Setting the Stage for Individual Ambidexterity in Organizations: The Effects of Context and Individual Regulatory Mode on Explorative and Exploitative Behavior

Fernando Garcia

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SETTING THE STAGE FOR INDIVIDUAL AMBIDEXTERITY IN ORGANIZATIONS: THE EFFECTS OF CONTEXT AND INDIVIDUAL REGULATORY MODE ON EXPLORATIVE AND EXPLOITATIVE BEHAVIOR

By
Fernando Garcia

A Dissertation

Presented in Partial Fulfillment of Requirements for the Degree of Doctor of Business Administration In the Coles College of Business Kennesaw State University

Kennesaw, GA 2016
SIGNATURE PAGE

Placeholder
DEDICATION

To my parents: Fernando García Huamán & Julia Rivera Sanchez de García

Papá, I am sorry your sudden departure did not let you see this on Earth. It was only possible thanks to your immense love, intelligent vision, and impeccable work ethic.

Mamá, thank you for your unconditional love, dedicated attention, and never-ending sacrifice.

And, to my beloved son Hudson Diego Garcia

Bebito-bebon-bebazo, thanks for being the light of my inspiration.
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ABSTRACT

SETTING THE STAGE FOR INDIVIDUAL AMBIDEXTERTY IN ORGANIZATIONS: THE EFFECTS OF CONTEXT AND INDIVIDUAL REGULATORY MODE ON EXPLORATIVE AND EXPLOITATIVE BEHAVIOR

by

Fernando Garcia

In response to changing customer demands and increasing competition, companies must balance the need to exploit their current capabilities with the need to explore new capabilities to sustain long-term success. Balancing this duality is at the core of the ambidexterity concept. While ambidexterity research mostly has focused at the firm level of analysis, recent literature indicates the need to analyze the concept at the individual level to increase our understanding of where ambidexterity takes place and how it emerges from context. Understanding the dynamics of the ambidexterity phenomenon at its most basic level will provide organizations with knowledge on how to encourage, promote, and manage ambidextrous behavior. This study examines the influence of how individuals perceive their work environments on their attitudes towards explorative and exploitative activities. Drawing from the ambidexterity, the empowerment, and the ownership literatures, I propose that work environments that help develop individuals’ feeling of empowerment and ownership will tend to motivate ambidextrous behavior. In addition, drawing from self-regulatory theory and accountability research, I propose three moderating factors that will influence the explorative and the exploitative behavior of individuals experiencing psychological empowerment and psychological ownership.
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CHAPTER 1: INTRODUCTION

An organization’s long-term success depends on its ability to balance the exploitation of existing capabilities and the exploration of new capabilities (March, 1991). Balancing the conflicting demands of this dichotomy is known as ambidexterity. Although ambidexterity was originally referred to as an individual’s capability to use both hands in the same way, the ambidexterity concept has been adopted in organizational studies to analyze the organization’s ability to simultaneously exploit existing resources and explore new opportunities with the goal of achieving sustained performance (Raisch, Birkinshaw, Probst, & Tushman, 2009). Organizations often face challenges from other seemingly conflicting demands that require an ambidextrous response. For example, organizations face the challenge of managing and successfully achieving incremental and discontinuous innovation (Tushman, Anderson, & O’Reilly, 1997), efficiency and flexibility (Eisenhardt, Furr, & Bingham, 2010), adaptability and alignment (Gibson & Birkinshaw, 2004), and global integration with local responsiveness (Barlett & Ghoshal, 1999).

Scholars conducting ambidexterity research have primarily focused on the exploitation versus exploration tension at the firm level, thereby helping both researchers and managers understand how organizations can make choices among competing organizational demands (Birkinshaw & Gupta, 2013; O’Reilly & Tushman, 2013; Raisch & Birkinshaw, 2008). Scholars in this area have considered how organizations achieve ambidexterity through structural means of either temporal or spatial separation. While
temporal separation allows firms to achieve ambidexterity by adapting and shifting their organizational units to sequentially and cyclically focus on exploration and exploitation (Duncan, 1976), spatial separation allows firms to achieve ambidexterity through the simultaneous pursuit of exploration and exploitation using separate or autonomous business units (Tushman & O'Reilly, 1996). In addition to structural means, organizations can also achieve ambidexterity by creating a supportive work environment where individuals make the decision to engage in explorative and exploitative activities as they respond to the organization’s competing demands for exploration and exploitation; a form of ambidexterity known as contextual ambidexterity (Gibson & Birkinshaw, 2004).

In contrast to organizational-level research, conceptual and empirical research at the individual level is limited (Mom, van den Bosh, & Volberda, 2009). This is an important limitation to managers of ambidextrous organizations in that the conflicting needs for exploration and exploitation found at the firm level may also be present at the individual level. For individuals, the need to be ambidextrous is challenging because it requires individuals to behave in ways that are seemingly contradictory such as focusing on both attention to detail in implementing existing processes and looking for innovative ways to do those same processes (Bledow, Frese, Anderson, Erez, & Farr, 2009).

While scarce, current research highlights the importance of studying ambidexterity at the individual level. Organizational-level studies of ambidexterity implicitly assume that the firm’s ability to balance exploration and exploitation outcomes are based on the participation of a mixture of individuals that are engaging in explorative and exploitative behaviors. However, firm-level analysis cannot reveal what drives such behaviors or how individual preferences for either activity may affect how individuals
ultimately resolve the organizational demands for explorative and exploitative behaviors (Laureiro-Martinez, Brusoni, & Zollo, 2010). In this study, explorative behavior refers to behaviors that disengage from the current task to focus on searching for alternative behaviors (Aston-Jones & Cohen, 2005). Exploitative behavior, on the other hand, refers to behaviors that focus on optimizing task performance (Laureiro-Martinez, Brusoni, Canessa, & Zollo, 2015).

Although understanding firm-level phenomena is important, understanding any organizational phenomenon requires analyzing the individual as the central factor within the organization (Felin & Foss, 2005). Consistent with this, researchers recognize that it is possible that individuals such as managers, engineers, and technicians can behave in exploitative and explorative ways (Bledow et al., 2009; Gibson & Birkinshaw, 2004; Raisch et al., 2009). Thus, with the understanding that the ambidexterity ‘dilemma’ takes place at all levels of the organization and that individuals are a significant source of organizational ambidexterity (Gibson & Birkinshaw, 2004), it is important to conduct research to delve deeper into understanding how individuals balance exploitation versus exploration requirements (Birkinshaw & Gupta, 2013). This individual capacity to perform two seemingly contradictory activities, known as individual ambidexterity, refers to the individual’s ability to adapt to dynamic contexts by appropriately shifting between the demands for exploration and exploitation” (Good & Michel, 2013).

Purpose

Despite this need to better understand individual ambidexterity, studies on the topic are limited. The few studies that exist have focused on managers’ ambidexterity by analyzing managers’ exploration and exploitation activities (Mom et al., 2009), on
customer service representatives’ ambidexterity by analyzing representatives’ concurrent engagement in customer service provision and sales efforts (Jasmand, Blazevic, & Ruyter, 2012), and on individuals’ ambidexterity by analyzing students’ cognitive abilities to balance exploration and exploitation efforts (Good & Michel, 2013). In recognition of this limited research, scholars have made calls to address several gaps in ambidexterity research, especially calls for research to address important questions at the micro level of analysis (Gupta, Smith, & Shalley, 2006). Scholars have called for research to identify work environments that promote ambidextrous behavior (Raisch & Birkinshaw, 2008), to explore the effects of individuals’ perceptions and emotions on individuals’ preference for engaging in explorative or exploitative behaviors (Laureiro-Martinez et al., 2010), and to investigate ambidexterity’s micro-foundations to better reveal its complexity (Nosella, Cantarello, & Filipini, 2012).

The purpose of this study is to address this call for research on individual ambidexterity by examining how individuals’ perceptions of their work environments affect the extent to which they engage in explorative and exploitative activities. Drawing from three streams of research — ambidexterity, psychological empowerment, and psychological ownership — I develop a research model that predicts ambidextrous behaviors based on individuals’ perceptions of empowerment and ownership. Psychological empowerment is a motivational construct that reflects individuals’ feelings of meaning, competence, self-determination, and impact (Spreitzer, 1995). Psychological ownership refers to the individuals’ feeling of possessiveness and attachment towards objects they claim as theirs (Pierce, Kostova, & Dirks, 2001). In addition, this study explores boundary conditions to these relationships. The first moderator, regulatory mode
(Higgins, Kruglanski, & Pierro, 2003), considers the effects of individual preferences for change (locomotion orientation) and for making comparisons (assessment orientation) on the individual’s initiation and engagement of explorative or exploitative behaviors when those individuals are empowered to take action. While locomotion orientation is an individual’s tendency to move away from a current state to destinations or in directions that may still need to be determined, assessment orientation is an individual’s tendency to make comparisons between the current state and a new, desired state (Higgins, Kruglanski, & Pierro, 2003). The second moderator considers the role of individuals’ perception of accountability on the effect of psychological empowerment and ownership on explorative and exploitative behavior respectively. Accountability refers to the perceived responsibility one has with an audience for following pre-established prescriptions, and thus, for fulfilling prescribed outcomes (Schlenker, Britt, John, Murphy, & Doherty, 1994). For easy reference, a list of definitions of the study’s key constructs is available at the end of the chapter in Table 1.

Potential Contributions

This study is relevant and timely for both practitioners and management scholars. While it is generally accepted that ambidexterity enhances firm performance, this research explores the under-considered role of employees who shape the firm’s ambidextrous capabilities and subsequent performance. In addition, as individuals can and do perform explorative and exploitative tasks (Raisch et al., 2009), this study will consider how firms both encourage and promote such behaviors separately.

This study contributes to our understanding of the microfoundations of ambidexterity. Microfoundations involve analyzing the role of contexts and individual
behavior in shaping organizational-level outcomes (Banery & Felin, 2013) and represent an emerging area of research that has recently received increased attention from management scholars (Felin, Foss, & Ployhart, 2015). Similar to Rogan and Mors’ (2014) contribution to microfoundations in which they examined individual-level ambidexterity by using managers’ networks as a contextual factor, this study aims to contribute to the microfoundations of ambidexterity by analyzing the influence of empowering and ownership-driven contexts in shaping individual-level explorative and exploitative behavior.

This research also takes a different approach from the way previous studies of ambidexterity have been conducted by analyzing the separate, rather than the combined, effects of explorative and exploitative behaviors. This in contrast to the empirical work on individual ambidexterity performed by Mom et al. (2009) and Jasmand et al. (2012), who analyzed ambidexterity by using the multiplicate effects of exploration and exploitation as proposed by Gibson and Birkinshaw (2004). Analyzing the separate effects of explorative and exploitative behavior is vital to developing a better understanding of which managerial mechanisms and individual-level attributes affect individual initiation and engagement in either explorative or exploitative behaviors in response to day-to-day work requirements.

This study also extends prior work on individual characteristics that predict ambidextrous behavior by considering the interactive effects of individual regulatory mode on ambidextrous behavior. Specifically, when individuals feel empowered to engage in either explorative or exploitative behaviors, having a preference for change (high locomotion orientation) or having a preference for evaluating and making
comparisons (high assessment orientation) should play an important role in the extent to which individuals will ultimately engage in explorative or exploitative behaviors.

In addition, this study will consider the implications of individuals’ perceived accountability for both explorative and exploitative behavior. When individuals are empowered and higher in psychological ownership, it should create the motivational context that, when influenced by high perceived accountability for an outcome, leads to exploration and exploitation.

Finally, this study contributes to the empowerment and ownership literatures because, to the best of my knowledge, it is the first to use empowerment and psychological ownership theories to examine explorative and exploitative behaviors separately.
<table>
<thead>
<tr>
<th>Variable/construct</th>
<th>Source</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Individual ambidexterity</td>
<td>(Good &amp; Michel, 2013)</td>
<td>The individual-level cognitive ability to flexibly adapt within a dynamic context by appropriately shifting between exploration and exploitation</td>
</tr>
<tr>
<td>Explorative behavior</td>
<td>(Aston-Jones &amp; Cohen, 2005)</td>
<td>Behavior that leads to disengagement from the current task and the search for alternative behavior</td>
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<tr>
<td>Exploitative behavior</td>
<td>(Laureiro-Martinez, Brusoni, Canessa, &amp; Zollo, 2015)</td>
<td>Behavior that optimizes performance in the current task</td>
</tr>
<tr>
<td>Psychological empowerment</td>
<td>(Spreitzer, 1995)</td>
<td>A motivational construct manifested in four cognitions: meaning, competence, self-determination, and impact</td>
</tr>
<tr>
<td>Psychological ownership</td>
<td>(Pierce, Kostova, &amp; Dirks, 2001)</td>
<td>The state in which individuals feel as though the target of ownership or a piece of that target is “theirs” (i.e., “It is mine!”)</td>
</tr>
<tr>
<td>Locomotion orientation</td>
<td>(Higgins, Kruglanski, &amp; Pierro, 2003)</td>
<td>An individual’s tendency to move away from a current state to destinations or in directions that may still need to be determined</td>
</tr>
<tr>
<td>Assessment orientation</td>
<td>(Higgins, Kruglanski, &amp; Pierro, 2003)</td>
<td>An individual’s tendency to make comparisons between the current state and a new, desired state</td>
</tr>
<tr>
<td>Accountability</td>
<td>(Schlenker, Britt, John, Murphy, &amp; Doherty, 1994)</td>
<td>Being answerable to audiences for performing up to certain prescribed standards, thereby fulfilling obligations, duties, expectations, and other charges</td>
</tr>
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CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

I draw from existing theory and empirical research on the concepts of ambidexterity, psychological empowerment, and psychological ownership to better understand ambidexterity at the individual level. Based on these theories, I develop a research framework for understanding how to encourage and manage exploratory and exploitative behavior in the workplace. In the first two sections, I review the ambidexterity literature at both the organizational and individual levels of analysis respectively and provide research questions that form the basis for my study. I subsequently review research on psychological empowerment, psychological ownership, regulatory mode, and accountability and use these concepts to develop my conceptual model.

Literature Review

Organizational Ambidexterity

The term ambidexterity was first introduced to consider how organizations manage the trade-offs of having to accommodate the alignment demands of innovation and efficiency (Duncan, 1976). As an organizational phenomenon, ambidexterity gained its greatest footing when March (1991) applied the concept in the context of organizational learning. The author argued that firms must maintain an appropriate balance between exploration and exploitation for organizational survival and prosperity. Exploration in this context consists of activities including search, variation, risk-taking, experimentation, flexibility, discovery, and innovation. In contrast, exploitation involves
actions such as refinement, production, efficiency, implementation, and execution. In this seminal piece, March (1991) argued that focusing on exploitation by excluding exploration is suboptimal and that focusing on exploration to the exclusion of exploitation fails to gain the benefits from exploration. The strategic objective then is to balance exploration and exploitation by avoiding the tendency to exploit current alternatives that provide a short-term, predictable impact on firm performance and to neglect exploring new alternatives from which the long-term benefits on firm performance is often uncertain.

Considering research on organizational innovation rather than on organizational learning, ambidexterity was initially referred to as the organization’s capability to simultaneously engage in both incremental and radical innovation by successfully organizing its seemingly contradictory structures, processes, and subcultures (Tushman & O'Reilly, 1996). Following the work of March (1991) and Tushman and O’Reilly (1996), subsequent research included ambidexterity in conjunction with both organizational learning (Filippini, Güttel, & Nosella, 2012; Im & Rai, 2008) and innovation (Andriopoulos & Lewis, 2009; Jansen, Voldera, & Van Den Bosch, 2005).

Besides focusing on organizational learning and/or innovation, ambidexterity scholars also considered ambidexterity in conjunction with absorptive capacity (Fernhaber & Patel, 2012; Rothaermel & Alexandre, 2009) and dynamic capabilities (Eisenhardt, Furr, & Bingham, 2010; O'Reilly & Tushman, 2008). This wide-range applicability of the ambidexterity concept has prompted researchers to adjust the definition of ambidexterity to reflect its broader applicability compared to when it was originally proposed. A more recent definition of organizational ambidexterity refers not
only to the firm’s ability to both explore and exploit but also to simultaneously compete in mature and new markets. In this latter area of study, organizations competing in mature markets focus on established technologies, efficiency, control, and incremental improvements while those competing in new markets focus on new technologies, flexibility, autonomy, and radical improvements (O'Reilly & Tushman, 2013).

Central to the concept of ambidexterity is how ambidexterity is achieved. Traditionally, research focused on achieving balance concentrated on three main approaches: sequential ambidexterity using temporal separation, structural ambidexterity using autonomous business units simultaneously, and contextual ambidexterity using organizational behavior (Gibson & Birkinshaw, 2004; O’Reilly & Tushman, 2013; Simsek, Heavey, Veiga & Sounder, 2009; Tushman & O’Reilly, 1996). These three approaches are consistent with Simsek et al.’s (2009) concepts of cyclical, partitional, and harmonic ambidexterity respectively. Each approach is detailed below.

Sequential Ambidexterity. Achieving ambidexterity by accommodating the conflicting demands for exploration and exploitation by shifting organizational structures over time to align them to the organization’s strategy was first suggested by Duncan (1976). Achieving sequential ambidexterity by means of temporal separation structures organizations so that entire units spend time focusing only on exploration tasks and then focusing on exploitation tasks. That is, organizations cycle between short periods of exploration and long periods of exploitation (Gupta et al., 2006). An example of temporal separation comes from Adler et al.’s (1999) study, in which it was reported that managers at a car manufacturing facility used temporal separation by changing employees’ roles
from improvement tasks to production tasks as a mechanism to increase the firm’s capacity for flexibility and efficiency.

This temporal-based view of ambidexterity was challenged by Tushman and O’Reilly (1996), who argued that in the face of rapid change, a sequential method may not be effective in responding to organizational demands that require the simultaneous focus on exploration and exploitation. The solution to this demand led to research on structural ambidexterity.

Structural Ambidexterity. Achieving ambidexterity by means of structural separation requires organizations simultaneously engage in explorative and exploitative activities using structurally separated or autonomous business units (Tushman & O’Reilly, 1996). To this end, structural separation allows some units to adopt and engage in exploration activities while other units pursue exploitation activities. An example of structural separation comes from Tushman et al. (1997), who proposed two distinct organizational units with different architectures. The first architecture was dedicated to continuous, incremental innovation and was characterized as having an efficiency-oriented culture, centralized procedures, and older, yet experienced employees. The second architecture was dedicated to discontinuous innovation and was characterized by its experimental culture, loose work processes, and younger employees.

Contextual Ambidexterity. More recently, scholars have proposed a new method for accomplishing organizational ambidexterity by focusing on contextual factors in addition to structural mechanisms. Using this new method of contextual ambidexterity, Gibson and Birkinshaw (2004) argued that achieving organizational ambidexterity could be resolved at the individual level by providing a supportive environment where
individuals make the adjustments between organizational demands for exploration and exploitation.

The shift from focusing solely on organizational-level mechanisms for accomplishing ambidexterity to also include individual-level factors reflects the increasing interest among scholars to analyze how ambidexterity is achieved at all levels of the organization (Good & Michael, 2013; Gupta et al., 2006; Jasmand et al., 2012; Mom et al., 2009). Consistent with this interest, my study focuses on individuals’ perceptions of their surrounding work environment and its encouragement of ambidextrous behavior. This approach to studying contextual ambidexterity should help us better understand what organizational contexts drive individual actions towards ambidextrous behavior.

Gibson and Birkinshaw (2004) suggested that contextual ambidexterity is comprised of four dimensions: discipline, stretch, support, and trust. These dimensions describe organizational contexts that drive individual initiatives towards ambidextrous behavior. For individuals, having clear standards, rapid feedback and clear sanctions creates discipline; having shared ambitions, collective identity, and individual work meaningfulness creates stretch; having access to resources, choice, and guidance creates support; and having fair decision processes, involvement in decisions and skill-based staffing creates trust (Ghoshal & Bartlett, 1994). These four dimensions typically act as the defining elements that enable a supportive context that promotes firm-level ambidexterity through individual-level ambidextrous behavior. Specifically, this ambidexterity-conducive context is argued to encourage individuals to make their own decisions on how to resolve the trade-offs in demands for aligning with current business
requirements and adapting to changing business conditions. In support, a study by Gibson and Birkinshaw (2004) found that the role played by management was important for achieving an organizational context with high levels of social support (i.e. trust and support) combined with high levels of performance management (i.e. discipline and stretch). This organizational context was one that facilitated high levels of ambidexterity.

Understanding the role of organizational contexts that provide a supportive environment where individuals ultimately manage organizational demands for exploration and exploitation is important for analyzing explorative and exploitative behaviors. Working environments that have clear standards and rapid feedback not only create discipline (Ghoshal & Bartlett, 1994) but could also facilitate exploitative behavior due to the performance-driven nature of exploitative tasks and due to the expected immediate feedback and clear standards one can find in performance-driven tasks. Moreover, the stretch component that is associated with work meaningfulness (Gibson & Birkinshaw, 2004), suggests that individuals could be driven to engage in either explorative or exploitative tasks depending on how individuals perceive the meaningfulness of such tasks. Similarly, the trust component, which is associated with involvement in decisions, could potentially lead employees to engage in explorative behaviors that require searching for alternatives and involvement in decision-making. Lastly, and more importantly, the support component can facilitate both explorative and exploitative behavior by providing employees with the necessary guidance and resources to promote such behaviors.

The effect of organizational context on explorative and exploitative behaviors was also documented in Kane and Alavi’s (2007) simulation-based study that investigated the
effect of using three information technology-enabled learning mechanisms for exploration and exploitation. Extending March’s (1991) computational model, the researchers found that certain technologies, including knowledge repositories and virtual team rooms, tend to promote exploitation. Other technologies, such as electronic mail, were more likely to cultivate exploration. Understanding the role of technology as part of the organizational context can assist managers in selecting and assigning technologies that support desired behaviors among employees.

A second example that further illustrates the role of organizational context in shaping individual behavior is a study by Carmeli and Halevi (2009). In this study, the authors proposed that the effect of top management teams on organizational ambidexterity was contingent on managers’ ability to develop a suitable organizational context; one that enabled and encouraged the simultaneous pursuit of exploration and exploitation.

Research Gaps within the Ambidexterity Literature. To summarize, ambidexterity research has focused primarily on organizational-level mechanisms to achieve an appropriate amount of exploration and exploitation at the organization or unit level. This macro-level perspective, however, does not take into account individual-level factors. While contextual ambidexterity shifted the focus of managing trade-offs from the organizational or unit level to the individual level, the coverage is superficial, and as a result incomplete. Knowing that individuals may act as enablers of organizational ambidexterity as a result of having work environments that promote and provide stretch, discipline, support and trust is far from all there is to know to effectively execute an ambidexterity strategy. This understanding is also what has likely led to calls by scholars
to provide further empirical evidence on individual ambidexterity (Good & Michael, 2013; Gupta et al., 2006; Jasmand et al, 2012; Mom et al., 2009).

After more than two decades of ambidexterity research, the current state of individual level research reveals several gaps that provide unique opportunities for advancing the field. Two important areas for future research include the role of managerial decisions in creating ambidexterity and characteristics of the individuals (be it CEOs, managers, supervisors, team leaders, or employees) who end up taking responsibility for balancing the conflicting demands between exploration and exploitation (Birkinshaw & Gupta, 2013). Analyzing individual behavior in this manner should increase our understanding of ambidexterity at the most basic level and what drives variation in ambidextrous behavior among individuals.

**Individual Ambidexterity**

Recall that individual ambidexterity was defined as an individual’s ability to flexibly adapt to the demands of exploration and exploitation. This definition considers ambidexterity not as a psychological trait but as an individual’s capacity to self-regulate and perform two seemingly contradictory activities at once. Such activities include exploiting current firm resources and exploring for new resources that contribute to the organization’s strategic goals and its competitive position in the industry. While previous research on individual-level ambidexterity has conceptualized the construct as the combined effects of explorative and exploitative behaviors (Jasmand et al., 2012; Mom et al., 2009), my study takes a different, more nuanced approach by considering how these behaviors can be separately managed.
Exploitative Behavior. Exploitation refers to refinement, choice, production, efficiency, selection, implementation, execution (March, 1991), incremental innovation, and innovation for current customers (Benner & Tushman, 2003). Although March’s (1991) work focused on organizational learning, he acknowledged that the issue of balancing exploration and exploitation occurs at different levels of a nested system, including the individual. According to March (1991), refinement and extension of known capabilities are at the core of exploitation, with its returns being positive, proximate, and predictable.

A more current definition of individual-level exploitation is found in the field of neuroscience. According to neuroscientists, exploitation is associated with a distinctive mode of neurological activity that drives behavior towards a current task by focusing attention on task-relevant processes that help complete tasks and attain valued rewards. With regards to task performance, this neurological process is often associated with tasks that require dedicated attention (Aston-Jones & Cohen, 2005). A recent study in management associated exploitative behavior with regions of the brain that are linked to anticipations of safe, predictable rewards in addition to high-levels of engagement, selection, refinement, choice, production and efficiency (Laureiro-Martinez et al., 2015).

Drawing from the two neuroscience-based studies presented above, this study uses Laureiro-Martinez et al.’s (2015) definition of exploitative behavior, which refers to behaviors that will help optimize task performance. Optimization refers to the process of determining how to best perform the current task by considering actions that will provide the highest return (Aston-Jones & Cohen, 2005). In this environment, cost, efficiency and incremental innovation are valued (Tushman & O'Reilly, 1996).
In the innovation literature, change is discussed in terms of incremental and radical innovation. The former, which is relevant to understanding exploitation, evolves over time as innovations build on current capabilities and knowledge (Benner & Tushman, 2003). At the firm level, an example of incremental change is the continuous launch of new smart phones and tablets with added features and small adjustments to the previous designs. An example at the individual level is when a customer service representative adjusts his or her response to a customer complaint based on knowledge gained through experience dealing with other customers on the same or a similar issue. The end result is not only a more satisfied customer, but also a minor modification to established processes or procedures.

Explorative Behavior. Exploration is described in terms of search, variation, risk taking, experimentation, play, flexibility, and discovery (March, 1991) as well as radical innovation (Benner & Tushman, 2003). This form of learning and innovative behavior is consistent with experimentation with new alternatives and with behavioral outcomes that are uncertain, distant, and often negative. Consistent with the neuroscience-based definition for exploitative behavior, this study uses the previously introduced definition of explorative behavior advanced by Aston-Jones and Cohen (2005).

The research discussed earlier with exploitation also examined the neurological activity associated with exploration. Here, researchers found a distinctive mode of neurological activity that shows individuals disengaging behavior from the current task, and in its place, focusing attention on sampling other tasks thought to provide greater task rewards. Nevertheless, neurological activity that corresponds to increased distraction was
also associated with poor performance on tasks that require dedicated attention (Aston-Jones & Cohen, 2005).

Consistent with March’s (1991) description of explorative behavior, participants in Laureiro-Martinez et al.’s (2015) experimental study were found to uncouple themselves from their current tasks in search for newer, more valuable opportunities that favored experimentation, flexibility, discovery, and radical innovation. Consistent with Aston-Jones & Cohen (2005), the study also found this behavior had a poor effect on performance of current tasks.

Ambidextrous Behavior. While the study of Laureiro-Martinez et al. (2015) is quite recent, there are a few other studies relevant to developing the current study. Research by Mom et al. (2009) represents the first empirical study of individual ambidexterity to consider contextual factors that affect managers’ ambidextrous behavior: formal structural and personal coordination mechanisms. Based on their findings, the authors concluded that formal decision-making authority is an important structural mechanism affecting individual ambidexterity. Also important are coordinating mechanisms that assist managers in cooperating with other managers and in developing a network of contacts within the organization.

While the work of Mom et al. (2009) focused on contextual factors that enable ambidextrous behavior, the work of Jasmand et al. (2012) represents one of the first attempts to analyze the antecedents of ambidextrous behavior using individual differences in addition to contextual factors. Grounded on self-regulatory mode theory (Higgins et al., 2003), the authors proposed locomotion orientation and assessment orientation as antecedents of individual ambidexterity of customer service
representatives. An individual with a locomotion orientation was predicted to move from one state to another, indicating a preference for change and performing something different. Conversely, an individual with an assessment orientation was argued to make comparisons between the current state and another state, with a preference for carefully assessing available choices before taking action (Higgins et al., 2003). The joint presence of locomotion and assessment is vital for achieving successful outcomes in the presence of complex or difficult tasks since assessment orientation provides consideration of alternative courses of action while locomotion orientation provides individuals with the drive for immediate action (Kruglanski et al. 2000).

Based on their findings, Jasmand et al. (2009) concluded that individuals responsible for both generating sales and providing customer service must balance two distinct and conflicting task orientations – order taking (a form of exploitation) and order seeking (a form of exploration) – to be a success. In order taking, representatives engage in repetitive tasks that are structured to achieve reliability and efficiency. However, the time taken in these tasks took individuals’ attention away from developing a deeper understanding of customers’ needs and experiences through the proactive activity of order seeking. Yet, much like order taking, this explorative behavior took up individuals’ time that could be used in less risky customer service requirements. Therefore, although individual ambidexterity benefits the organization in terms of more effective customer service and higher sales, it does not result in maximum efficiency.

In yet another recent study of individual differences and their impact on individual ambidexterity, Good and Michel (2013) examined the benefits of an individual’s ability to (1) explore by focusing on new ideas or concepts (divergent
thinking), (2) exploit tasks at hand (focused attention), and (3) shift attention between exploration and exploitation activities (cognitive flexibility). The authors found that individual differences including divergent thinking, focused attention, and cognitive flexibility helped explain ambidextrous behavior.

There are other studies that do not specifically test individual ambidexterity by empirically analyzing either its antecedents or the contextual factors that promote ambidextrous behavior, but their findings also support the conclusion drawn by studies already reviewed: Individuals can and do behave ambidextrously. For example, considering the effects of personal characteristics on innovation, Miron, Erez and Naveh (2004) found that engineers and technicians of a large R&D company had the ability to both be creative and pay attention to details; two relatively opposing activities that impact the firm’s innovation efforts.

Tushman, Smith and Binns’ (2011) study of top management teams (TMTs) at 12 large companies revealed a number of leadership principles found to help executives lead ambidextrously. For instance, a forward-looking strategic aspiration helps TMTs develop an overarching identity that gives lower ranking managers permission to engage in opposing strategies such as exploiting existing products and services while exploring new offerings. Likewise, embracing inconsistency by maintaining multiple and often conflicting strategic agendas and by keeping different performance standards helped balance the performance-driven needs of core businesses with the innovation efforts of experimentation-driven peripheral units.

In summary, responding to shifting demands from customers and intensifying performance demands from managers, employees at all levels are increasingly required to
simultaneously engage in tasks with seemingly conflicting goals. For example, managers are asked to combine cost cutting and free-thinking attributes (O'Reilly & Tushman, 2004). Engineers and technicians are asked to engage in creative tasks while paying attention to detail (Miron et al., 2004). CEOs are charged with promoting ambidextrous behavior by demanding discipline while encouraging experimentation (Tushman et al., 2011). Empirical results from other studies including those detailed earlier (i.e., Good & Michael, 2013; Jasmand et al., 2012; Mom et al., 2009) have found a wide range of variation in individuals’ ambidexterity levels. These studies combine to provide considerable evidence that ambidexterity can and does happen at all levels of the firm.

Managing Exploration and Exploitation. Although there is consensus on the need to balance exploitation and exploration, there is no general agreement on how to achieve this balance (Gupta et al., 2006). Recall, contextual ambidexterity relies on creating a context that encourages individuals to solve the organizational demands for exploration and exploitation. That is, individuals are not given instructions to focus on activities that support either exploration or exploitation; instead, they are encouraged to use their own judgment on where to divide their time among activities that support exploration and exploitation. Hence, there is possibility for equifinality. For example, ambidextrous units can have all employees focusing on serving customers from within their own functional areas, but at the same time, all employees could be attentively watching for changes in the task environment. When a demand for ambidextrous behavior arises, contextual ambidexterity allows individuals to have a choice for engaging in either explorative or exploitative behavior as they see fit (Gibson & Birkinshaw, 2004). Although contextual ambidexterity considers individuals, it does not provide details on how ambidextrous
individuals are or what level of ambidextrous behavior leads to higher levels of firm-level ambidexterity because the outcome of ambidexterity is only discussed at the firm level.

When balancing the trade-offs between exploitation and exploration rests with the individual, it is important to understand what organizational contexts and individual-level attributes affect individual empowerment to adapt exploitative and explorative behaviors to day-to-day work requirements. Understanding how individual characteristics may influence ambidextrous capacity will help managers understand the drivers of individual ambidexterity and thus help implement effective interventions that encourage and promote ambidextrous behaviors. Specifically, the focus is on contexts that allow individuals to adapt and choose their own path to ambidextrous behavior. To this end, my dissertation intends to examine ambidextrous behavior in the workplace by exploring and analyzing the antecedents of explorative and exploitative behaviors separately.

Research Questions and Research Model. The research questions that guide the development of this study are: (1) What is the effect of individual-level perceptions of empowerment and ownership on explorative and exploitative behavior? and (2) Are there individual characteristics and perceptions that moderate this effect? The research model that will be used to answer the proposed research questions is depicted in Figure 1.
Figure 1: Research Model
Hypotheses Development

In this section, I draw from psychological empowerment theory (Spreitzer, 1995) and psychological ownership theory (Pierce et al., 2001) to introduce the consideration of potential antecedents of explorative and exploitative behavior. Next, I draw from regulatory mode theory (Higgins et al., 2003) and accountability research (e.g., Christopher & Schlenker, 2005; Mero, Guidice & Werner, 2014; Mero & Motowidlo, 1995) to explore potential moderators between individuals’ perceptions of empowerment and ownership and individuals’ exploration and exploitation behaviors.

Empowerment

Empowerment is the process of improving individuals’ feelings of self-efficacy by identifying and removing sources that are detrimental to those feelings using formal and informal management practices. In practice, empowerment implies developing individuals’ “can do” attitude by enhancing their conviction that they can successfully execute desired behaviors (Conger & Kanungo, 1988). The notion of individual empowerment continues to draw the attention of researchers interested in behavioral outcomes that are important for organizations (Spreitzer, 1995; Zhang & Bartol, 2010). For managers facing the challenge of promoting and encouraging certain behaviors, such as explorative and exploitative behavior, empowering employees may constitute a beneficial means to encourage employees to engage in desired tasks and to persist on them despite challenges (Conger & Kanungo, 1988).

There are two complementary approaches to empowerment at work—social-structural and psychological. While both are important for developing contexts that
promote ambidextrous behaviors and are introduced below, the level of analysis in my research makes psychological empowerment the salient form for this dissertation.

Social-Structural Empowerment. Social-structural empowerment is a macro-level approach that focuses on organizational conditions that facilitate employee involvement through management practices including gain sharing, information sharing, decentralization, and employee training (Conger & Kanungo, 1988; Spreitzer, 2008). Managers also can empower employees by sharing decision-making authority and by fine-tuning organizational processes so that workers are allowed to influence day-to-day decisions on how and when to do their work and to decide how to respond and recover from problems quickly (Lawler, 1986). In practice, for empowerment to work, managers not only must redistribute power by giving workers more discretion, but also must reward workers for wisely using their own discretion (Bowen & Lawler, 1995).

Social-structural empowerment, with its top-down focus, emphasizes firm structures, policies, and practices that enable empowerment. It does not, however, take into account how empowerment is experienced by employees or how they react to conditions that are expected to empower them (Eylon & Bamerger, 2000). For insights on this issue, researchers developed the concept of psychological empowerment.

Psychological Empowerment. Psychological empowerment is a micro-level approach that focuses on the empowerment experience by considering how employees feel about their job and their role within the organization (Spreitzer, 2008). In her seminal work on psychological empowerment, Spreitzer (1995) suggested four psychological dimensions to define the degree to which individuals feel empowered: meaning, competence, impact, and self-determination. In practice, individuals feel empowered
when they care about the tasks they perform (meaning), when they believe in their ability to skillfully perform tasks (competence), when they believe they can influence organizational outcomes by accomplishing those tasks (impact), and when they think they have a choice in initiating and controlling tasks (self-determination) (Conger & Kanungo, 1988; Thomas & Velthouse, 1990).

Psychological empowerment is important for understanding employee behavior because it is through the feeling of empowerment that empowering-driven management practices can truly influence employee behavior. To this end and with respect to the topic of the current study, managers should be able to promote desired explorative and exploitative behaviors by psychologically empowering employees to initiate and persist in exploitative and explorative behavior. However, there is no research that has considered the direct relationship between psychological empowerment and ambidextrous behavior.

Since Spreitzer’s (1995) seminal finding that empowered individuals were more likely to be innovative in their work and to fulfill or exceed their work expectations, it has been implicitly assumed that such behavior reflects to some extent exploration and exploitation. This study, however, only tested the consequences of psychological empowerment on effectiveness in meeting performance expectations (an assumed outcome of exploitation) and innovativeness in creating new ideas, products, services, or processes (assumed outcomes of exploration). I argue that analyzing the unique impact of psychological empowerment on explorative and exploitative behavior will contribute to our understanding of individual ambidexterity and its antecedents. Theoretically, there
are many reasons to expect that psychological empowerment affects exploration and exploitation and ultimately, ambidextrous behavior. Those reasons are discussed below.

*Psychological Empowerment and Explorative Behavior.* Individual perceptions about the meaningfulness of work, personal competence, ability to impact work, and self-determination at work are critical factors to developing psychological empowerment. This empowerment should serve to motivate individuals to initiate and engage in explorative behaviors as empowered individuals should want and feel able to actively shape their work environments (Spreitzer, 1995). These aims are critical to engagement in explorative behavior because they result in individuals being persistent when engaged in riskier, less certain explorative activities.

Prior research found that psychological empowerment was positively related to intrinsic motivation (Gagne, Senecal, & Koestner, 1997) and that intrinsically motivated workers tend to be more creative than those less intrinsically motivated (Grant & Berry, 2011). In addition to creativity, intrinsic motivation has also been associated with initiative, activity, flexibility, and resilience (Thomas & Velthouse, 1990). This research suggests that empowered individuals could be intrinsically motivated to engage in explorative behavior because explorative tasks, which focus on searching for new ideas or processes (Aston-Jones & Cohen, 2005), provide an attractive venue for exercising their creativity and for satisfying their preference for flexibility.

Although the antecedents of psychological empowerment suggested in Spreitzer’s (1995) nomological network of psychological empowerment (locus of control, self-esteem, access to information, and rewards) shape the individual’s sense of empowerment, it is argued that the four components of the empowerment construct
proposed in this research (meaning, competence, self-determination, and impact) essentially reflect the individual’s orientation towards his or her job. As these components represent cognitive self-evaluations of individuals and their work environment, the more positive these evaluations are, the more energized individuals are expected to be. It is this resulting energy that drives their behavior (Gagne et al., 1997). In previous research, these components have been found to be associated with behaviors contributing to innovative behaviors; behaviors that are important for engaging in explorative behavior. Specifically, feelings of meaning and self-determination have been found to engender intrinsic motivation (Gagne et al., 1997), which is known for generating innovative behaviors (Spreitzer, 1995).

Feelings of meaning emerge when the value of a task is related to the individual’s own ideals or standards (Thomas & Velthouse, 1990). Specifically, individuals often develop this psychological state by having a job that provides skill variety, task identity, and task significance (Hackman & Oldham, 1976). As a result, personal engagement of empowered employees tends to increase (Kahn, 1990) with employees not only initiating required tasks, but also persisting on them (May, Gilson, & Harter, 2004). In addition, the higher the employees’ feeling of meaning towards their work, the more intrinsically motivated they felt (Gagne et al., 1997). This intrinsic motivation is expected to motivate employees to engage in explorative behavior in contexts where innovation and creativity are encouraged and valued. This is consistent with the work of Gibson and Birkinshaw (2004) on contextual ambidexterity in which contexts that value discipline and stretch were found to facilitate employees’ adaptability (a form of exploration). Specifically, the personal meaning by which individuals contributed to the organization facilitated
employees’ adaptability. This finding supports the notion that feelings of meaning are conducive to exploratory behavior.

Feelings of self-determination, much like autonomy, is a condition of psychological empowerment that is also associated with the flexibility or freedom to decide what to do or how to accomplish tasks and goals at work (Thomas & Velthouse, 1990) and has been found to be the most important environmental factor affecting creativity in the workplace (Amabile, 1988). Creativity, which is highly correlated with exploration of alternative possibilities (Amabile, Conti, Coon, Lazenby, & Herron, 1996), is expected to help generate explorative behavior because creative individuals, who have a natural tendency to satisfy their needs for autonomy and competence (Ryan & Deci, 2000), are expected to be motivated to engage in tasks that have an appeal for novelty and challenge.

Although feelings of competence and impact have not been found to generate intrinsic motivation (Gagne et al., 1997), feelings of competence are likely to impact individual’s innovative behavior (Amabile, 1988). Specifically, individuals that feel they are competent believe in their own problem-solving capabilities and tactics for, among other things, creative thinking. Similarly, feelings of impact, which reflect an individuals’ perception that they can “make a difference,” can contribute to an individual’s high work motivation (Hackman & Oldham, 1976). Empowered individuals who believe they are autonomous and who also believe they can make an impact are likely to be creative (Spreitzer, 1995). This innovative behavior then allows for the generation, adoption, and implementation of new ideas or processes (Scott & Bruce, 1994). Thus, the competence
and impact aspects of empowerment should also contribute to the subsequent creativity and innovative behavior of empowered employees.

In line with Spreitzer’s (1995) findings that considered psychological empowerment as an antecedent of innovative behaviors, I argue that psychological empowerment is an antecedent of individuals’ explorative behavior. Thus, I hypothesize:

**H1:** *Employee perceptions of psychological empowerment are positively related to explorative behavior*

*Psychological Empowerment and Exploitative Behavior.* Psychological empowerment is also expected to be an important antecedent of exploitative behavior because empowered individuals increase their concentration, initiative, and resilience on tasks (Thomas & Velthouse, 1990). Important to this argument is that exploitative behavior is, by definition, a behavior that focuses on optimizing task performance (Aston-Jones & Cohen, 2005), thereby, making task performance the primary focus of exploitative behavior. Scholars of psychological empowerment recognize the importance of the each proposed sub-dimension in additively creating the overall empowerment construct and suggest that the lack of any of them could be detrimental to the overall feeling of empowerment (Spreitzer, 1995). Therefore, the higher the feelings on each dimension, the higher the potential to create an overall feeling of empowerment. This raises the possibility that not only the overall construct, but also the sub-dimensions, could help explain the impact of empowerment on exploitative behavior. For example, individuals who feel they are competent tend to be highly efficient and tend to achieve high levels of performance (Bandura, 1989, 2012). Therefore, it is expected that employees high on this dimension will be motivated to engage in exploitative behavior.
because exploitative tasks, which focus on performance optimization, provide an attractive venue for satisfying their needs for competence (Ryan & Deci, 2000).

Psychological empowerment has been linked to positive work performance such as employee effectiveness and employee productivity, suggesting that when individuals feel empowered, they will be motivated to enhance their performance because they tend to go above and beyond expectations and are more influential in their work (Spreitzer, 2008). Similar to the approach taken in the previous section, exploitative behavior is likely to be optimized when individuals perceive greater empowerment as a result of a work context that contributes to feeling of meaningfulness, competence, impact, and self-determination.

In previous research, the components of psychological empowerment have also been found to be related to behaviors that contribute to exploitative behaviors. Specifically, Spreitzer, Kizilos and Nason (1997) found that the competence and impact dimensions were most strongly related with managerial effectiveness, suggesting that competence is necessary for performance and that impact, which comes from prior performance feedback, further motivates employees to maintain that feeling of impact as they move forward.

According to March (1991), the essence of exploitation also involves refinement and extension of current competencies. Although the author discusses exploitation at the organizational level, he pointed out that exploitation issues occur at all levels, including the individual level. At the individual level, these competencies are expected to guide behaviors towards exploitative tasks. That is, under a strong sense of competence, individuals are expected to focus on the performance outcomes on exploitative behavior
because this strong sense of belief in their own capabilities motivates them to put extra effort and perseverance into tasks (Bandura, 1989). Specifically, individuals who have a strong sense of competence tend to do one or more of the following: engage in activities they think they can manage, expend great effort to overcome challenging goals, display high levels of perseverance and self-assurance in their own capabilities, be highly efficient, and achieve high levels of performance (Bandura, 1989, 2012). As exploitative activities often focus on production, implementation, efficiency, and performance (Jasmand et al., 2012; March, 1991) to achieve short-term goals (Mom, et al., 2009) by focusing on optimizing current tasks (Aston-Jones & Cohen, 2005), it is expected that when individuals experience competence as part of their overall perception of empowerment, they are more likely to engage in exploitative behavior.

Feelings of impact, as part of overall individual psychological empowerment, have likewise been found to be related to job performance (Liden, Wayne, & Sparrowe, 2000). In addition, impact can influence exploitative behavior because feedback on tasks helps develop and heighten individuals’ motivation (Pearson, 1991). This research suggests that individuals high on the impact dimension are expected to engage in exploitative behavior because exploitative tasks, which focus on performance optimization, should be appealing to individuals motivated to make a short-term difference in their work environments.

Feelings of meaning are often associated with high levels of engagement (Kahn, 1990) and a concentration of energy (Thomas & Velthouse, 1990). Engaged individuals channel their energies into physical, cognitive, and emotional tasks that reflect their personal values, that provide a challenge, and that have clear procedures and goals (May
et al., 2004). Exploitative activities often provide prescribed, standardized problem-solving procedures (Jasmand et al., 2012) to achieve short-term goals (Mom, et al., 2009) by focusing on optimizing current tasks (Aston-Jones & Cohen, 2005). Therefore, exploitative activities can motivate individuals to engage in exploitative behavior because those who are experiencing high levels of meaning will have a preference to engage and concentrate their energies in tasks that have clear goals and procedures.

Finally, the self-determination component of psychological empowerment can increase individuals’ interest and persistence in tasks (Deci & Ryan, 1987). Because individuals tend to be motivated to satisfy their innate needs for autonomy and efficacy (Ryan & Deci, 2000), the perceptions of autonomy that lead to empowerment should engender exploitative behavior from empowered employees that have a choice because of greater autonomy for selecting their own challenging, efficacy-yielding tasks.

I argue that the combined effect of perceived high meaningfulness, competence, impact and self-determination should lead to greater and empowered employees motivated to initiate and engage in exploitative behavior. In line with Spreitzer’s (1995) findings that considered psychological empowerment as an antecedent of behaviors conducive to effort, persistence, and performance, I propose that psychological empowerment is an antecedent of individuals’ exploitative behavior. Thus, I hypothesize:

\[ H2: \text{Employee perceptions of psychological empowerment are positively related to exploitative behavior} \]

In sum, my argument to this point is that employees who are psychologically empowered are more likely to be those who will engage in both explorative and exploitative ambidextrous behavior. In later hypotheses, I will consider potential
moderators of that relationship that should provide added insight into the individual and contextual factors that may improve our ability to predict the condition under which employees are more likely to engage in exploitative or explorative behaviors. In the next section, I consider a second construct, psychological ownership, that when perceived by employees should also predict ambidextrous behavior.

Psychological Ownership

Psychological empowerment and psychological ownership, even though both represent distinct constructs, share a common motivation: the basic psychological need for self-efficacy. Although this commonality makes job-based psychological ownership a psychological state that is likely to be present when individuals experience empowerment, psychological ownership, with its emphasis on feelings of possession, should explain additional variance in ambidextrous behavior beyond what is explained by psychological empowerment. Prior research demonstrated that psychological ownership explained employee behavior (organizational citizenship behavior) above and beyond other contributing factors such as demographic characteristics, organizational commitment, and job satisfaction (Van Dyne & Pierce, 2004).

Analyzing the effects of psychological ownership on ambidextrous behavior in the presence of psychological empowerment is justified by the presence of a common self-efficacy component. It is also justified by the likelihood of finding jobs that would provide individuals with opportunities to exercise their own discretion, to become more familiar with the job processes, and to personally invest more of themselves; all of which can help develop feelings of possessiveness and thus, psychological ownership (Brown, Pierce, & Crossley, 2014).
Psychological ownership has roots in three basic human motives: efficacy, self-identity, and having a place so that one feels “at home” (Pierce et al., 2003). There are three means by which each motive is realized: control over work, intimate knowledge of the job, and investment of the self into the job. Control over work provides the context within which individuals can develop competence and interact effectively with their environment. Intimate knowledge of the job facilitates self-identity through the close relationship individuals have with their job. Lastly, investment of the self in the job provides the opportunity for individuals to be comfortable with their surroundings (Pierce, Iiro, & Cummings, 2009).

Empirical evidence suggests that psychological ownership positively influences employee behavior. For example, Vandewalle, Van Dyne, and Kostova (1995) found that psychological ownership was positively related to the behavioral form of organizational commitment. One explanation for this finding was that higher commitment comes from the individual’s willingness to contribute to the organization’s well-being. In addition to having a positive effect on organizational commitment, psychological ownership also exerts a positive influence on job satisfaction, organizational citizenship behavior (Van Dyne & Pierce, 2004), and intentions to stay (Avey, Avolio, Crossley, & Luthans, 2009). These studies suggested that feelings of possession could positively influence individual workplace attitudes and behavior that are beneficial to organizations in terms of increased commitment, intentions to stay, and job satisfaction.

Psychological ownership is important for understanding employee behavior because, as suggested earlier, it is through the actual perception of ownership that employers can encourage behavior that is beneficial to the organization. To this end,
managers may be able to promote ambidextrous behavior by designing and providing tasks that offer opportunities for satisfying individuals’ need for self-efficacy, self-identity, and being at home. To the best of my knowledge, however, scholars have not considered a direct relationship between psychological ownership and ambidextrous behavior. Theoretically, though, there are many reasons to expect that psychological ownership plays an important role in facilitating explorative and exploitative behavior. I discuss the influence of each element of psychological ownership on explorative and exploitative behavior below.

Self-efficacy can promote a sense of psychological ownership of a particular task or process (Avey et al., 2009) and is linked to the individual’s need for efficacy (Ryan & Deci, 2000). As highly efficacious individuals are more likely to be innovative (Amabile, 1988), it is expected that employees experiencing psychological ownership and who perceive themselves as highly efficacious will tend to engage in explorative tasks that require innovative behavior. Since feelings of self-efficacy have been found to be related to job performance (Liden et al., 2000), it is expected that employees experiencing psychological ownership and who feel they are self-efficacious will tend to engage in exploitative behavior that require focus on performance expectations. This is consistent with Bandura’s (1977) argument that individuals high in self-efficacy tend to engage in activities that have high performance expectations and require great effort and persistence. Thus, it is expected that highly efficacious employees that are experiencing psychological ownership will engage in exploitative behaviors because exploitative tasks often require effort and persistence and provide opportunities to further satisfy their efficacy needs.
Self-identity will motivate individuals to seek and engage in ambidextrous behavior to the extent that they perceive that explorative and exploitative tasks can become possessions through which individuals establish their identities. Considering a task as a possession is consistent with Avey et al.’s (2009) argument that possessions to express self-identity can include objects from the work environment because not only individuals do have a strong drive to identify themselves with the settings in which they work, but also they tend to seek opportunities to affirm their self-identity. When individuals experience psychological ownership, they actively participate at work by investing time and energy to benefit the organization (Van Dyne & Pierce, 2004). Therefore, employees experiencing ownership are expected to engage in explorative behavior to the extent to which they perceive that such explorative tasks benefit the organization. In addition, it is possible that an individual who wants to be identified as an explorer, adventurer, or risk-taker would prefer to engage in higher levels of explorative behavior. Since feelings of ownership were found to be positively related to employee performance (Van Dyne & Pierce, 2004), it is expected that employees experiencing psychological ownership will tend to engage in exploitative tasks that focus on improving performance of current tasks. In addition, it is possible that individuals who want to be identified as being efficient, experienced, or hard working would prefer to engage in higher levels of exploitative behavior.

Belongingness is associated with the feeling that one belongs in the organization and is realized when individuals develop a sense of attachment to a particular job, work team, work unit, or organization (Avey, et al., 2009). As a result, individuals experiencing psychological ownership not only devote significant time, energy, and
resources to protect and display their possessions but also develop feelings of responsibility to protect, care, and nurture organizational targets (Pierce, et al., 2003). Thus, it is expected that individuals who feel like owners of an organization will tend to engage in explorative behavior because they feel it is their responsibility to protect the long-term survival of the organization by directing their time and energy towards searching and experimenting with new alternatives.

**H3:** Employee perceptions of psychological ownership are positively related to explorative behavior

Jobs that have an important impact on organizational outcomes can produce a sense of making a difference at work (Hackman & Oldham, 1976). As a result, these perceptions are likely to influence how much individuals invest of themselves into the job by working more carefully, fully applying their skills and knowledge, and providing their best effort towards good quality performance (Thomas & Velthouse, 1990). In turn, this behavior should create a sense of attachment to the job and feeling of belongingness (Avey, et al., 2009). When individuals develop a sense of possession of their job, they tend to invest additional time and energy because they also have a sense of responsibility to protect, defend, and improve their possessions (Pierce et al., 2009) and the responsibility to proactively enhance tasks that they claim as their possessions (Van Dyne & Pierce, 2004). Thus, it is expected that individuals who feel like owners of an organization will tend to engage in exploitative behavior because they feel it is their responsibility to protect the short-term returns of the organization by focusing on quality performance and improvement of current tasks.
**H4: Employee perceptions of psychological ownership are positively related to exploitative behavior**

To this point, I have argued that individuals who perceive higher levels of psychological empowerment and ownership are more likely to exercise explorative and exploitative behaviors. However, given these are distinct behaviors, there is often a tradeoff that must be made in terms of the time and energy individuals have to invest in one or both of these behaviors. In this section, I explore potential moderators of the perception–behavior relationship; moderators that should explain why individuals might devote greater time to one facet of ambidextrous behavior over the other. One moderator is regulatory mode; the other is perceived accountability.

Moderating Role of Self-Regulation

Regulatory mode theory (Higgins et al., 2003) is an individual difference useful in analyzing the independent effects of assessment and locomotion orientations in order to improve predictions of when individuals are more likely to use their discretion to explore and exploit. Self-regulation considers assessment and locomotion as independent orientations by which individuals assess the goals they want to pursue and move from a current state in search for other, alternate goal pursue state. From an individual difference perspective, regulatory mode assumes that individuals can independently be low or high on each orientation (Higgins, et al., 2003; Kruglanski, et al., 2000). To this end, specific activities such as exploration or exploitation activities are expected to require one or the other orientation depending on the nature and the goals of such activities.

The mere existence of an empowering context does not guarantee that all individuals will engage in either exploitative and/or explorative behavior in the same
beneficial manner since it is unknown what path individuals will take to be ambidextrous.
In addition, employees who feel empowered may direct that cognition towards tasks that require ambidextrous behavior or towards some other job responsibilities. Although work environments that promote empowerment are expected to encourage employees to engage in explorative and exploitative behaviors, exploration and exploitation require two distinct behaviors intended to achieve distinct goals (Aston-Jones & Cohen, 2005; Laureiro-Martinez et al., 2015), and such goals may not be aligned with the employees’ own desired goals. To this end, personal preferences for assessment or locomotion, which influence how individuals self-regulate their actions to achieve desired goals (Higgins et al., 2003), should help us better understand the extent to which empowered employees effectively engage in ambidextrous behavior.

Locomotion Orientation. As described earlier in the chapter, locomotion orientation refers to an individual’s tendency to move away from a current state to new destinations or in directions that may still need to be determined. Individuals with this tendency for change and for doing something different have been found to display greater attention to activities, persistence on tasks, intrinsic motivation, and openness to change as well as higher job involvement, (Higgins et al., 2003; Kruglanski, et al., 2000).

Regarding initiation of tasks, research has shown that when individuals are presented with a choice to engage in several different activities, high locomotors typically do not like to wait and weigh the options before selecting. Instead and given their desire to disengage from a current activity and explore other activities, locomotors simply choose any activity to start doing something different (Higgins, et al., 2003). In practice, this desire to remain in motion increases locomotors’ need to seek out opportunities in the
environment; a need that is consistent with the required task of sampling the environment in search for novel opportunities found in explorative behavior research (Aston-Jones & Cohen, 2005).

Because high locomotors display greater intrinsic motivation and greater openness to change (characteristics that are important for exploration), higher locomotion orientations can enhance explorative behavior. Therefore, within working environments that promote empowerment, it is expected that high locomotors will engage in more explorative behavior than those who are low locomotors. This moderation effect is expected because individuals with higher levels of locomotion orientation, and with their greater attention to activities and intrinsic motivation, should direct their efforts towards explorative tasks and be more open to search the environment for new opportunities when empowered compared to those who display low levels of locomotion orientation.

Thus, I propose:

**H5:** *Locomotion moderates the relationship between perceptions of psychological empowerment and explorative behavior such that the positive relationship is stronger with higher levels of locomotion.*

One can conclude that the exploitation concept is not consistent with locomotion orientation as defined by Higgins et al. (2003). When psychologically empowered individuals engage in exploitative behavior, having a high or low locomotion orientation is not expected to enhance or weaken this behavior because exploitation requires maintaining a focus on task performance and task efficiency.

Assessment Orientation. Recall that before engaging in any activity, high assessors prefer making comparisons between current and desired states. This orientation
is also associated with extrinsic motivation, a preference for order and predictability, discomfort with ambiguity, and fear of failure (Higgins, et al., 2003). Since exploitative tasks emphasize production, execution, and efficiency and are somewhat predictable (March, 1991), it is assumed that they are also somewhat standardized and unambiguous, making exploitative tasks more appealing to high assessors than to those low on assessment orientation.

In practice, the main concern for assessors is their performance, how it is assessed by others, and how it stands up in comparison with other external criteria (Higgins, et al., 2003; Kruglanski, et al., 2000). I propose that this concern is consistent with exploitative behavior and its respective concern with optimizing current task performance (Laureiro-Martinez et al., 2015). When psychologically empowered individuals engage in exploitative behavior, higher assessment orientations can enhance this behavior by increasing the motivation that comes from getting extrinsic rewards for performing well. In addition, higher assessment orientations can enhance behavior by increasing the empowered individual’s involvement with exploitative tasks because high assessors prefer to work on tasks that provide order, predictability, and less ambiguity. Therefore, it is expected that for individuals who feel empowered and choose to engage in exploitation, those that display high levels of assessment orientation may be more extrinsically motivated to perform well and more involved in exploitative activities than those with low levels of assessment orientation do. Thus, I propose:

**H6:** Assessment moderates the relationship between perceptions of psychological empowerment and exploitative behavior such that the positive relationship is stronger with higher levels of assessment.
Explorative behavior requires withdrawing from the current task to focus on alternate tasks. Thus, assessment orientation is not expected to moderate the relationship between psychological empowerment and explorative behavior.

Moderating Role of Accountability

In addition to individual characteristics moderating the effect of perceptions on behavior, it is likely that contextual factors such as supervisory behavior also influence the direction of individual effort. In this section, I explore the effect of individuals’ perception of accountability on their ambidextrous behavior. Recall that accountability refers to being answerable to an audience for following prescribed standards (Schlenker et al., 1994). According to this view, when supervisors monitor employees’ performance and these evaluations have important personal consequences, employees perceive greater accountability for their actions. This impending accountability can then influence behavior (Mero et al., 2014; Siegel-Jacobs & Yates, 1996).

Extant research provides examples of the important role of accountability on work behavior. For example, Klimoski and Inks (1990) found that accountability influenced performance ratings of supervisors. When supervisors anticipated a face-to-face feedback sharing with their subordinates, they rated their subordinates in a more positive manner compared to supervisors who only had to share feedback anonymously and to supervisors who did not anticipate sharing feedback at all. Mero and Motowidlo (1995) found that individuals who were held accountable for subordinate performance ratings made more accurate ratings of performance than those who were not accountable. In addition, accountable individuals exhibited increased note taking, attention, and engagement in the task than non-accountable individuals did. Extending the work of Mero and Motowidlo
Mero, Guidice, and Anna (2006) also found that accountability increased the accuracy of performance ratings, which suggests that accountability can influence work behaviors by improving individuals’ decision-making quality. More recently, Mero et al. (2014) examined the effects of individual perceptions of accountability on job performance and found that managerial monitoring was the control mechanism that indirectly affected job performance through the employee’s perception of accountability. These examples suggest that individuals respond to being held accountable by focusing on behaviors that would enhance the outcome of tasks or activities for which they will be called to account. Therefore, in contexts that promote empowerment and ownership, it is expected that accountability will enhance the behavior of employees who feel empowered and who are experiencing ownership because they are likely to engage in behaviors that are necessary to attain expected outcome of the tasks or activities they are accountable for.

Being answerable to others creates a condition of personal responsibility that drives individual behavior. In addition, responsibility not only provides direction to behavior but also purpose, connection, and determination (Schlenker et al., 1994). Individuals are held responsible to the extent that a prescription for accomplishing a task is clear, that a personal obligation for accomplishing that task exists, and that personal control over the task is present. Furthermore, when individuals feel responsible for an event, they perceive the event as being more significant and become more determined to achieve its goals. This perception intensifies and becomes one of accountability as an audience of oversight is included. High accountability, as perceived by individuals, is therefore expected to drive their behavior towards prescribed ways to accomplishing
tasks and towards controlling associated events for achieving prescribed task outcomes (Christopher & Schlenker, 2005).

Empowerment and Accountability. Recall that accountability guides individual’s behavior and acts as a motivator to fulfill audience expectations to perform tasks well. When individuals perceive themselves as being answerable to others, feelings of personal obligation towards the task, personal control over the task, and the clarity on how to perform the task are expected to guide the behavior of these individuals (Christopher & Schlenker, 2005). For empowered employees, it is expected that those held accountable will change their behaviors to fulfill formal expectations moreso than non-accountable employees. This is consistent with Ogden, Glaister, and Marginson’s (2006) work in which accountability practices were found to have a significant role, in conjunction with empowerment, in enhancing employee behavior. Specifically, the authors found that empowered employees welcomed accountability, and in turn, it reinforced their empowerment experience. As a result, employees proactively sought behaviors that positively influenced their performance targets.

Since explorative and exploitative tasks have different goals that require distinct behaviors, they require distinct prescriptions and expectations. Therefore, in the present study, I make the distinction between accountability for exploration tasks and for exploitation tasks. For explorative tasks, it is expected that empowered employees held accountable for explorative tasks will tend to increase their explorative behavior beyond than those who are not held accountable because accountability for exploration to an important audience (e.g., supervisors) engenders the sense of responsibility to perform explorative tasks well. Stated formally:
**H7:** Accountability for exploration moderates the positive relationship between psychological empowerment and explorative behavior such that the relationship is stronger with higher levels of perceived accountability for exploration.

For exploitative tasks, it is expected that empowered employees that are held accountable for exploitative tasks will tend to increase their exploitative behavior beyond than those who are not held accountable because accountability for exploitation will engender the sense of responsibility to perform exploitative tasks well. Recall that exploitative behavior focuses on optimizing performance of current tasks. Thus, perceptions of accountability for exploitation, or for completing current tasks, is expected to drive employees’ behavior towards achieving exploitative task outcomes for which they are accountable by increasing employees’ determination and motivation to fulfill supervisory expectations. Stated formally:

**H8:** Accountability for exploitation moderates the positive relationship between psychological empowerment and exploitative behavior such that the relationship is stronger with higher levels of perceived accountability for exploitation.

Ownership and Accountability. Since accountability can motivate individuals to seek behaviors that will help them fulfill audience expectations, I propose that accountability will increase explorative and exploitative behavior of individuals experiencing ownership because being answerable to others engenders the sense of responsibility to perform tasks well (Schlenker et al., 1994). This sense of responsibility is different from the responsibility to defend ownership rights that emerges from
developing feelings of ownership (Van Dyne & Pierce, 2004). In contrast, the sense of responsibility associated with having to answer for one’s actions to others emerges when individuals have a personal obligation to perform a task, are personally in control of the task, and the task has clear prescriptions (Christopher & Schlenker, 2005). Therefore, it is expected that in environments that promote ownership, holding individuals accountable for the tasks they are considered responsible for will influence their behavior in a way that will help them fulfill management expectations. This is consistent with the work of Avey et al. (2009) in which accountability was positively related to both psychological ownership and to organizational citizenship behavior, further confirming that accountability can strengthen the relationship between cognition and behavior.

For explorative tasks, it is expected that for accountable employees experiencing psychological ownership for explorative tasks, that they will tend to increase their explorative behavior beyond than those who are not held accountable because accountability for exploration will engender the sense of responsibility to perform explorative tasks well. Stated formally:

**H9:** Accountability for exploration moderates the positive relationship between psychological ownership and explorative behavior such that the relationship is stronger with higher levels of perceived accountability for exploration.

For exploitative tasks, it is expected that for employees who are experiencing psychological ownership and who are held accountable for exploitative tasks, they will tend to increase their exploitative behavior beyond than those who are not held accountable because accountability for exploitation will engender the sense of responsibility to perform exploitative tasks well. Stated formally:
**H10:** Accountability for exploitation moderates the positive relationship between psychological ownership and exploitative behavior such that the relationship is stronger with higher levels of perceived accountability for exploitation.

In summary, in this chapter I developed the conceptual research framework for this study. First, I incorporated research on ambidexterity to analyze explorative and exploitative behavior separately. Second, I integrated research from psychological empowerment and psychological ownership to propose the antecedents of explorative and exploitative behavior. Last, I included regulatory mode and accountability theories to analyze the moderating effects of assessment orientation, locomotion orientation, and accountability on the relationships among perceptions of empowerment and ownership and explorative/exploitative behavior. In the next chapter, I present the research methodology.
CHAPTER 3: RESEARCH METHODOLOGY

This chapter includes two sections that describe the research methodology that I used to test the proposed research model discussed in chapter 2 (see Figure 1). The first section presents the research setting, survey design, and data collection procedures. The second section presents the survey instruments that I used to assess the constructs of interest as well as measure the control variables. Data analysis and findings are presented in chapter 4.

Research Design and Data Collection

Research Setting

This study drew a sample from a manufacturer of diverse flooring products. With manufacturing facilities and corporate headquarters located in North Georgia, the company distributes its products throughout North America and Europe and employs about 800 workers. I recruited 704 full-time workers who report to 78 supervisors in different departments of the company. These departments (e.g. manufacturing, marketing, and sales) provide plenty of opportunities for finding workers engaging in explorative and/or exploitative behaviors, and therefore, were thought to provide the necessary variation in perceptions and behaviors to test the hypotheses. To determine the minimum sample size, I conducted an *a-priori* sample size calculation for multiple regressions using an anticipated effect size of 0.15, a desired statistical power level of 0.80, and a probability level of 0.05 for a model that uses 48 items to measure all independent variables. To perform the calculation, I used G*Power 3, a statistical power analysis...
software developed by Faul, Erdfelder, Lang and Buchner (2007). The resulting minimum required sample size was 233.

Since individual-level ambidexterity research is still in its infancy state, I decided to conduct this study in a single company. This approach is in line with the work of Jasmand et al. (2012), which relied on a single company to analyze ambidextrous behavior of customer service representatives. As these authors pointed out, using a single company provides the advantage of ruling effects due to company differences.

The manufacturing company used in the study has a number of functional departments and activities typically found in a manufacturing organization. For example, non-manufacturing functions such as process improvement, digital marketing, custom development, training, sales, customer service, account management and human resources exist to support manufacturing operations. Employees in many of these non-manufacturing areas work in activities that focus on exploitative activities, which are often standardized (e.g. customer service provision, financial reporting, purchasing, and payables). In addition, they have the flexibility to focus on explorative activities by creatively approaching the changing demands of internal and external customers (e.g. sales for new products/customers, account management, digital marketing, and information technology support). Moreover, functional areas where the company’s products are manufactured provide opportunities to measure exploitative behaviors that focus on production, efficiency, and implementation. Manufacturing activities can also provide opportunities for assessing exploration through incremental innovation.

To minimize common methods bias, I followed the recommendations set forth by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) to obtain measures of the independent
and dependent variables from different sources. To this end, employees completed the measures of the independent variables, the moderators, and the control variables while their respective supervisor completed a survey measuring the dependent variables (i.e., the employee’s explorative and exploitative behavior).

To encourage participation, the company’s Vice-President for Resources and Facilities sent a company-wide memorandum explaining to employees and their supervisors the company’s interest in the research project and the two-week timeline for completing the surveys. In addition to having top management support, I clearly communicated to the workers and their supervisors the academic nature of the study, that their participation was voluntary, and that responses would remain confidential before, during, and after their participation in the survey. To assure confidentiality, I made it clear to all participants and top management that I would be the only one with access to the locked collection boxes and that once data entry was completed, all surveys with identifiable data would be destroyed. See Appendix C and D for the signed consent form sent to employees and to their respective supervisors. Top management allowed employees and their supervisors to complete the survey during working hours, during their breaks, or at home. No monetary incentives were offered for participating in this study.

Survey Design

Prior to collecting data, two scholars with knowledge in my area of research examined the design and content of the surveys. Although this study uses existing scales, careful attention was given to instructions, scale anchors, response points, and readability. Feedback from the two scholars was incorporated into the surveys with the
objective of enhancing the clarity of the instructions and the survey, and as a result, improving survey response rates.

For the employee survey, all measures except for regulatory mode used Likert scales ranging from 1 ("Strongly Disagree") to 7 ("Strongly Agree"). With regulatory mode, Locomotion and Assessment Orientation, I modified the original 6-point scale to a 7-point scale so as to provide a scale mid-point by using an odd-number of points. Because the majority of employees did not have a company-issued email account, I prepared the employee survey in paper form. A one-page signed consent form was attached to the survey and a separate copy was included for the participant.

Company officials suggested that some manufacturing employees would be more comfortable responding the questionnaires in Spanish rather than in English. The employee survey was therefore also translated into Spanish by the researcher. I grew up and graduated from college in the Spanish-speaking country of Perú; thus, qualifying me to be an expert in the language. Then, an independent translator back-translated the Spanish version into English, following the recommendation for double-translation set forth by Brislin (1980). The independent translator was a college professor who teaches Spanish and holds a PhD in Spanish. Comparison of the original English version and the back-translated version resulted in some discrepancies. These differences were discussed between the researcher and the independent translator, and the Spanish version was adjusted to reflect a more accurate back-translation. I copied two hundred surveys for those employees that would request the Spanish version of the survey. The supervisor survey did not require translation.
For the online supervisor survey, the first screen introduced the signed consent, a
*print* button, and the required option to participate in or to opt-out from the survey. If the
opt-out option was selected, this action would terminate the session and exit the survey.
The next two screens displayed survey questions with the option to navigate back and
forth while taking the survey. Before exiting the survey, a friendly reminder was included
to encourage the survey taker to go back to any unanswered question. They also had the
option of terminating the session.

Data Collection

I distributed 704 employee surveys with the help of the human resource manager.
For the 633 employees working at the company’s headquarters, an envelope was included
to place and seal the completed survey. Employees were instructed by their supervisors to
drop off the surveys in a locked collection box in one of the company’s five break rooms.
For the 71 employees who work off-site, I mailed the surveys along with a pre-paid
return envelope to their home addresses.

Since all supervisors have a company-issued email account, I distributed the
supervisor survey, built within Qualtrics®, through Microsoft Outlook’s email merge tool.
This tool allowed for a personalized email message that included the name of the
supervisor and a unique link for each survey. With the help of the HR manager, I
identified the supervisor of each of the 704 participants. Each supervisor received a
separate survey link for each subordinate.

Two weeks after distributing the materials, I collected the paper surveys and
downloaded the online supervisor survey to match their responses. I also continued to
leave the collection boxes for another week and left the survey open for another week to
collect additional worker and supervisor data. The initial matching process revealed that 47 employee surveys were missing supervisor evaluations. For these supervisors, I resent the survey with a note encouraging them to participate (Dillman, Smyth, & Christian, 2014).

After three weeks, I collected the last employee surveys, removed the collection boxes, and closed the survey in Qualtrics. A total of 568 supervisor surveys and 365 employee surveys were received. Of those 568 supervisor surveys, 14 were unanswered or were opted out, bringing the number of complete supervisor responses to 554. Of the 365 employee surveys, 40 observations were removed from inclusion due to reasons including missing data (more than 15% of missing data points), no data, invalid responses or irregular response patterns, and missing identifier to match the employee’s data with the corresponding supervisor’s response. For records that had less than 15% of missing data point, I followed Hair, Black, Babin and Anderson’s (2010) recommendation to replace those missing data points using the mean substitution method for the metrics data. For missing non-metric data such as age, gender, tenure, etc., I collected that data in coordination with the human resource manager, who had access to the company’s personnel information system. After pairing up supervisor and employee responses, the data set had 300 complete records. This sample size is greater than the 233 required for adequate statistical power.

Although confidential, employee surveys were not anonymous, as I needed to identify and match their responses with those provided by their supervisors. Employees were asked to enter their names in the employee survey and supervisors were asked to identify the subordinate being evaluated. To protect the confidentiality of the participants,
I assigned a unique identifier to all responses after data pairing, and all identifiable data were dropped as stated in the signed consent form distributed with the surveys.

Measures

All measures of the study’s variables are based on existing scales. Appendix A contains the items used on the employee’s survey whereas Appendix B provides the items used on the supervisor’s survey.

Independent Variables

Psychological Empowerment. To measure the extent to which individuals perceive they are empowered, I used the twelve-item scale created by Spreitzer (1995). This multidimensional scale assesses the individuals’ feelings of meaning, competence, self-determination, and impact using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Psychological Ownership. To measure the extent to which individuals developed feelings of ownership, I used the six-item scale created by Brown et al. (2014). This scale assesses the individuals’ feelings of ownership towards their jobs using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Dependent Variables

Explorative Behavior. To measure the extent to which individuals engage in work related activities considered explorative in nature, I used the seven-item scale developed by Mom et al. (2009). This 7-point scale (1 = strongly disagree to 7 = strongly agree) evaluates the individuals’ inclination for searching new alternatives, adapting to new activities, evaluating new options, and focusing on renewal.
Exploitative Behavior. To measure the extent to which individuals engage in work related activities considered exploitative in nature, I used the seven-item scale developed by Mom et al. (2009). This 7-point scale (1 = strongly disagree to 7 = strongly agree) evaluates the individuals’ inclination for activities that require experience, are considered routine, have clear processes, focus on short-term goals, and are part of current company policy.

Moderating Variables

Locomotion Orientation. The extent to which individuals display a locomotion orientation was measured using Kruglanski et al.’s (2000) twelve item scale, which measures an individual’s preference for change and for doing something else using a six-point Likert scale (1 = strongly disagree to 6 = strongly agree). However, I used a seven-point scale for data collection as discussed in the previous section.

Assessment Orientation. The extent to which individuals display an assessment orientation was also measured using a twelve-item scale developed by Kruglanski et al. (2000). Using a six-point Likert scale (1 = strongly disagree to 6 = strongly agree), this scale assesses an individual’s preference for measuring, interpreting, and evaluating available alternatives before taking action. As with locomotion, a seven-point scale was used in the survey.

Accountability for Exploration. To measure the extent to which individuals perceive they are accountable for the outcomes of performing jobs that involve explorative tasks, I used a modification of the three-item accountability scale created by Mero et al. (2014). I modified this scale to measure accountability for specific exploratory tasks because it was originally created for tasks in general. I added a note to
explain what exploratory tasks are and included the word “explorative” to the survey measure items (see Appendix A). This modified 5-point scale (1 = strongly disagree to 5 = strongly agree) measures the extent to which individuals perceive managers are observing the outcome of their explorative jobs, are requiring them to explain such outcomes, and can identify their explorative actions.

Accountability for Exploitation. The extent to which individuals perceive they are accountable for the outcomes of performing jobs that involve exploitative tasks was measured using the same accountability scale created by Mero et al. (2014) discussed above. I modified the scale to measure accountability for specific exploitative tasks for the same reason described above. I added a note to explain what exploitative tasks are and included the word “exploitative” to the survey measure items (see Appendix A). Using a 5-point scale (1 = strongly disagree to 5 = strongly agree), this scale considered the extent to which individuals perceive managers are observing the outcome of their exploitative jobs, are requiring them to explain such outcomes, and are enabled to identify their exploitative actions.

Control Variables

To account for alternative explanations of the variance in explorative and exploitative behavior, I included gender, ethnicity, age, experience, functional area, and conscientiousness as control variables. Gender was measured as a categorical variable (0 = female; 1 = male). Ethnicity was measured as a categorical variable (1 = African American/Black; 2 = American Indian/Alaska Native; 3 = Asian/Pacific Islander; 4 = Caucasian/White; 5 = Hispanic/Latin American). Age and experience may have an effect on ambidextrous behavior because as employees get older and accumulate experience,
they tend to develop skills and knowledge (Hunter & Thatcher, 2007) to be more generalists than specialists (Gibson & Birkinshaw, 2004). Mom et al., (2009) found that age and tenure in the firm were positively correlated with ambidextrous behavior. In this study, age was measured in years and employee experience was measured by years working for the company and by years working in the current position.

Since workers in manufacturing areas were expected to have less flexibility to engage in explorative behaviors than those workers in non-manufacturing areas, it was important to control for functional area. This is consistent with Duncan’s (1976) suggestion that exploration and exploitation activities may differ across functional areas. Last, conscientiousness was also found to affect ambidextrous behavior. Zacher, Robinson, and Rosing (2014) found that conscientiousness was positively related to explorative and exploitative behavior. To measure individuals’ level of conscientiousness in relation to the job they perform, I used the four-item scale developed by Saucier (1994). This 7-point Likert scale (1 = strongly disagree to 7 = strongly agree) measures the extent to which individuals are organized, efficient, systematic, and practical. I selected this shorter measure of conscientiousness over the more traditional, but much longer measure created by Costa and McCrae (1992) to minimize response attenuation due to survey length.
CHAPTER 4: DATA ANALYSIS AND FINDINGS

In this chapter, I discuss how I analyzed the data and then present the findings for tests of the hypotheses developed in chapter 2. Specifically, I evaluated the data for outliers and response bias and then used confirmatory factor analysis (CFA) to evaluate model fit. Next, I conducted hierarchical multiple regression analyses to test hypotheses and then conducted a post hoc analysis with the data.

Data Evaluation

In this section, I report the two steps taken to evaluate the data. First, I examined the data for outliers using the Mahalanobis distance test. Next, I assessed the presence of response bias.

Outlier Removal

Since the research model involves a multivariate analysis, I conducted a multivariate detection on all independent variables using the Mahalanobis distance test $D^2$. I identified three observations that reported $D^2/df > 2.5$, which is the recommended threshold for detecting an outlier (Hair et al, 2010). Table 2 shows the records that were removed from the data set.

<table>
<thead>
<tr>
<th>Table 2: Records Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Number</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>143</td>
</tr>
<tr>
<td>169</td>
</tr>
<tr>
<td>266</td>
</tr>
</tbody>
</table>
Non-Response Bias

Although all members of the target population at the participating company were contacted, not all agreed to participate. As a result, a statistical comparison between groups was conducted to assess the presence of non-response bias. For this purpose, the researcher collected personnel data (age, tenure, and gender) from the company’s HR department and for all employees (N = 706). The respondents (N = 297) were identified and separated from the non-respondents (N = 409).

Tables 3 and 4 show the means and the standard deviations for tenure at the company and for age. Independent sample t-tests show that the groups are not significantly different (t = 0.19, p = 0.85 for tenure at the company; t = -0.67, p = 0.50 for age). Therefore, the tenure and age of the participants who completed the surveys represent the tenure and age the target population.

Table 3. Non-Response Bias Analysis for Tenure at the Firm

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Respondent</td>
<td>409</td>
<td>9.83</td>
<td>9.88</td>
</tr>
<tr>
<td>Respondent</td>
<td>297</td>
<td>9.69</td>
<td>9.52</td>
</tr>
<tr>
<td>Total</td>
<td>706</td>
<td>9.77</td>
<td>9.72</td>
</tr>
</tbody>
</table>

Note: Independent Sample t-test results: t = 0.19; p = 0.85

Table 4. Non-Response Bias Analysis for Age

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Respondent</td>
<td>409</td>
<td>44.21</td>
<td>12.26</td>
</tr>
<tr>
<td>Respondent</td>
<td>297</td>
<td>44.85</td>
<td>12.73</td>
</tr>
<tr>
<td>Total</td>
<td>706</td>
<td>44.48</td>
<td>12.45</td>
</tr>
</tbody>
</table>

Note: Independent Sample t-test results: t = -0.67; p = 0.50

Table 5 shows the number of respondents and non-respondents based on gender. Relative to the total population of females in the company, there is a larger proportion of
females who responded (48.48%) compared to the ones who did not respond (37.65%). Similarly, there is a smaller proportion of males who responded (51.52%) compared to those who did not (62.35%) given the overall proportion of males (57.79%) at the company level. To assess the difference among these proportions, a Chi-Square goodness of fit test was conducted. Results show that there are significant differences among the proportions between those groups ($p = 0.00$). While this difference is noted as a possible limitation, it is not expected to invalidate the study’s results.

Table 5. Non-Response Bias Analysis for Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Non-Respondent</th>
<th>Respondent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>154 (37.65%)</td>
<td>144 (48.48%)</td>
<td>298 (42.21%)</td>
</tr>
<tr>
<td>Male</td>
<td>255 (62.35%)</td>
<td>153 (51.52%)</td>
<td>408 (57.79%)</td>
</tr>
<tr>
<td>Total</td>
<td>409</td>
<td>297</td>
<td>706</td>
</tr>
</tbody>
</table>

Note: Pearson Chi-Square = 8.28; $p \leq 0.05$

Confirmatory Factor Analysis

In this section, I discuss the steps taken to develop the overall measurement model, assess model fit, and refine the scales used. I describe how I re-assessed the refined model, followed with a report of the model’s factor loadings and the average variance extracted (AVE).

Initial Measurement Model

Using IBM® SPSS® Amos 23.0.0, I developed the measurement model with the constructs identified in the research model presented in Chapter 2, Figure 1. Figure 2 illustrates this measurement model and shows the 62 indicator variables and eight latent constructs. Following the recommendation set forth by Hair et al. (2010) for specifying a full structural model, or a CFA model, all constructs were allowed to correlate with
Figure 2. Measurement Model Specification
other constructs. In addition, each measured item was allowed to load only on one construct and each error term was allowed to relate to only one measured item. All constructs have the recommended minimum number of three indicators per construct. Specifically, the accountability constructs have three; the assessment and locomotion orientation constructs have 12 indicators each; the exploration and exploitation constructs have seven indicators each; the empowerment construct has 12; and the ownership construct has six. In the model, all measured items are reflective in nature.

Model Assessment

Once the measurement model was specified, I estimated the model and used the output to assess the research model fit. The recommended benchmark for the goodness-of-fit (GOF) indicators given the current data set and the number of variables was a comparative fit index (CFI) greater than 0.90 and root mean square error of approximation (RMSEA) less than 0.07 (Hair et al., 2010). The research model reported a CFI = 0.695, which is lower than necessary and RMSEA = 0.078, which is higher than desired.

Scale Refinement

In order to improve the model, I followed the recommendation set forth by MacKenzie, Podsakoff, and Podsakoff (2011) to eliminate problematic measurement indicators from the model. Subsequently, indicators with standardized loadings lower than 0.5 were considered for deletion. First, I looked at the loadings and identified three indicators of the construct assessment orientation as candidates for deletion. Indicators associated with questions numbered 1, 5 and 11 (see Appendix A) reported extremely low, non-significant loadings (0.001, -0.226, and -0.124 respectively) and thus, were
deleted from the model. Model fit indicator CFI improved to 0.706, but RMSEA increased to 0.080.

Second, two indicators of the locomotion construct were identified as problematic. These indicators, which were associated with questions numbered 6 and 9 (see Appendix A), reported low loadings (-0.014 and 0.258 respectively) and were subsequently removed from the model. CFI improved to 0.712, but RMSEA increased to 0.082.

Third, two indicators of the psychological empowerment construct were also problematic. Given their low loadings (0.267 and 0.270 respectively), these indicators, which are associated with questions numbered 6 and 8 in the survey (see Appendix A), were removed from the model. After this step, CFI improved to 0.739 and RMSEA to 0.079.

Fourth, the explorative behavior construct reported one indicator with a small loading (0.301) and was subsequently removed from the model. This indicator corresponds to question 7 (see Appendix A). CFI improved to 0.746, but RMSEA remained at 0.079.

Fifth, two additional indicators from the psychological empowerment construct were deleted from the model. These indicators, which correspond to questions 4 and 9 (see Appendix A), reported low loadings of 0.339 and 0.347 respectively. After their removal, CFI improved to 0.775 and RMSEA to 0.076.

Finally, two additional indicators from the psychological empowerment construct were deleted from the model. These indicators, which corresponded with questions 11 and 12 in the same survey, had low loadings of 0.467 and 0.464 respectively. These two
indicators were also associated with high modification indices (M.I. = 216.588 and 88.305 respectively), which further justified their removal. This final model reported a CFI = 0.821, which is lower than necessary to establish model fit, and RMSEA = 0.068, which satisfies the recommended threshold of 0.07 for model fit. In addition, while $\chi^2$ was significant, this often occurs in a model with a large data sample ($N = 297 > 250; m = 50 \geq 30$) (Hair et al., 2010).

In sum, a total of 12 indicators were removed from the model. This falls under the recommended limit of removing no more than 20% of observed variables (Hair et al., 2010). Table 6 summarizes the steps taken above for construct refinement and improved model fit.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Initial Model</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Final Model Step 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFI</td>
<td>0.695</td>
<td>0.706</td>
<td>0.712</td>
<td>0.739</td>
<td>0.746</td>
<td>0.775</td>
<td>0.821</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.078</td>
<td>0.080</td>
<td>0.082</td>
<td>0.079</td>
<td>0.079</td>
<td>0.076</td>
<td>0.068</td>
</tr>
</tbody>
</table>

Descriptive Statistics

Table 7 provides the descriptive statistics, inter-correlations, and construct reliabilities. For each construct, I calculated the summated scores of the indicators specified in the final measurement model.

Final Measurement Model

As indicated above, the CFA results for the final measurement model showed a CFI lower than the desired threshold of 0.90 but a RMSEA satisfies the recommended threshold of 0.07. Other research by Coehlin (2004) suggests using RMSEA to test a null
hypothesis of a poor fit. According to this approach, when the upper limit of the 90% confidence interval for RMSEA (HI90) is below .10 (unacceptable), we can reject the null hypothesis of a poor fit. For our research model, RMSEA HI90 = 0.071 is below .10. Therefore, the poor fit hypothesis is rejected and thus, is an acceptable research model.

Convergent Validity

Table 8 shows the factor loadings for the observed variables and the AVEs. The variance extracted is greater than 50% for five constructs (explorative behavior, exploitative behavior, psychological empowerment, psychological ownership, and accountability for exploitation), which is a good indicator of adequate convergent validity (Hair et al. 2010). Three constructs (assessment orientation, locomotion orientation, and accountability for exploration) reported less than 50% of AVE, suggesting that for these constructs, more error remains unexplained than what the latent factor structure could explain.

This suggests that we could drop some indicators to improve the convergent validity of these constructs. However, I decided to keep the existing indicators because previous steps for construct refinement exhausted the recommended limit of dropping less than 20% of variables. Related to this decision, it is important to note that regulatory mode and accountability constructs are well-established constructs in the literature and have been validated in prior studies. Therefore, I proceeded with analyzing the discriminant validity and reliability of the constructs, prior to testing the hypotheses.
Table 7. Descriptive Statistics, Inter-correlations, and Reliability

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Explorative Behavior</td>
<td>3.93</td>
<td>1.54</td>
<td>0.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Exploitative Behavior</td>
<td>5.14</td>
<td>1.17</td>
<td>.44**</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Psychological Empowerment</td>
<td>6.09</td>
<td>0.86</td>
<td>.08</td>
<td>.00</td>
<td>0.82</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Psychological Ownership</td>
<td>5.38</td>
<td>1.37</td>
<td>.11</td>
<td>-.05</td>
<td>.61**</td>
<td>0.92</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Assessment Orientation</td>
<td>4.07</td>
<td>1.02</td>
<td>.09</td>
<td>.05</td>
<td>.08</td>
<td>.27**</td>
<td>0.79</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6 Locomotion Orientation</td>
<td>5.71</td>
<td>0.82</td>
<td>.04</td>
<td>.00</td>
<td>.58**</td>
<td>.46**</td>
<td>.30**</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Accountability for Exploration</td>
<td>3.65</td>
<td>0.72</td>
<td>.00</td>
<td>-.06</td>
<td>.28**</td>
<td>.30**</td>
<td>.27**</td>
<td>.33**</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Accountability for Exploitation</td>
<td>3.65</td>
<td>0.73</td>
<td>.03</td>
<td>-.03</td>
<td>.24**</td>
<td>.25**</td>
<td>.26**</td>
<td>.28**</td>
<td>.76**</td>
<td>0.79</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Conscientiousness</td>
<td>5.99</td>
<td>1.03</td>
<td>-.02</td>
<td>-.03</td>
<td>.39**</td>
<td>.50**</td>
<td>.20**</td>
<td>.55**</td>
<td>.21**</td>
<td>.19**</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Tenure at the Firm</td>
<td>9.50</td>
<td>9.50</td>
<td>.02</td>
<td>.06</td>
<td>.03</td>
<td>.00</td>
<td>-.07</td>
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Note: *N = 297; Cronbach’s alpha coefficients are shown on the diagonal; ** p < 0.01 (2-tailed); * p < 0.05 (2-tailed).
Table 8. Standardized Factor Loadings, AVE, and Reliability Estimates

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Notes:
ER = Explorative Behavior; ET = Exploitative Behavior; PE = Psychological Empowerment; PO = Psychological Ownership; AO = Assessment Orientation; LO = Locomotion Orientation; AR = Accountability for Explorative Behavior; AT = Accountability for Exploitative Behavior.
Table 8 (Continued). Standardized Factor Loadings, AVE, and Reliability Estimates

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Construct Reliability

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<td>29.74%</td>
<td>38.51%</td>
<td>55.06%</td>
<td>39.58%</td>
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Notes:
ER = Explorative Behavior; ET = Exploitative Behavior; PE = Psychological Empowerment; PO = Psychological Ownership; AO = Assessment Orientation; LO = Locomotion Orientation; AR = Accountability for Explorative Behavior; AT = Accountability for Exploitative Behavior.

Table 9. Construct Correlation Matrix

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AVE 65.46% 57.77% 50.17% 67.28% 29.74% 38.51% 39.58% 55.06%

Note: * Correlation output reported 1.04; Values below the diagonal are correlation estimates among constructs; Values above the diagonal are squared correlations.

I discuss this in more detail in Chapter 5, Discussion.
Discriminant Validity

I assessed discriminant validity by comparing the AVE estimates for each construct with the squared inter correlation estimates. This comparison provides evidence of discriminant validity (Fornell & Larcker, 1981). Except for the two accountability constructs (AR and AT), all AVE values for each construct, as depicted in Table 8, are greater than the inter-construct squared correlations for each construct as depicted in Table 9. These results indicate that there are no problems with discriminant validity for the final measurement model except for the accountability constructs. The high inter-construct correlation ($r = 0.76; p < 0.01$) suggests that both accountability constructs are measuring the same perception of accountability.

Construct Reliability

Construct reliability estimates, as shown in Table 8, and internal consistency coefficients (Cronbach’s alphas), as shown in Table 7, are greater than the recommended threshold of 0.70 (Hair et al., 2010) except for the accountability for exploration (AR) construct.

Multiple Regression Analysis

To test the hypotheses, I conducted a hierarchical regression analysis using IBM® SPSS® 23.0.0 software. To analyze the moderation effects of regulatory mode and accountability constructs, I included their interaction effects with psychological empowerment and psychological ownership in the analysis. Prior to running the regressions, I mean-centered all independent and moderator variables in order to increase interpretability of the results. Because we have two dependent variables (DV$s$), I conducted two independent regression analyses; one for explorative behavior and one for
exploitative behavior. For each DV, the regression analysis occurred in three stages. The first stage, Model 1, introduced the control variables. The second stage, Model 2, introduced the independent variables and the moderating variables. The third stage, Model 3, introduced the interaction terms.

To assess multicollinearity, variance inflation factors (VIF) were examined on the regression results. For explorative behavior, VIF ranged from 1.03 to 2.48 on all variables introduced in models 1, 2 and 3. Similarly, for exploitative behavior, VIF ranged from 1.03 to 2.28 on all variables in all three models. VIF values are under the recommended threshold of 10 (Kutner, Nachtsheim, & Neter, 2004), suggesting that there are no collinearity issues.

Hypotheses Testing

Hypothesis 1 proposed a positive relationship between psychological empowerment and explorative behavior. As indicated in Table 10, Model 2, the standardized coefficient ($\beta = 0.07, p > .05$) was not significant. Therefore, hypothesis 1 was not supported.

Hypothesis 2 proposed that psychological empowerment would be positively associated with exploitative behavior, but results from Table 11, Model 2, do not show a significant coefficient ($\beta = 0.09, p > .05$). Hypothesis 2 was therefore not supported.

Hypothesis 3 argued that psychological ownership is positively related to explorative behavior. As indicated in Table 10, Model 2, the standardized coefficient ($\beta = 0.07, p > .05$) was not significant. Therefore, hypothesis 3 was not supported.
Table 10. Results of Moderated Regression Analysis for Explorative Behavior

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<td>-.01</td>
<td>(.09)</td>
<td>-.09</td>
<td>(.11)</td>
</tr>
<tr>
<td>Psychological Empowerment</td>
<td>.07</td>
<td>(.14)</td>
<td>.02</td>
<td>(.16)</td>
</tr>
<tr>
<td>Psychological Ownership</td>
<td>.07</td>
<td>(.09)</td>
<td>.10</td>
<td>(.09)</td>
</tr>
<tr>
<td>Locomotion Orientation</td>
<td>.03</td>
<td>(.15)</td>
<td>.04</td>
<td>(.15)</td>
</tr>
<tr>
<td>Accountability for Exploration</td>
<td>-0.01</td>
<td>(.13)</td>
<td>.03</td>
<td>(.14)</td>
</tr>
<tr>
<td>Psychological Empowerment x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locomotion Orientation</td>
<td>-0.01</td>
<td>(.08)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Empowerment x</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Accountability for Exploration</td>
<td>-.16*</td>
<td>(.18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Ownership x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accountability for Exploration</td>
<td>.17*</td>
<td>(.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R&lt;sup&gt;2&lt;/sup&gt;</td>
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<td>.05</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>ΔR&lt;sup&gt;2&lt;/sup&gt;</td>
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<td>.01</td>
<td>.02*</td>
<td></td>
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<tr>
<td>F for ΔR&lt;sup&gt;2&lt;/sup&gt;</td>
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<td>1.12</td>
<td>2.56*</td>
<td></td>
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<tr>
<td>F</td>
<td>3.06*</td>
<td>2.36*</td>
<td>2.43*</td>
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</tr>
</tbody>
</table>

<sup>a</sup> Standardized betas (β) with standard errors (S.E.) are reported.

Note: N = 297. * p ≤ .05.

Hypothesis 4 proposed that psychological ownership and exploitative behavior are positively related. Unfortunately, and as seen in Table 11, Model 2, this hypothesis was also not supported (β = -0.13, p > .05).
Hypothesis 5 predicted a moderating effect of locomotion orientation on the psychological empowerment and explorative behavior relationship. As locomotion orientation increases, the positive relationship between psychological empowerment and
explorative behavior was expected to increase. As reported in Table 10, the results of Model 3 did not indicate a significant effect for this interaction ($\beta = -0.01, p > .05$). Hypothesis 5 was therefore not supported.

Hypothesis 6 predicted a moderating effect of assessment orientation on the psychological empowerment–exploitative behavior relationship such that as assessment orientation increases, the positive relationship between psychological empowerment and exploitative behavior would increase. As reported in Table 11, Model 3, results did not indicate a significant effect for this interaction ($\beta = -0.05, p > .05$). Thus, the hypothesis was not supported.

Hypothesis 7 predicted a moderating effect of accountability for exploration on the psychological empowerment–explorative behavior relationship. As accountability for exploration increases, it was proposed that the positive relationship between psychological empowerment and explorative behavior would grow stronger. As reported in Table 10, the results of Model 3 indicate a significant effect for this interaction ($\beta = -0.16, p < .05$). However, the negative sign suggests that accountability has a negative moderating effect on perceptions of psychological empowerment.

To further understand the nature of this relationship, I used the approach suggested by Aiken and West (1991) to illustrate this interaction. Figure 3 shows separate lines depicting a two-way interaction chart. As shown, those with high perceptions of accountability for exploration and who experience high levels of psychological empowerment tend to engage in less explorative behavior, whereas those with low perceptions of accountability for exploration and who experience high levels of psychological empowerment tend to engage in more explorative behavior. In addition,
those experiencing low levels of psychological empowerment tend to engage more in explorative behavior when they perceive high levels of accountability for exploration than when they perceive low levels of accountability for exploration. Further examination of the plot reveals that as perceptions of psychological empowerment increased, accountability for exploration reversed the effect on exploratory behavior. Since these relationships are not consistent with expectations, Hypothesis 7 was not supported.

Hypothesis 8 predicted a moderating effect of accountability for exploitation on the psychological empowerment and exploitative behavior relationship. As accountability for exploitation increases, the positive relationship between psychological empowerment and exploitative behavior would increase. Results from Table 11, Model 3, show that this interaction had a non-significant effect on behavior ($\beta = -0.03, p > .05$). Hypothesis 8 was therefore not supported.
Hypothesis 9 proposed that there would be a moderating effect of accountability for exploration on the psychological ownership and explorative behavior relationship. It was proposed that as accountability for exploration increases, the positive relationship between psychological ownership and explorative behavior would increase. As reported in Table 10 Model 3, results indicate a statistically significant effect for this interaction ($\beta = 0.17, p < .05$). Therefore, hypothesis 9 was supported.

Figure 4 illustrates the nature of this interaction. The plot of this interaction effect indicates that, as predicted, the positive relationship between psychological empowerment and explorative behavior was stronger when accountability for exploration was high. Likewise, when perceptions of accountability for exploration were low, the moderating effect of accountability for exploration had a weak effect on influencing explorative behavior.

![Figure 4. Moderating Effects of Accountability for Exploration on the Psychological Ownership-Explorative Behavior Relationship](image-url)
Hypothesis 10 projected a moderating effect of perceptions of accountability for exploitation on the psychological ownership–exploitative behavior relationship. That is, as accountability for exploitation increases, the positive relationship between psychological ownership and exploitative behavior would increase. Table 11, Model 3 shows a non-significant effect for this interaction ($\beta = 0.06, p > .05$), thereby not supporting hypothesis 10.

In summary, the hierarchical regression results show that hypothesis 9 was supported, suggesting that there is a moderating effect of accountability for exploration on the psychological empowerment-explorative behavior relationship and on the psychological ownership-explorative behavior relationship. The rest of the hypotheses were not supported.

Post-Hoc Analysis

According to accountability theory, individuals tend to direct their behavior towards fulfilling audience expectations (Christopher & Schlenker, 2005). Results from the moderation effects showed that accountability indeed influenced individuals’ explorative behavior. However, no significant results were found for exploitative behavior. The accountability construct was intended to capture specific perceptions of accountability for explorative and for exploitative behavior, yet results show that these two constructs were trying to measure the same perception of accountability thereby suggesting that individuals could not differentiate them. Therefore, I created a new accountability measure to examine its role in predicting the effects of psychological ownership and empowerment on supervisory assessments of individual behavior. I named this combined measure “accountability for ambidextrous behavior”. This new construct
consisted of four of the six items in the measures previously described; coming from the two sub-dimensions of accountability, observability and justification, as shown in Appendix A. These two were selected because a separate factor analysis revealed items loaded together with loadings ranging from .69 to .86. Cronbach’s alpha revealed acceptable reliability ($\alpha = .82$).

Next, I ran a regression analysis with explorative behavior as the dependent variable. Independent variables were mean-centered to help with interpretability of the results. I did not include regulatory mode as a moderator since this construct was not significant in the earlier analyses. Results showed that accountability for ambidextrous behavior moderated the relationship for both psychological empowerment ($\beta = -.16, p < .05$) and psychological ownership ($\beta = .17, p < .05$) on explorative behavior ($F = 2.72, p < .05$).

Figure 5 and 6 illustrate the nature of these interactions. For psychological empowerment, it is shown that relative to higher levels of accountability, lower levels had a positive effect on explorative behavior of psychologically empowered individuals. In contrast, high levels of perceived accountability were detrimental to exploratory behavior the stronger the individuals’ psychologically empowerment (see Figure 5).

As shown in Figure 6, the interaction of accountability for ambidexterity and psychological ownership on explorative behavior indicates that the positive effect of higher levels of psychological ownership on explorative behavior was stronger for individuals who perceived themselves as accountable for ambidexterity. However, lower levels of perceived accountability had a weak effect on individuals’ explorative behavior at any level of psychological ownership.
Although the post hoc analyses showed the same trend and direction found in the body of the dissertation, these interactions allowed for a wider range of explorative behaviors for psychologically empowered individuals (i.e., 3.36 to 3.98 in Figure 3 vs. 2.86 to 4.85 in Figure 5). Similar findings exist when considering psychological
ownership (i.e., 3.37 to 4.10 in Figure 4 vs. 2.20 to 5.83 in Figure 6). This comparison suggests that the revised accountability measure, which has stronger internal consistency than the original separated measures, may be helping in finding more accurate interaction effects.

Second, I ran a regression using exploitative behavior as the dependent variable. Results showed nonsignificant direct effects for both psychological empowerment ($\beta = .11, p = ns$) and psychological ownership ($\beta = -.09, p = ns$). Similarly, nonsignificant results were found for the moderation effects of accountability for ambidextrous behavior on psychological empowerment ($\beta = -.13, p = ns$) or on psychological ownership ($\beta = .02, p = ns$). These results suggest that neither accountability nor feelings of empowerment nor ownership had a significant influence on whether employees performed better or worse in exploitative behavior.

Last, I ran a regression using ambidextrous behavior as the dependent variable. I used the multiplicative effects of explorative behavior and exploitative behavior to calculate this measure ambidexterity (Gibson & Birkinshaw, 2004). Results showed nonsignificant direct effects for psychological empowerment ($\beta = .06, p = ns$) and psychological ownership ($\beta = .05, p = ns$) on ambidexterity. However, marginally significant results were found for the moderation effects between accountability and psychological empowerment ($\beta = -1.20, p < .10$) and between accountability and psychological ownership ($\beta = 0.71, p < .10$) on ambidextrous behavior ($F = 2.11, p < .05$). These results suggest that the data behind the nonsignificant results found for exploitative behavior dilute the significant interaction effects found when considering only explorative behavior.
This chapter provided the results of the data analysis, hypotheses testing, and post-hoc analysis. In the next and final chapter, I discuss the results in more detail along with the contributions, limitations, practical implications and future research directions of the present research.
CHAPTER 5: DISCUSSION, LIMITATIONS, AND FUTURE RESEARCH

In this study, I combined research in psychological empowerment (Spreitzer, 1995) and psychological ownership (Pierce et al., 2001) to examine how perceptions of the work environment influence the extent to which an individual engages in explorative or exploitative behavior. In addition, I analyzed the boundary conditions of such behaviors by incorporating regulatory mode theory (Higgins et al., 2003) and accountability theory (Schlenker et al., 1994) as moderators of the direct effects on explorative and exploitative behavior. The conceptual model was tested using data collected from a manufacturing firm located in Northwest Georgia. The final data set contained a total of 297 responses that were completed by employees of the firm and their respective supervisors. The research model was assessed using CFA. A hierarchical regression analysis was then used to test the hypotheses.

Discussion

A number of contributions stem from this study. First, prior studies on ambidexterity (e.g. Mom et al., 2009; Jasmand et al., 2012) have focused on analyzing ambidexterity at the individual level by combining the multiplicative effects of explorative and exploitative behavior as suggested by Gibson and Birkinshaw (2004). In contrast, my study examines the effects of psychological empowerment and psychological ownership on explorative and exploitative behavior separately. Use of this approach contributes to the ambidexterity literature by illustrating that both exploration and exploitation behaviors are distinct constructs and may have distinct antecedents.
Results also support the notion that the influence of empowerment and ownership on generating explorative behavior is moderated by perceptions of accountability.

A second important contribution of this research is the examination of the moderating effects of perceived accountability for exploration on the direct influence of perceived psychological empowerment and psychological ownership on explorative behavior. We know that individuals tend to focus on behaviors that enhance the outcome(s) for which they are held accountable (Mero et al., 2006, 2014) and my model found support for the prediction that perceived accountability for exploration modified the effect of psychological empowerment on explorative behavior. Interestingly, while results supported moderation, the effect was in the opposite direction. Individuals who experienced high levels of psychological empowerment engaged in less, rather than more, explorative behavior when they perceived high levels of accountability for explorative tasks. Explorative behavior also increased when individual with high levels of accountability for exploration experienced low levels of psychological empowerment.

One explanation for this unexpected reverse effect could be that individuals that experienced low psychological empowerment also experienced low levels of self-determination and consequently, engaged more in explorative behavior because they felt that completing explorative tasks was a personal obligation to perform duties at higher levels in the presence of their supervisor’s oversight. As noted in Chapter 2, personal obligation originates from a strong identity-prescription linkage (Christopher & Schlenker, 2005; Mero et al., 2007). In the case where explorative behavior increased when individuals high in psychological empowerment felt lower levels of accountability for exploration, it may be that these psychologically empowerment individuals also
experienced high levels of self-determination and competence. Here, however, they may have felt competent and self-determined enough to engage in explorative behavior without worrying much about the performance of current tasks (but focusing instead on experimentation with new alternatives) and not needing the oversight pressure of their supervisor. Recall that although explorative behavior, psychological empowerment, and psychological ownership met the requirements for convergent and discriminant validity and for internal consistency, accountability for exploration did not. Therefore, it is also possible that instead of the two possibilities previously discussed, the finding is a spurious one.

As expected, the moderating effect of accountability for exploration on the relationship between psychological ownership and explorative behavior was positive. The research model predicted that perceived accountability for exploration would moderate the positive relationship between psychological ownership and explorative behavior such that this relationship would be stronger with high levels of perceived accountability for exploration. Results support this effect as employees increased their explorative behavior when they perceived themselves as accountable for exploration. Results also revealed that perceptions of low levels of accountability had a negligible effect on changing the effects of psychological ownership on explorative behavior. This is important because explorative behavior declined when participants had low levels of accountability for exploration regardless of how they experienced psychological ownership. Thus, perceptions of accountability for exploration had a meaningful effect only when perceptions of psychological ownership were high.
Third, this is the first study that to the best of my knowledge, considers psychological empowerment and psychological ownership research to examine explorative and exploitative behavior. Although the results did not support the direct effects of psychological empowerment and psychological ownership on explorative and exploitative behavior, the moderating effect of accountability for exploration suggests that both explorative and exploitative behavior should be treated separately to better understand what perceptions and individual differences influence behavior. Although both explorative and exploitative behavior share a significant correlation, results also show that they each display high levels of reliability, further suggesting that studies on individual ambidexterity should take into account the separate effects of both behaviors to better understand ambidexterity at the individual level.

Fourth, this research contributes to the micro foundations of ambidexterity by analyzing the role of contexts and individual behavior and by providing evidence that empowering and ownership-driven contexts shape individual-level explorative behavior. Although this study did not consider firm-level outcomes, the findings contribute to our understanding of contexts that shape behavior. This is important because explorative behavior involves risk taking, experimentation, play, flexibility, discovery and radical innovation that are necessary for the long-term survival of the firm (Benner & Tuchman, 2003; March, 1991).

Limitations

This study, as with all research, is not without limitations. First, this study is cross-sectional as all data was collected within the same period of time. Thus, no inferences of causality can be made.
Second, the sample was taken from a single company. Although using a single company provided the advantage of ruling out company differences, it also means that the findings cannot be generalized to contexts that are different from those analyzed in the present study.

Third, when analyzing nonresponse bias, there were significant differences in gender among the proportions of participants and non-participants. Specifically, the proportion of women and men who responded the survey was different from the proportion of women and men at the company. Since I matched employee responses with their respective supervisor responses, it is possible that supervisors generally evaluated more women than they evaluated men. Since the influence of gender on explorative and exploitative behavior was negligible the regression analyses, I do not believe this is a serious shortcoming.

Fourth, three out of the eight constructs used in this study (assessment orientation, locomotion orientation, and accountability for exploration) failed to meet convergent validity (Fornell & Larcker, 1981). In addition, while the construct reliability for regulatory mode was fine, it was troublesome for accountability for exploration. Unfortunately, because this construct had only three indicators it was not possible to proceed with scale refinement. Although these limitations were noted, I proceeded with the analyses because the measures had been validated and used in prior research.

A fifth limitation is that there is little variance within the psychological empowerment construct. As shown in the descriptive statistics, most answers were on the high end. Figures 7 and 8 display the scatter plots of the construct against the dependent variables to further illustrate the variance limitation. Regression analysis assumes
homoscedasticity, and uneven distribution of variance could cause predictions to be better at some levels of the dependent variable values than at others. The limited variance of psychological empowerment might also explain why we did not find support for a number of the hypotheses (Hair et al., 2010). The limited variance on exploitative

![Figure 7. Scatter plot for psychological empowerment and explorative behavior](image1.png)

**Figure 7.** Scatter plot for psychological empowerment and explorative behavior

![Figure 8. Scatter plot for psychological empowerment and exploitative behavior](image2.png)

**Figure 8.** Scatter plot for psychological empowerment and exploitative behavior
behavior compared to a more evenly distributed variance on explorative behavior could also explain why we did not find any significant results on the moderation effects tested in hypotheses 6, 8, and 10, while hypotheses 7 and 9 were supported.

Sixth, there was a low construct reliability for accountability for exploration. This is the only construct that reported a reliability value below the recommended threshold of 0.70. Nevertheless, reliability between 0.60 and 0.70 may be acceptable if the other construct reliabilities are good (Hair et al., 2010, p. 687). Since all other construct reliabilities in our model are good, one can conclude that having an acceptable reliability for the accountability construct did not influence the validity of our results.

Last, there was a problem with the discriminant validity for accountability. When model assessment results reported the estimates of the correlations among constructs during CFA, I noted a 1.04 value for the correlation between accountability for exploration and accountability for exploitation. The first thought was that the software had a problem estimating since no correlations should be greater than 100%. Yet, this high correlation is consistent with the high observed bivariate correlation reported on the descriptive statistics. One can conclude that these two forms of accountability are not distinct from each other and that both are trying to measure the same latent construct. Interestingly, if I were to drop the accountability for exploration construct in the final model, CFI would improve from 0.821 to 0.849 and RMSEA would improve from 0.068 to 0.064. Thus, the discriminant validity problem of the accountability for exploration construct was a limitation to the study.
Managerial and Theoretical Implications

Although there are limitations, the present study’s findings offer practical implications for managers and theoretical implications for scholars. As managers try to understand what organizational contexts drive exploratory behavior, results from the moderating effect of accountability on explorative behavior suggest that managers should pay careful attention to how individuals experience empowerment and to how managerial monitoring affects behavior. First (and assuming the unusual findings are not spurious), to encourage explorative behavior managers should lower the expectations for accountability for exploration when individuals are experiencing high levels of psychological empowerment. Recall that psychological empowerment reflects the combined effects of perceived meaningfulness, competence, impact, and self-determination (Spreitzer, 1995). If managers create high expectations for accountability, explorative behavior may decrease, suggesting that the perceived accountability for exploring, at least in this organization, was detrimental to the individual’s motivation to go beyond the minimum required because, rather than being self-determined to perform explorative tasks, employees felt they had to explore. This is something that future research should examine since it would be an effect that runs counter to existing accountability research that has found a positive effect of accountability for nondiscretionary behaviors like helping and innovation on interpersonal facilitation and challenge performance respectively (Guidice, Mero, Matthews, & Greene, 2016; Mero et al, 2014).

Managers can also expect an increase in explorative behavior when employee expectations for exploring activities are high and when employees do not feel
empowered. This suggests that individuals that felt they had no self-determination (low empowerment) to pursue explorative tasks were extrinsically motivated to complete the explorative tasks because they were held accountable for completing such tasks. In addition, if managers perceive their subordinates lack the necessary empowerment to explore, they can provide subordinates with specific directions and the necessary training to compensate for the low competence that is associated with low empowerment. As a result, managers can expect an increase in explorative behavior.

Second, managers can also expect increased explorative behavior from employees in situations where individuals experienced a personal ownership towards their jobs and where there is a high expectation for engaging on explorative activities. This expectation suggests that employees that experienced their jobs as their own were more motivated to explore when they also felt the responsibility to protect their jobs by following managerial directions on what was necessary for them to do. However, when individuals experienced personal ownership towards their jobs but perceived low levels of accountability for exploration, there was a detrimental effect on explorative behavior, suggesting that employees who perceived their job as theirs were motivated to work harder but found no high expectations for directing their efforts towards explorative behavior. Thus, explorative activities may not have received the benefits from employees motivated by their ownership feelings because of the lack of managerial oversight.

Since explorative behavior did not increase significantly with low levels of accountability, regardless of how much employees felt their jobs were theirs or not, it suggests that low expectations for accountability for exploration are not good for the organization or its employees. In this case, managers should not expect a significant
increase in explorative behavior in the absence of supervisory oversight regardless of their efforts to build employee’s personal ownership towards their jobs.

In summary, managers who focus on building a working environment that promotes feelings of empowerment should not implement strict accountability mechanisms if they are expecting employees to increase their explorative behavior. Similarly, when managers focus on building a working environment that promotes a sense of job ownership, they should expect an increase in explorative behavior when accountability mechanisms are perceived to be strict. Last, managers should be aware that focusing on building a working environment that promotes feelings of empowerment could have the side effect of also promoting personal ownership towards a job since both psychological states share a common human basic need for self-efficacy. The high correlation among these constructs supports this view.

For scholars working with complex research models where scale refinement is necessary to improve model fit, having constructs with only three indicators may limit the possibility to use the approach proposed by Mackenzie et al. (2011) of dropping indicators. The current study certainly could have benefited from an accountability construct that had more than three indicators. In addition, since both accountability measures the same accountability construct, accountability perceptions for exploration or exploitation were not distinct, implying that employees perceived the same level of accountability regardless of whether they were engaging in explorative or exploitative behavior.
Future Research Directions

The work area considered for this study (manufacturing and non-manufacturing), had a significant influence on both explorative behavior and exploitative behavior. Therefore, future research should delve deeper into the role of moderators, such as hierarchical level of workers (e.g. subordinate, team leader, supervisor, manager). It may be that the main effects on explorative and exploitative behavior could vary when considering these groups separately.

Future research should also focus on the consequences of exploratory and exploitative behavior on important workplace outcomes such as task performance and job satisfaction. Despite ample research on the ambidexterity-performance relationship at the firm level (Gibson & Birkinshaw, 2004), only Jasmand et al. (2012) analyzed the ambidexterity-performance relationship at the individual level. It may be that higher levels of ambidextrous behavior could enhance job satisfaction. In addition and following the results from the post-hoc analysis on individual ambidexterity, future research should also examine in more detail the role of accountability on ambidextrous behavior and extend this analysis to include the effects of accountability on the outcomes of ambidextrous behavior such as task performance.

To increase our understanding of the microfoundations of ambidexterity, future research should focus on the role of individual-level mechanisms and ambidextrous behavior in shaping organizational-level outcomes including firm performance. This research will complement the extant literature on firm-level ambidexterity and will help managers implement mechanisms to achieve desired firm-level outcomes.
Conclusion

This study addresses previous calls for more research on individual ambidexterity. It incorporates research from psychological empowerment and psychological ownership to analyze explorative and explorative behavior separately. Boundary conditions were investigated using regulatory mode and accountability theory. The findings suggest that explorative behavior can be improved in the presence of high psychological empowerment and low levels of perceived accountability for performing explorative work. Explorative behavior can also be improved upon when employees possess both psychological ownership and high levels of perceived accountability for exploration. While this study provides important findings that can help further research on individual-level ambidexterity, it also provides practical advice for managers that need to increase explorative behavior in the workplace.
REFERENCES


APPENDIX A

SURVEY INSTRUMENT

Employee
APPENDIX A
Employee Survey Measures

PSYCHOLOGICAL EMPOWERMENT (Spreitzer, 1995)
Rated from 1 (strongly disagree) to 7 (strongly agree)
Meaning items:
1. The work I do is very important to me
2. My job activities are personally meaningful to me
3. The work I do is meaningful to me
Competence items:
1. I am confident about my ability to do my job
2. I am self-assured about my capabilities to perform my work activities
3. I have mastered the skills necessary for my job
Self-determination items:
1. I have significant autonomy in determining how I do my job
2. I can decide on my own how to go about doing my work
3. I have considerable opportunity for independence and freedom in how I do my job
Impact items:
1. My impact on what happens in my department is large
2. I have a great deal of control over what happens in my department
3. I have a significant influence over what happens in my department

PSYCHOLOGICAL OWNERSHIP (Brown et al., 2014)
Rated from 1 (strongly disagree) to 7 (strongly agree)
Psychological ownership items:
1. I sense that this job is MINE
2. I feel a very high degree of personal ownership for this job
3. I sense that this is MY job
4. I sense that the work I do as part of my job is MINE
5. I feel a very high degree of personal ownership for the work that I do
6. The work I do at this organization is MINE

LOCOMOTION ORIENTATION (Kruglanski et al., 2000)
Rated from 1 (strongly disagree) to 6 (strongly agree)
Locomotion items:
1. I don’t mind doing things even if they involve extra effort
2. I am a “workaholic”
3. I feel excited just before I am about to reach a goal
4. I enjoy actively doing things, more than just watching and observing
5. I am a “doer”
6. When I finish one project, I often wait awhile before getting started on a new one (reverse-scored)
7. When I decide to do something, I can’t wait to get started
8. By the time I accomplish a task, I already have the next one in mind
9. I am a “low energy” person (reverse-scored)
10. Most of the time my thoughts are occupied with the task I wish to accomplish
11. When I get started on something, I usually persevere until I finish it
12. I am a “go-getter”

ASSESSMENT ORIENTATION (Kruglanski et al., 2000)
Rated from 1 (strongly disagree) to 6 (strongly agree)
Assessment items:

1. I never evaluate my social interaction with others after they occur (reverse-scored)
2. I spend a great deal of time taking inventory of my positive and negative characteristics
3. I like evaluating other people’s plans
4. I often compare myself with other people
5. I don’t spend much time thinking about ways others could improve themselves (reverse-scored)
6. I often critique work done by myself or others
7. I often feel that I am being evaluated by others
8. I am a critical person
9. I am very self-critical and self-conscious about what I am saying
10. I often think that other people’s choices and decisions are wrong
11. I rarely analyze the conversations I have had with others after they occur (reverse-scored)
12. When I meet a new person, I usually evaluate how well he or she is doing on various dimensions (e.g. looks, achievements, social status, clothes)

ACCOUNTABILITY FOR EXPLORATION Adapted from Mero et al. (2014)
Rated from 1 (strongly disagree) to 5 (strongly agree)
Note: Explorative tasks are tasks that require you to search for new possibilities or options for products/services, processes or markets, requires adaptation, learning new skills or knowledge, and are not clearly defined by company policy.

Perceived accountability for [explorative] task:
1. Others in my organization can observe the outcome of my [explorative] work performance in terms of achieving unit goals
2. In my organization achieving unit goals is directly attributed to an individual’s personal actions
3. I am required to justify or explain my performance [of explorative tasks] in terms of achieving unit goals

ACCOUNTABILITY FOR EXPLOITATION Adapted from Mero et al. (2014)
Rated from 1 (strongly disagree) to 5 (strongly agree)
Note: Exploitative tasks require you to use your accumulated experience, are repetitive, have clear processes or procedures, focus on achieving short-term goals, and require your present knowledge.

Perceived accountability for [exploitative] task:
1. Others in my organization can observe the outcome of my [exploitative] work performance in terms of achieving unit goals
2. In my organization achieving unit goals is directly attributed to an individual’s personal actions
3. I am required to justify or explain my performance [of exploitative tasks] in terms of achieving unit goals

CONSCIENTIOUSNESS (Saucier, 1994)
Rated from 1 (strongly disagree) to 7 (strongly agree)
I see myself as:
1. Organized
2. Efficient
3. Systematic
4. Practical

DEMOGRAPHIC DATA
Age
1. I am _____ years old

Experience
1. I have been working for this company for _____ years
2. I have been working in this current position for _____ years

Gender
1. Female
2. Male

Functional Area
1. Non-manufacturing
2. Manufacturing
APPENDIX B
Supervisor Survey Measures

EXPLORATION ACTIVITIES Adapted from Mom et al., (2009)
Rated from 1 (to a very small extent) to 7 (to a very large extent)
Leading question: To what extent did [your subordinate], last year, engage in work related activities that can be characterized as follows?
Items of exploration activities:
1. Searching for new possibilities with respect to product/services, processes or markets
2. Evaluating diverse options with respect to product/services, processes or markets
3. Focusing on strong renewal of product/services or processes
4. Activities of which the associated yields or costs are currently unclear
5. Activities requiring quite some adaptability of [your subordinate]
6. Activities requiring [your subordinate] to learn new skills or knowledge
7. Activities that are not (yet) clearly [defined in] existing company policy

EXPLOITATION ACTIVITIES Adapted from Mom et al., (2009)
Rated from 1 (to a very small extent) to 7 (to a very large extent)
Leading question: To what extent did [your subordinate], last year, engage in work related activities that can be characterized as follows?
Items of exploitation activities:
1. Activities of which a lot of experience has been accumulated by [your subordinate]
2. Activities which [your subordinate] carry out as if it were routine
3. Activities which serve existing (internal) customers with existing services/products
4. Activities of which it is clear to [your subordinate] how to conduct them
5. Activities primarily focused on achieving short-term goals
6. Activities which [your subordinate] can properly conduct by using [the subordinate’s] present knowledge
7. Activities which clearly fit into existing company policy
APPENDIX C

EMPLOYEE CORRESPONDENCE
APPENDIX C
Employee Correspondence (Paper form)

SIGNED CONSENT FORM

Title of the Research Study
Setting the Stage for Individual Ambidexterity in Organizations: The Effects of Context and Individual Regulatory Mode on Explorative and Exploitative Behavior

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Telephone: (706) 272-4600
Email: fgarcia@daltonstate.edu

Introduction
You are being invited to take a survey as part of a research study conducted by Fernando Garcia of Kennesaw State University. You must be at least 18 years of age to participate. Before you decide to participate, you should read this form and ask questions about anything that you do not understand.

Description of the Research Study
The purpose of this study is to understand more about features of the organization that influence individuals' perceptions and behavior. There are no known risks or anticipated discomforts for participating in this study. Although direct benefits cannot be guaranteed, with your participation, I will learn more about organizational factors that affect employees and managers. There will be no compensation for participating or any penalty for not participating in this study.

Confidentiality
Your participation in the study and responses to the survey will be confidential. All paper surveys will be kept in a locked box accessible only to the researcher. After the data is recorded, all paper surveys will be destroyed immediately. Final records will be identifiable by numbers only and stored in a password-protected office computer only accessible to the researcher.

Supervised Research
Research at Kennesaw State University that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to (470) 578-2268 or to:

The Institutional Review Board
Kennesaw State University
585 Cobb Avenue, KH3403
Kennesaw, GA 30144-5591

Signed Consent
I agree and give my consent to participate in this research project. I understand that participation is voluntary and that I may withdraw my consent at any time without penalty.

________________________________________  __________________________________________
Signature of Participant or Authorized Representative, Date  Signature of Researcher, Date

PLEASE SIGN BOTH COPIES OF THIS FORM. KEEP ONE AND RETURN THE OTHER TO THE RESEARCHER.
APPENDIX D

SUPERVISOR CORRESPONDENCE
Title of the Research Study
Setting the Stage for Individual Ambidexterity in Organizations: The Effects of Context and Individual Regulatory Mode on Explorative and Exploitative Behavior.

Researcher's Contact Information:
Name: Fernando Garcia
Telephone: (706) 272-4600
Email: fgarcia@daltonstate.edu

Introduction
You are being invited to take an online survey as part of a research study conducted by Fernando Garcia of Kennesaw State University. You must be at least 18 years of age to participate. Before you decide to participate, you should read this form and ask questions about anything that you do not understand.

Description of the Research Study
The purpose of this study is to understand more about features of the organization that influence employees’ perceptions and behavior. There are no known risks or anticipated discomforts for participating in this study. With your participation, I eventually hope to understand the best way to satisfy the needs of employees and managers. Although direct benefits cannot be guaranteed, the researcher may learn more about organizational factors that affect employees’ perceptions and behaviors. There will be no compensation for participating nor any penalty for not participating in this study.

Confidentiality
The results of this participation will be confidential. To maintain confidentiality, your responses will be held in strict confidence and identifiable by numbers only. To do so, online survey responses will be accessible only to the researcher. All surveys responses will be deleted immediately after the data is recorded. Final records will be stored in a password-protected office computer only accessible to the researcher. Data collected online will be handled in a confidential manner (identifiers will be used) but Internet Protocol addresses will not be collected by the survey program.

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Kennesaw, GA 30144-5591

PLEASE PRINT A COPY OF THIS CONSENT DOCUMENT FOR YOUR RECORDS. IF YOU DO NOT HAVE PRINT CAPABILITIES, YOU MAY CONTACT THE RESEARCHER TO OBTAIN A COPY.