feel that your creativity is encouraged by the organization?	Stretch

Is it more important to make unique contributions to the organization, or to be consistently high performing?	Stretch
Do you prefer to develop routine processes for your daily tasks/activities or look for new—perhaps untried—ways to accomplish your goals?	Stretch
When performing an unfamiliar task/activity, do you prefer to make an action plan, or to try different approaches until you are successful?	Stretch
Do you feel that you engage in tasks/activities that require you to learn new skills or acquire new knowledge?	Stretch
On team activities, are you more likely to make suggestions for the work plan or carry out tasks assigned by team members with more expertise?	Stretch
Can you describe a time when you had to engage in an activity in which you felt like you were in unknown territory?	Stretch
Do you feel that the organization provides you with what you need to be successful in your job?	Support
Do you feel that the organization values and rewards creative problem solving?	Support
In what ways do you and your team members encourage each other in your work?	Support
Have you ever made suggestions for improvement to management? How do you feel they were received? Were they implemented?	Support
Does the organization successfully recognize employees for a job well done?	Support
Do you feel that the organization provides enough resources to stay abreast of cutting edge topics and best practices in your area of work?	Support

How would you describe the current state of your work-life balance?	Support
Are new organizational ideas, new goals, achievements and areas for improvement effectively communicated to you? In what ways?	Trust
Do you feel that the organization respects	Trust
Do you find that you generally get along with your team members?	Trust
Do you feel that your manager has confidence in your ability to successfully perform your job?	Trust
Do you feel a sense of belonging in the	Trust
Do you feel that conflicts are managed in a fair	Trust
In your opinion, does management make decisions that clearly support the organization's mission and vision?	Trust

It is worth noting that these questions-to-antecedent mappings are necessarily imperfect. However, the questions were carefully chosen to map to the defined antecedents as closely as possible.

VITA

Summary

Alex Armour is the Chief Executive Officer of Offspring Solutions Inc. and the Founder and Executive Director of Solutions Optimization and Innovation Lab (SOIL™). SOIL is a unique configuration of seasoned experts, rigorous innovation methodologies, technology platform and scaled agile project delivery model with a two-fold mission: solve complex project problems and turn promising ideas into new products, services, and business models. In both roles, Alex is responsible for vision, strategic direction, technology roadmap and business development.

Experience

Alex Armour is a graduate of the Air Force Academy and achieved the rank of Captain prior to separating from the military. His responsibilities were in Systems Acquisitions, Cost Analysis and Finance. After completing his duty to country, he worked for KPMG LLP, as a management consultant. Following his passion for technology, he then spent several years as a Senior Product Consultant at PeopleSoft, later acquired by Oracle. At PeopleSoft, he recognized his entrepreneurial passion and, in 2003, co-founded Offspring Solutions. Offspring Solutions specializes in enterprise systems integration, cloud computing, data management/analytics, and Project Management Office (PMO) support services.

Education

Alex holds a Bachelor's of Science (BS) degree in Management from the US Air Force Academy. He acquired his Master's degree of Business Administration (MBA) from St. Mary's University, San Antonio, TX. Alex has also completed the Entrepreneur Master's Program (EMP) sponsored by the Entrepreneurs' Organization (EO).