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Dissecting Human Capital Resources: Unpacking The Structure and Activation of Human Capital Resources Within Firms

Caitlin Ray

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DISSECTING HUMAN CAPITAL RESOURCES: UNPACKING THE
STRUCTURE AND ACTIVATION OF HUMAN CAPITAL RESOURCES
WITHIN FIRMS

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ABSTRACT

Human capital resources (HCR) are often identified by scholars and practitioners as a firm's most crucial resource. However, the academic use of the HCR construct, which is relatively new addition to the research vernacular, is often described with vague and imprecise terms, challenging the ability for academics and practitioners to clearly understand HCR's precise impact on firm outcomes. One of the challenges arises because much of the HCR research literature focuses on the processes surrounding HCR without clearly specifying the components that make-up the HCR. Such lack of specificity has resulted in theoretical and empirical work which is often too abstract to fully explain the inner workings of HCR. This level of abstraction, in addition to making it unclear as to precisely what composes the HCR also makes it difficult to understand the complex dynamics that link HCR to outcomes. To address these concerns, my dissertation uses a precise form of the HCR construct by building and testing a model that incorporates two distinct elements of HCR--its structure and activation. I begin by examining how the structure of HCR (i.e., what and who is contained within the HCR) affects collective performance. Specifically, I focus on one type of HCR, firm-specific HCR, and distinguish between manager and non-manager HCR to determine how they individually and jointly impact outcomes. I then examine when and how HCR can be activated for unit use, particularly focusing on the role of social relationships in the HCR activation process. The results from my study help researchers and organizations build better predictions regarding how, when, and why HCR is linked to unit outcomes.

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CHAPTER 1

INTRODUCTION

Human capital resources (HCR), or the “individual or unit-level capacities based on individual KSAOs [knowledge, skills, abilities, and other characteristics] that are accessible for unit-level purposes” (Ployhart, Nyberg, Reilly, & Maltarich, 2014, p.374), are often touted by scholars and practitioners as a firm’s most crucial resource. Indeed, a recent survey of CEOs conducted by Deloitte found that the most pressing challenge CEOs continue to face involves effectively utilizing, managing, coordinating, and retaining the collection of employees (i.e., HCR) within their firms (Deloitte, 2021). Beyond this observation, acknowledgement of the impact of HCR in driving firm outcomes has also sparked the growth of the field of HCR. Specifically, in recent decades scholars have made great progress toward understanding the processes of HCR creation (Ployhart & Moliterno, 2011) and have linked HCR to a variety of collective outcomes such as firm performance, customer service performance, and profitability (Shrader & Siegel, 2007; Van Iddekinge, Ferris, Perrewe, Perryman, Blass, & Heetderks, 2009; Wright, Liu, Buck, & Filatotchev, 2008). While this research has led to a richer understanding of the processes surrounding HCR, such insights have been built at the expense of understanding the HCR itself. Meaning, while we now know HCR can be used to achieve high performance (Crook, Todd, Combs, & Woehr, 2011) a lack of precision regarding what HCR is and how it becomes activated has resulted in a lack of clarity regarding how and why HCR leads to such outcomes.

The resource-based literature suggests that resources can be broadly defined as the strengths a firm possess which can be used to implement their strategies (Barney, 1991; Learned, Christensen, Andrews, & Guth, 1969; Porter, 1981). This definition stipulates that both the strengths, including the content and structure of the material contained within the resource(s), and the ability to activate those strengths toward firm strategies are two crucial elements of resources that represent the potential and actual value that can be garnered from the resource (Lippman & Rumelt, 2003; Penrose, 1959; Sirmon, Hitt, & Ireland, 2007). For instance, the owner of an oil field may possess a large potential resource in crude oil underground, but until they can access the oil by using machinery to drill and pump the oil from the ground, the potential of that resource cannot be fully activated for firm use. Though HCR are arguably the most crucial resource firms possess, research on HCR has remained unable to situate HCR within the resource-based framework due to a lack of clarity regarding how the potential contained in the of HCR (i.e., the content and structure of employees within the firm), and the processes used to activate such potential, affects firm performance. Given that there may be substantial differences between the potential and actual value of HCR (Kraaijenbrink, 2011), the lack of precision in conceptualizations of HCR hinders the ability to offer precise predictions explaining how, when, and why HCR is most valuable.

Researchers frequently categorize the potential content contained in HCR broadly. That is, they often define and conceptualize the content as the total aggregate of potential KSAOs contained in the unit (Nyberg, Moliterno, Hale, & Lepak, 2014), measured by proxies such as collective education or tenure (e.g., Chandler & Lyon, 2009; Smith, Collins, & Clark, 2005). While this view is helpful toward understanding how the totality

of content captured in HCR may be used toward performance, it is too broad to offer explanations regarding how distinct types of content translate into firm value in different ways. Additionally, even when studies identify or measure a smaller subset of HCR, it is often inappropriately referred to as the entire HCR construct instead of discussing and theorizing its unique connection to performance (Nyberg et al., 2014). This is problematic because even when scholars attend to a particular type of HCR content, imprecise proxies and the lack of tailored theories cloud the insights that can be gleaned from such studies leaving researchers ill-equipped to explain why and how various types of HCR content uniquely relate to HCR outside of the logic built to explain the HCR-performance relationship in aggregate. Meaning, current perspectives imply that all content leads to performance in a similar fashion and fails to account for how different types of content achieves performance through distinct means.

Additionally, while the implications associated with the content of HCR have begun to be explored in studies on specific forms of HCR (e.g., firm-specificity; Wang, Choi, Wan, & Dong, 2016), these studies do not consider how the structure of such content, or who possesses the content within the unit, impacts performance. For instance, while researchers find that the totality of a unit's specific HCR can lead to higher performance (e.g., Ployhart, Van Iddekinge, & MacKenzie, 2011), researchers rarely disentangle the significance of who holds this content, such as managerial or non-managerial employees. Units are typically organized through a hierarchical structure, with management responsible for scheduling, hiring, assignment of tasks, implementing strategies, mentoring, and motivating employees (Hales, 2019) and non-managerial employees who conduct the bulk of the unit tasks and work together to achieve the unit's

objectives, largely under the direction and oversight of managers. Though a substantial body of research acknowledges the significance of the distinct roles people play in their organizations (Mahoney & Kor, 2015), HCR literature often aggregates the KSAOs of all individuals within the unit (Dakhli & De Clercq, 2007), or only captures a subset of the individuals who make up the HCR such as the managers (e.g., Kor, 2006) or non-managers (e.g., Ouerdian, Mansour, Al-Zahrani, & Chaari, 2019). Aggregating these individuals obscures the differences between their roles and fails to account for the how the ways in which they enact content uniquely. Excluding certain individuals from measures of HCR (i.e., only measuring manager HCR) does not provide a complete picture of how HCR leads to performance. Thus, including all HCR without consideration of their unique roles does not provide insight into the inner workings of the HCR, but studies that only measure a subset of the employees (e.g., manager HCR or non-manager HCR) do not provide a complete picture of how the entire collection of individuals within units contribute to performance. Therefore, potential HCR that exists in units is more complex than current perspectives account for, causing researchers to overlook the distinct ways through which performance may be achieved through the content and structure of HCR.

In addition to the content and structure of HCR which characterize the potential HCR, current research is also limited in its ability to explain when and how HCR potential becomes activated. Although the facilitation of resources toward use is established as a key way to leverage value from the resource (Sirmon, Hitt, & Ireland, 2007), current explanations on how resources, including HCR, are activated is limited (Barney & Arkan, 2005). Research has begun to acknowledge that collective behaviors,

such as team problem solving and shared learning behaviors, are the link through which firm outcomes resulting from HCR are achieved (Ployhart, 2021). This means that social interactions are necessary to develop a set of shared behaviors that are required to fully utilize the content of HCR, but there is no explanation as to how these shared behaviors originate, meaning we do not know how HCR becomes “activated” to be used toward unit outcomes. Additionally, while the well-developed and robust stream of literature dedicated to strategic human resource (HR) management policies and practices provides insight into how organizations can increase the quantity or quality of individual human capital or how managers can institute organizational HR policies or practices designed to shape individual behaviors (Boxall & Macky, 2009; Lepak & Snell, 2002; Wright & Boswell, 2002), this literature primarily focuses on a top-down approach to the activation of resources and often infers, but does not measure, the individuals directly (Wright & McMahan, 2011). The top-down perspective inherently implies that HCR are activated through organizational systems that shape employee actions and interactions, but strategic HR management literature rarely focuses on the internal actors and the qualities of their social interactions directly. Therefore, research has overlooked how those who constitute the resource hold some autonomy in how the HCR is activated and the bottom-up process of HCR activation. For instance, while manager HCR, or the content of managers KSAOs, can directly shape firm-performance, the manager HCR can also impact their subordinates through the trust they build over time (Bijlsma & van de Bunt, 2003), regardless of the organizational practices they enact. Additionally, the social connections non-managerial employees develop also impact how the content of their HCR may be self-activated by the non-managerial employees themselves. For instance,

the strength and quality of social connections can be formed over time, and are not necessarily uniform within units (Lee, 2009). Thus, while strategic HR management literature focuses on how organizationally designed systems shape lower-level behaviors, this manuscript reverses this focus to examine how individuals and their interactions create internal bottom-up activation processes, which are dynamic and detachable from the organization.

The goal of this manuscript is to correct imprecision in HCR literature to develop the clarity needed in the construct of HCR to make accurate predictions regarding how, when, and why HCR is linked to performance. Focusing directly on HCR allows for an opportunity to address two pressing points of imprecision including 1) how the potential contained in HCR leads to collective outcomes and 2) when and why internal activation processes make HCR potential more available for unit use. Focusing on these points allows for several contributions to the literature on HCR.

First, clarifying the role of content and structure of HCR provides a less abstract view of the construct. This is important because while researchers operate under the assumption that there are distinct types of HCR (Nyberg et al., 2014; Ployhart et al., 2014), these assumptions are rarely given empirical and theoretical attention that is distinct from more general theories (e.g., human capital theory; Becker, 1964) that link all HCR to performance. Additionally, without insight into the structure of HCR, attention to who possesses that content and why it matters is rarely discussed. Therefore, it is unclear if there are differences in whether who holds the content (manager, non-manager) matters when understanding how HCR content is enacted toward performance.

Second, establishing how potential HCR are activated helps better align HCR with current resource-based views. While HCR is recognized as a crucial resource, research on the resource-based view also recognizes that the value of resources can only be fully realized when they are appropriately used by the firm (Lippman & Rumelt, 2003). Currently, this step is often assumed to occur when firms possess superior HCR, but the internal activation processes that make more potential HCR available are not well understood. While literature on strategic HR informs on how organizations may control this activation process, they do not explain how the people that constitute the HCR play a role in the bottom-up process of HCR activation.

Third, this work integrates research on social interactions, including social capital, socialization, and LMX literatures with theories on human capital. While the assertion that human and social capitals are related certainly is not new (Coleman, 1988), research on HCR has been slow to meaningfully integrate social theories into views of HCR leading to increasing calls for attention to the role of social processes in HCR (e.g., Nyberg & Wright, 2015). This work responds to this call by clarifying the role of social interactions in HCR activation, distinguishing between manager/non-manager relationships (bolstered by insights from LMX literature) and non-manager relationships (drawing from insights from socialization and social capital literatures) to synthesize these views to meaningfully inform HCR literature.

Lastly, this work helps distinguish how managers are used within their organizations by theorizing and empirically testing three distinct ways they lead to firm performance. This is crucial to the HCR literature because while we know managers' involvement with employees is crucial to firm performance (Kehoe & Han, 2019), little is

known about the multiplicity of the role they play including as resources with a direct impact on performance, and how manager HCR and social capital indirectly influence non-manager HCR, and which of these roles may offer the most value to firms.

CHAPTER 2

EXAMINING STRUCTURE ACTORS AND TIME IN HUMAN CAPITAL RESOURCES

Human capital resources (HCR), or the “individual or unit-level capacities based on individual KSAOs [knowledge, skills, abilities, and other characteristics] that are accessible for unit-level purposes” (Ployhart, Nyberg, Reilly, & Maltarich, 2014, p.374), are often touted by scholars and practitioners as a firm’s most crucial resource (Moliterno & Nyberg, 2017). Indeed, a recent survey of CEOs conducted by Deloitte found that the most pressing challenge CEOs continue to face involves effectively utilizing, managing, coordinating, and retaining the HCR (Deloitte, 2021). Beyond this observation, acknowledgement of the impact of HCR in driving firm outcomes has also sparked the growth of the field of HCR (Ray, Essman, Nyberg, Ployhart, & Hale, in press). Specifically, in recent decades scholars have made great progress toward understanding the processes of HCR creation (Ployhart & Moliterno, 2011) and have linked HCR to a variety of collective outcomes such as firm performance, customer service performance, and profitability (Shrader & Siegel, 2007; Van Iddekinge, Ferris, Perrewe, Perryman, Blass, & Heetderks, 2009; Wright, Liu, Buck, & Filatotchev, 2008). While this research has led to a richer understanding of the processes surrounding HCR, there remain substantial questions regarding what the HCR is, precisely (Ray et al.(a), in press). Meaning, while we now know HCR can be used to achieve high performance (Crook,

Todd, Combs, & Woehr, 2011), we lack a clear understanding of what the HCR is and this lack of precision regarding what constitutes the HCR is has resulted in a lack of clarity regarding how and why HCR leads to such outcomes.

The resource-based literature suggests that resources can be broadly defined as the strengths firms possess which can be used to implement their strategies (Barney, 1991; Learned, Christensen, Andrews, & Guth, 1969; Porter, 1981). Though HCR is arguably the most crucial resource firms possess, research on HCR has failed to fully explain how HCR is used by firms to implement their strategies (Nyberg, Moliterno, Hale, & Lepak, 2014). This lack of understanding is partially driven by current views of HCR which are often too abstract to account for multidimensional and dynamic properties of HCR (Ray, et al.(a), in press). Such abstractness occurs because current HCR definitions, which create an inclusive view of HCR (Ployhart et al., 2014), are necessarily general and consequently leave room for greater precision. Given that the KSAOs, which provide the foundation of HCR, are distinct (e.g., Sackett, Lievens, Van Iddekinge, & Kuncel, 2017), the individuals who possess the KSAOs can enact them in unique ways (e.g., Crocker & Eckardt, 2014), and the value of HCR changes over time (e.g., DeOrtentiis, Van Iddekinge, Ployhart, & Heetderks, 2018), a one-size fits all approach to HCR is convenient yet may often be too generic to provide precise explanations or predictions. Overall, without greater precision, research will necessarily continue to treat the complex and multidimensional pieces of HCR as interchangeable, leaving researchers unable to predict when, why, and how features of HCR facilitate changes in performance.

While the content contained in HCR is sometimes explored in studies on specific forms of HCR (e.g., firm-specificity; Wang, Choi, Wan, & Dong, 2016), studies often are overly general or broad (Crook et al., 2011), which while providing helpful insights into some aspects of performance, fails to account for the effects of specific aspects of the HCR. Studies also frequently fail to consider how the actors possessing this specific content affect performance. For instance, while researchers find that the totality of a unit's HCR can lead to higher performance (e.g., Ployhart, Van Iddekinge, & MacKenzie, 2011), researchers rarely disentangle the role of who holds this content, such as managerial or non-managerial employees. A first step toward providing necessary precision to the HCR construct is increasing the precision of the *content* (i.e., what KSAOs) of the HCR being examined. A step toward this is to help researchers learn to specify the *actors* (i.e., who possesses the KSAOs), and the *time boundaries* (i.e., HCR duration) of HCR.

Actors. Units are typically organized in a hierarchical structure, with management responsible for scheduling, hiring, assigning tasks, implementing strategies, mentoring, and motivating employees (Hales, 2019) and non-managerial employees who conduct the bulk of the unit tasks and work together to achieve the unit's objectives, largely under the direction and oversight of managers. Though a substantial body of research acknowledges the significance of the distinct roles people play in their organizations (Mahoney & Kor, 2015), HCR literature often aggregates the KSAOs of all individuals within the unit (Dakhli & De Clercq, 2004), or only captures a subset of the individuals who make up the HCR such as the managers (e.g., Kor, 2006) or non-managers (e.g., Ouerdian, Mansour, Al-Zahrani, & Chaari, 2019). Aggregating in this manner obscures

differences among roles and fails to provide a complete picture of how HCR leads to performance. Thus, including all HCR without consideration of their unique roles fails to delineate the inner workings of the HCR, but studies that only measure a subset of the employees fail to provide a complete picture of how the collection of individuals within units contribute to performance.

Time. Limited research has examined how the content and actors in HCR changes over time. Most work connects HCR to a single point in time and the limited longitudinal work on HCR has focused on how changes to the HCR (e.g., adding or subtracting individuals from the unit) impacts performance (Call, Nyberg, Ployhart & Weekley, 2015; Reilly, Nyberg, Maltarich, & Weller, 2014; important exceptions include DeOrtentiis et al., 2018 and Ployhart, Van Iddekinge, & Mackenzie, 2011). This research clarifies how changes to the number of individuals contained in the HCR affect performance, but not which characteristics of HCR lead to increases or decreases to performance over time--meaning, it is unclear how the value of HCR may increase or decay over time and why. Overall, HCR is more complex than current perspectives account for, and a failure to consider the content, actors, and time boundaries of HCR provides researchers with a limited view of the distinct ways through which performance is impacted by HCR.

This manuscript works to nudge the field toward greater HCR precision to help develop greater clarity to increase the accuracy of the predictions regarding how, when, and why HCR is linked to performance. Focusing directly on HCR allows us to address three points of imprecision: content, actors, and time. In doing so, I work to clarify how these three points affect performance, leading to three contributions to the HCR literature.

First, by focusing on a specific type of content, firm-specificity, I establish the unique properties that link HCR firm specificity to performance. While research operates as if there are distinct HCR types (Nyberg et al., 2014; Ployhart et al., 2014), these types are rarely empirically or theoretically addressed. Second, I distinguish among the actors included in HCR, giving attention to those who possess the content and why it matters—something rarely discussed. Without examining the differences between actors, it is unclear if who holds the content (manager, non-manager) matters when understanding how HCR content is enacted toward performance. Third, I include time to examine duration effects of HCR. It is not yet clear how the initial construction of HCR evolves over time and whether the effects of certain content, such as firm specificity, diminish over time and in different ways depending on the actors who hold the content. Together, these insights provide a more detailed examination into HCR to better predict when and why HCR affects unit performance.

2.1 HCR LITERATURE REVIEW

A complete review of the past decade of HCR literature can be found in my recently published work on the topic (Ray et al.(a), in press). I include a brief literature review of HCR here, some of which is pulled from that published article, to set the baseline for building my hypotheses. I begin by defining HCR and provide a brief history of the theories most frequently used to explain and study HCR. HCR is defined as “individual or unit-level capacities based on individual KSAOs that are accessible for unit-relevant purposes” (Ployhart et al., 2014: 374). This definition concurrently helped unite multiple relevant research streams by being inclusive enough to capture most conceptualizations of HCR, and the definition also highlights the central challenges of

HCR research, which is that studying HCR requires understanding multiple levels (individual, collective), is multidimensional (knowledge, skills, abilities), touches multiple disciplines (psychology, sociology, strategy, economics), and contains human complexities that require consideration, such as their social relationships.

While the definition provides grounding for understanding the variety of components of HCR, some components require further explanation. First, HCR begins with human capital, which contains the knowledge, skills, abilities, and stable “other” characteristics of individuals (KSAOs; Noe, Hollenbeck, Gerhart, & Wright, 2006; Schmitt & Chan, 1998). Researchers interested in understanding the origins of HCR often draw from early research in psychology on individual differences (e.g., Ackerman & Heggestad, 1997; Murphy, 2012; Sackett, Lievens, Van Iddekinge, & Kuncel, 2017; Schmidt & Hunter, 1988). Second, human capital emerges into collective HCR to impact collective outcomes (Ployhart & Moliterno, 2011). Thus, HCR originates from human capital (Becker, 1964) but is distinct because it is formed through a multilevel emergence process where human capital can be transformed or amplified (Ployhart & Moliterno, 2011). So, HCR is distinct from human capital because it is accessible for unit-level purposes and contains synergies that make it more or less valuable than the simple sum of its parts. While recognition of HCR as a multilevel construct has grown, the recent review published in the *Journal of Management* found that there is somewhat of a micro-macro divide, where micro researchers are much more likely to attend to the individual-level origins of HCR whereas macro researchers tend to draw more from micro-foundations and RBV and engage in top-down view of the construct. This divide has

created a siloed approach to the construct as there is little research that works to holistically examine HCR (Nyberg & Moliterno, 2019).

Researchers interested in HCR typically rely on human capital theory (Becker, 1964) or the resource-based view (RBV; Barney, 1991) to explain how and why HCR is connected to collective level outcomes. Neither approach in isolation is sufficient to fully explain how, when, and why HCR leads to collective outcomes. This is because human capital theory is an individual theory explaining how investments in individuals (e.g., education) results in improvements in outputs, while HCR is a collective construct. RBV is a collective-level theory but is often criticized for being tautological and does not incorporate, distinguish, or acknowledge the “human” part of human capital resources which comes with unique challenges and advantages (Wright, 2021). Thus, while they have both broadly been used to link HCR to positive outcomes neither theory in isolation provides enough precision to explaining the link between HCR and collective outcomes because neither was created to attend to the unique properties of HCR, such as their multilevel creation or multidimensionality (Ployhart, et al., 2014).

Our recent review found that research in HCR can be broadly broken into three categories: HCR creation, HCR characteristics, and HCR outcomes. I provide a brief summary of each of these sections to provide further clarity and background information as a precursor to developing the hypotheses. First, HCR creation is focused on understanding how HCR is formed within units. The majority of research in this area is focused on understanding HCR emergence, the internal process that transforms and/or amplifies individual-level human capital into collective HCR. Research in this area has also started to explore how HCR can be transferred into units through external sources,

such as comobility, where individuals move together to new units as a group (e.g., Campbell, Saxton, & Banerjee, 2014). Theory on HCR emergence draws from multilevel theory including microfoundations (Felin & Foss, 2005; Felin & Hesterly, 2007) and emergence (Kozlowski & Klein, 2000) to explain how human capital moves across levels to become HCR. Ployhart and Moliterno (2011) provide the foundational work in this area and theorize that HCR emergence is triggered by task complexity (i.e., the demands of task environments) which leads to the development of emergence enabling states (i.e., how unit members collectively think, act, and feel) which give way to synergies that generate emergent properties of HCR which are distinct from the simple sum of human capital within the unit. Research in this area have examined the triggers to HCR emergence and the dynamics of the combination process that occurs during HCR emergence. As mentioned, HCR can be triggered by task environments including the amount of abstraction around unit tasks. As tasks become more abstract, individuals often need to communicate more frequently to make sense of the task, leading to higher combinations of exchange and shared knowledge (Bingham, Howell, & Ott, 2019). Training also plays a role in triggering emergence, specifically, the type of training firms chooses to invest in can impact the type or level of HCR that emerges. For instance, Chaterjee (2017) found that investments in general training led to a different HCR than investments in firm-specific training. Thus, the task and training type can cause dependencies and collaboration opportunities that lead to the emergence of distinct resources.

Research also examines how individuals are combined during the HCR emergence process. Research in this area examines complementarities that arise during

emergence, where the value of one element is increased in the presence of another (Ennen & Richter, 2010), composition, where similar individual-level KSAOs are combined in a summative fashion, or compilation, where distinct individual-level KSAOs are combined to create an HCR that is distinct from the lower level elements (Kozlowski & Klein, 2002; Ployhart et al., 2014). However, almost all empirical work in this area focuses on complementarities among individuals which are presumed to occur during emergence when the value of HCR is distinct from the expected summative value of the human capital (e.g., Adebesan, 2009; Clougherty & Molterno, 2010).

These complementarities can occur between individuals (Crocker & Eckardt, 2014; Liu, 2014) or between subsets of individuals' KSAOs, such as their knowledge (Grigoriou & Rothaermel, 2017). For instance, Crocker and Eckardt (2014) found complementarities developed between pitchers in the MLB and teammates which resulted in higher levels of HCR. These complementarities have also been found between individuals and the unit's existing HCR (Ployhart et al., 2014). For instance, the rarity of new individuals' KSAOs can interact with the unit's established resource and create complementarities which create higher profits for the firm. Complementarities can increase or decrease over time, particularly as individuals change (e.g., they become more similar; Shah et al., 2019) or as the composition of the HCR changes (e.g., turnover; Li et al., 2018). While unclear how to precisely capture HCR emergence, some researchers measure differences between individual and group performance (e.g., Crocker & Eckardt, 2014). In sum, while conceptual work has pushed forward the concept of HCR emergence, it is still unclear what HCR emergence looks like, how it begins and ends, when it is happening, and how to identify and measure it. While it is believed different

types of combinations occur during emergence (e.g., Ployhart, 2014) it is unclear when or why a particular type of combination will occur and how much synergy is generated through the HCR emergence process.

Another recent development in the area of HCR creation involves examining whether HCR can be transferred into units from external sources. Meaning, can HCR transcend unit boundaries, such as in instances of comobility. Comobility occurs when employees move together as a group (Campbell et al., 2014; Groysberg & Lee, 2009; Raffiee & Byun, 2020). Research on comobility has shown that workers can preserve some of the value that was create through individuals' experiences together including their knowledge of each other. While this research has primarily examined how individuals retain their level of performance (e.g., star surgeons), it is possible that groups may also retain some of their properties and thus retain some of their value. For instance, Campbell, Saxton, and Banerjee (2014) find that colleague-specific aspects can be retained when basketball players move together to new teams. Additionally, prior collaborations between employees and members of units they are transferring to can lead to better integration (Campbell et al., 2020). However, comobility can also create conflict with existing unit members during the integration process (Eckardt, Skaggs, & Lepak, 2018). Thus, how much value in the HCR can be retained and how that value is transferred remains unclear, but a ripe opportunity for utilizing the phenomenon of comobility to better understand HCR and HCR creation.

The second bucket of research identified in the Journal of Management review on HCR was HCR characteristics. This category included research that identified features of HCR, including how they are measured or conceptualized. This category was further

broken into research on the type of HCR (i.e., the KSAO or KSAOs conceptualized as part of the HCR) or the specificity of HCR (i.e., firm-specific or unit-specific HCR). This area of research is critical in that it is often the point of overlap between micro and macro scholars, yet there is minimal research that offers much precision or focus on the HCR itself (Nyberg et al., 2014). Thus, most research does not directly conceptualize, measure, or test properties of the HCR itself. In many cases, the HCR is not even directly measured but assumed to exist.

Research on the type of HCR primarily examines a single characteristic (typically knowledge) or in rare cases, multiple characteristics. Examples examining a single characteristic include collective personality (Oh, Kim, & Van Iddenkinge, 2015), knowledge (Dermirkan & Dermirkan, 2012), or ability (Shah, Agarwal, & Echambadi, 2019) and more narrowly defined KSAOs such as collective bargaining ability (Bennett, 2013), or collective litigation ability (Ganco, Miller, & Toh, 2020). While capturing multiple KSAOs is not typical in measures of HCR, in some instances researchers capture multiple KSAOs. For instance, Crocker and Eckardt (2014) capture both skills and knowledge in their study. Although it is difficult to capture multiple KSAOs and attend to multidimensional properties of HCR, researchers rarely provide justification or unique theorization of the specific subset of HCR they examine leading to confusion regarding which aspects of HCR are most relevant and have the strongest relationship to performance. Perhaps more problematic, it is common for researchers to fail to specify properties of the HCR and instead examine aspects of the group, such as the balance between the number of employees at different job levels (Kim, Kim, Kim, & Byun, 2016), measure the relationship between HCR and other resources or contexts (De Vos &

Cambre, 2017; Raffiee & Byun, 2020), study the diversity (Groutsis, O’Leary, & Russell, 2018) or size of the unit (Caza, 2011), or simply to assume the value of the HCR based on the quality or quantity of flows through the unit (Call, Nyberg, Ployhart, & Weekley, 2015).

The other subcategory covered in research on HCR characteristics is specificity; specifically, the firm or unit-specificity of the HCR (Karim & Williams, 2012; Ployhart, Iddekinge, & MacKenzie, 2011; Sarala, Junni, Cooper, & Tarba, 2016; Wang, Choi, Wan, & Dong, 2016). While the debate between the value of firm vs. general is KSAOs is pervasive in individual-level human capital research (e.g., Coff, 1997; Grant, 1996; Kogut & Zander, 1992), limited research attends to these differences at the collective level. The limited research in this area generally finds that specific forms of HCR, typically measured as collective knowledge or training, is positively related to collective outcomes (Ployhart et al., 2011; Wang et al., 2016). Additionally, this research finds firm-specific HCR is more valuable under certain conditions, such as when there are high levels of financial slack in the firm. This implies that the presumed value of firm-specificity is somewhat dependent on features of the unit or firm.

Other research examines the relationship between general and specific forms of HCR (Morris, Alvarez, Barney, & Molloy, 2016; Ployhart et al., 2011; Rocha, Carneiro, & Varum, 2018), an examines whether generic HCR can result in competitive advantage (Kehoe & Collins, 2017). Recent findings also suggest there may be negative effects associated with firm specificity (Dyer, Kryscynski, Law, & Morris, 2020). Meaning, there is more work needed to better understand whether firm-specificity is an important

facet of HCR, or if the distinction between general and specific forms of HCR is unnecessary.

The last bucket identified in the Journal of Management article is HCR outcomes. This category is focused on explaining the relationship between HCR and collective outcomes to explain when and why HCR are valuable. Many researchers in this area use RBV to explain how HCR can be linked to performance (e.g., Ganco, Miller, & Toh, et al., 2020; Jansen, Simsek, & Cao, 2012), and non-performance outcomes (e.g. Avery, McKay, & Hunter, 2012), as well as boundary conditions between HCR and collective outcomes. Most articles focus on performance outcomes, or the quantity or quality of collective level outcomes including financial performance. Financial performance includes measures such as Tobin's Q (Vomberg, Homburg, & Bornemann, 2015; Wang et al., 2016), profit (Bennett, 2013), abnormal returns (Riley, Michael, & Mahoney, 2017), and revenue growth (Fu, Flood, Bosak, Morris, & O'Reagan, 2015). Performance can also refer to other types of collective outcomes such as customer satisfaction (Reilly et al., 2014) or team wins and losses (Chen & Garg, 2018). Generally, researcher find a positive relationship between HCR and collective performance (Crook, Todd, Combs, Woehr, & Ketchen, 2011; Nyberg et al., 2014) at both firm (e.g., Brymer & Sirmon, 2018) and unit levels (e.g., Jansen, Simsek, & Cao, 2012).

In addition to performance outcomes, HCR is also associated with several non-performance outcomes. Non-performance outcomes include collective decision-making quality (McHugh, et al., 2016), collective knowledge sharing behaviors (Ouerdian, Mansour, Al-Zahrani, & Chaari, 2019), collective turnover (Heavey, Holwerda, & Hausknecht, 2013), innovation (Demirkan & Demirkan, 2012; Grigoriou & Rotharmel,

2017), and ambidexterity (Jansen et al., 2012). Research linking HCR to non-performance outcomes has been crucial to establishing the importance of HCR by linking HCR to a wider variety of outcomes beyond performance. Although performance is critical, consideration of the relationship between HCR and non-performance outcomes such as collective behaviors may provide a better understanding of the collective mechanisms that facilitate high performance. For instance, Reilly, Nyberg, Maltarich, and Weller's (2014) findings that HCR impacts patient satisfaction through changes to job demands shows that the changes to the expected collective behaviors and expectations of the unit drive the changes seen in the more distal outcome of patient satisfaction.

2.2 THEORY

2.2.1 FIRM SPECIFIC HC(R)

This review of relevant HCR research revealed that while progress has been made in establishing the importance of HCR, researchers struggle to provide the precision needed to predict when HCR. To provide greater precision, my aim in this chapter is to focus on a subset of HCR, firm-specific HCR, which requires integrating theory on firm-specific human capital to the collective level. Firm-specific human capital refers to KSAOs that have limited applicability outside of the focal firm (Coff & Raffiee, 2015; Hatch & Dyer, 2004; Kor & Leblebici, 2005). Researchers have demonstrated the particular importance of these KSAOs because they can constrain employee mobility (Jovanovic, 1979) and act as a source of competitive advantage (e.g., Crook, Todd, Combs, Woehr, & Ketchen, 2011; Hatch & Dyer, 2004). Evidence that finds that internal employees perform better than external employees provide some support for this claim (Bidwell, 2011) and researchers suggest firm-specific human capital is valuable because

it helps individuals make decisions in-line within their organizational contexts (Kor & Mahoney, 2005). However, although researchers suggest firm-specific human capital can lead to strategic outcomes, rarely do these authors consider the specificity of the entire collective HCR (see Ployhart et al., 2011 for an exception). Meaning, the connection between individual-level human capital and collective strategic outcomes may be misaligned if researchers do not consider the specificity of the entire resource, given that only rare forms of individual human capital (e.g., stars) can be directly linked to strategic firm outcomes (Moliterno & Nyberg, 2019) and the multilevel HCR creation process makes the HCR distinct from the human capital. Little work has considered the firm-specificity of the HCR, leaving it unclear how this important form of human capital becomes combined for use as a crucial piece of the collective HCR. Thus, this type of content needs more direct theoretical and empirical development to understand its importance to the firm

2.3 HYPOTHESES

2.3.1 CONTENT

HCR Firm specificity increases performance in three main ways. First, firm-specificity results in a higher task performance because a higher proportion of the unit's KSAOs are tailored to the Firm's needs. Applying logic from individual-level research on human capital specificity, which finds that specificity increases the ability of individuals to make high quality contributions to the unit (Hitt, Bierman, Schimizu, & Kochar, 2001), specificity at the collective level will work similarly in that in such situations more individuals will independently possess the KSAOs needed to be most effective. Second, in addition to the quality of their contributions to the unit, firm-specificity at the

collective level also facilitates coordination. Individuals who share similar knowledge regarding what to do and how to do their jobs can better work together, even without explicit communication (Rico, Sanchez-Manzanares, Gil, & Gibson, 2008). Thus, their coordination will be more effective and less laborious given that a higher proportion of the unit is in alignment regarding what to do. Third, firm-specificity also facilitates socialization and the ability to form bonds faster. Specifically, it could result in higher generalized social capital developed through a series of shared experiences (e.g., onboarding or training) and provide employees with shared jargon and social norms which help establish appropriate and agreed upon behaviors (Maynes & Podsakoff, 2014; Tsai & Ghoshal, 1998). Thus, as a baseline hypothesis:

Hypothesis 1: Firm-specific HCR is positively related to performance

2.3.2 ACTORS

Job roles may affect how contribute KSAOs to units because job roles help define the scope of responsibilities and guide the behaviors of the individuals to direct efforts toward specific purposes (Ilgen & Hollenbeck, 1991). While the responsibilities of non-managerial employees can be diverse, in general, these employees are typically responsible for enacting the bulk of task-based work. As firm specificity of non-manager HCR increases, higher performance occurs because individuals have shared prior experiences that provide a shared framework for understanding and enacting the firm's expectations, resulting in less conflict and better alignment among individuals (Cannon-Bowers & Salas, 2001). Additionally, firm-specificity results in a higher level of

competence on firm-specific tasks, leading to needing less training or guidance from others.

While it is generally accepted that greater levels of HCR will lead to greater firm performance (Nyberg et al., 2014) and I establish in Hypothesis 1 that the overall firm specific HCR will be positively related to firm performance, examining the manager versus non-manager perspective increases our understanding of the specificity of HCR.

Additionally, it is well established that managers and non-managers provide value in different ways to the firm, in that non-managers provide more direct benefit to the firm compared with managers who are expected to deliver substantial benefit through indirect benefit by working through the non-managers (Mintzberg, 1973). While these distinctions are well understood, the current literature is unclear about how firm specific HCR differently affects the contribution of managers versus non-managers to firm performance. In fact, as described above, the vast majority of research regarding firm specific HCR either lumps all employees together or is non-descriptive regarding who the employees are that are being tested (Ray et al.(a), in press). For instance, recent work designed to explicate the role of firm specificity is relatively quiet about how firm specificity may influence firm performance differently across different roles in the firm (e.g., Kryscynski, 2021; Kryscynski, Coff, & Campbell, 2021; Raffiee, & Coff, 2016). By examining the differences among managers and non-managers, I can provide greater specificity to understanding the components of the HCR and how they work together. Consequently, I test the hypotheses regarding firm specific HCR for both non-managers and managers.

Hypothesis 2: Non manager firm-specific HCR is positively related to performance.

As described, managers are expected to contribute to firm performance differently than non-managers. Managers provide unique value by guiding and influencing the actions of others and are often tasked with interpreting and implementing the unit's strategic vision (Beck & Plowman, 2009). As the firm specificity of manager HCR increases, managers hold a more similar understanding of the firm's vision due to their experience in the firm. This leads to increased similarity of the implementation mechanisms used (e.g., systems, practices, reward, and punishment structures) and the strength and consistency of the messaging they provide to subordinates (Bowen & Ostroff, 2004; Schneider, 1987). Thus, the value of managerial firm specificity arises from the ability to guide and coordinate employee behaviors more consistently. As managers, across groups, provide this consistency of leadership and ideas, it is expected that employees, even in different groups or during different shifts, will share more consistent lessons, messaging, and understanding, further allowing those employees to coordinate and support each other, ultimately leading to greater organizational performance.

Hypothesis 3: Manager firm-specific HCR is positively related to performance

2.3.3 RELATIVE IMPORTANCE

It has long been asked whether managers or non-managers have more influence on firm performance (Ellis, Nifadkar, Bauer, & Erdogan, 2017; McClelland, & Boyatzis, 1982). In terms of contributing to firm outcomes, this consistency will be expected to create a quicker and more sustainable performance advantage than we might see from the

non-managers who, while having a direct impact, ought to have a smaller individual impact. The vast majority of research examines manager firm-specific HCR based on either the availability of data or a presumption that managers matter more than non-managers (Dyer, Kryscynski, Law, & Morris, 2021). However, to date, this question about the relative importance of manager versus non manager HCR has not been resolved. Addressing this question has the potential to be particularly relevant for advancing HCR research because while manager HCR may be presumed to be more valuable because they have a stronger influence over firm outcomes because their ability to control or direct multiple people compared to those individuals making individual contributions, when non-manager employee HCR becomes more firm-specific, it means that their human capital is already relevant and likely to be more coordinated with other people due to the nature of it, therefore the specificity of the non-manager HCR may be more important than manager HCR because there are more total non-managers than managers and because non-managers are more directly influencing the end product.

Hypothesis 4a: Manager firm-specific HCR is more positively related to firm performance than non-manager firm-specific HCR.

Hypothesis 4b: Manager firm-specific HCR is less positively related to firm performance than non-manager firm-specific HCR.

2.3.4 TIME

It is expected that initial levels of HCR have ongoing effects. However, this assertion has rarely been looked at due to difficulties in collecting longitudinal data and gaining access to HCR when they are first created. My data is unique in that it allows for the possibility to examine the effects of the initial construction of HCR over time. I

expect that non-manager firm-specific HCR will be more beneficial than manager HCR initially because high firm-specificity means employees know what and how to do tasks with less guidance and oversight. Even if managers enter with this firm specific HCR, if the non-mangers do not possess it, managers will still need to spend time teaching the necessary protocols and behaviors. Instead, HCR with non-manager firm specific HCR will have established knowledge of products, cultural norms, and employee rules that are transferable to new units within the organization (Campbell, Saxton, & Banerjee, 2014). However, the relative benefits of initial firm-specificity may wear off over time as the firm-specificity of new employees increases. Meaning, once the newer employees understand their roles and gain experience, their firm-specificity increases meaning that the initial firm-specificity will provide relatively fewer benefits over time. Therefore:

Hypothesis 5a: Firm-specific non-manager HCR has a curvilinear relationship to performance over time that is strongly positive initially but is attenuated at later time periods

Manager firm-specific HCR will lead to a small advantage in performance initially. This benefit is because managers with firm-specific knowledge understand what tasks should be implemented and what the goals and priorities of the unit should be (e.g., Kor, 2003). However, while simply having the knowledge of what to do can lead to an early advantage, possessing such knowledge does not guarantee it can be used effectively. The benefits associated with managers often come from their social relationships and influence over subordinate employees (Avolio, Walumbwa, & Weber, 2009), therefore the initial advantage gained by possessing superior knowledge does not lead to an enduring benefit until the social relationships needed to leverage such an

advantage through influencing others, the primary advantage of managers, develops. To illustrate this point, managers may have firm-specific knowledge of the bestselling and highest margin products for sale. The manager can use this knowledge to design the store in a way where these products are featured, creating an initial advantage compared to managers with low firm-specific knowledge, but they may have difficulty motivating employees to sell these products until they hold influence or develop trust with subordinate employees, which compels them to listen to the manager and makes them more likely to sell the products suggested by the manager, as opposed to products they like or they have prior experience selling. Therefore, the initial benefits of manager firm-specific HCR are likely followed by a decrease in performance until the social relationships needed to motivate, direct, and coordinate subordinate employees to do more or better work develop over time (Nahapiet & Ghoshal, 1998):

Hypothesis 5b: Firm-specific manager HCR has a curvilinear relationship to performance over time that is weakly positively initially but is strengthened at later time periods

2.4 METHODS

2.4.1 RESEARCH SETTING

The sample consists of information for every new location of a Fortune 500 retail company between 2016 and 2018. All stores are located in the United States and employees represent a wide range of job roles at multiple levels within the organization (e.g., sales associates, assistant managers, general managers). The organization generated over \$5.8 billion in annual revenue in 2018 and employs roughly 40,000 workers per year. There are more than 744 stores, with over 300 stores opened between 2016 and

2018. My sample consists of the subset of these new stores because they offer the unique opportunity to measure the initial mix of employees with firm-specific experience versus those that are completely new to the organization. This allows me to analyze how firm-specific the initial HCR is. Of the 314 new stores that opened over this time period, I only include the 190 new stores that were opened at least 12 months prior to the end of data collection because I examine the first-year performance. The organization provided store-level information on store financial performance and individual-level information on hiring dates, departure dates, and basic employee demographics.

2.4.2 ANALYTIC APPROACH

Hypotheses 1-4 were tested using multiple linear regression in R. The results from hierarchical regression are presented in Table 2.2. To test Hypotheses 5a and 5b, which require the use of longitudinal data, random coefficient growth modeling analyses were used. I followed the steps outlined by Bliese and Ployhart (2002) to select the best fitting model using the nlme package (Pinheiro & Bates, 2000) in R. First, I estimated the intraclass correlations (ICC) to determine the amount of within-store variance of my dependent variable. Second, I estimated a baseline model with time to assess how store performance, my dependent variable, changed over time. Third, I tested the degree of between-store change by allowing slopes to randomly vary. Fourth, I tested for evidence of autocorrelation and heteroskedasticity. Fifth, I included the linear effect, the curvilinear effects, the linear two-way interactions, and the interactions with curvilinear terms.

2.4.3 MEASURES

Performance. The dependent variable use in Hypotheses 1-4 is *average store performance*, operationalized as the average retail sales the first year after the store opened. Because stores could open at various times throughout the month, the first month included was the first full month of retail sales. In the longitudinal models, the dependent variable is *monthly performance* and is measured as the monthly retail sales for each month after the store opens starting with the first full month.

Time. To test the longitudinal models, I also created a variable for time. *Time* was coded 1-12 based on the first month the store opened, with 1 being the first month and 12 being the twelfth month after the store opened.

Firm-specific HCR. Firm-specific HCR was measured as the proportion of individuals with prior experience working in the store. Individuals were included as part of the firm-specific component of HCR when they were hired pre or post 2 months of the store opening. This is to account for the fact that employees, typically managers, are sometimes hired prior to the opening of a new store, thus they may appear in the data before the store officially opens and to account for the fact that stores often take time to become fully staffed. The Society of Human Resource Management estimates it takes an average of 36 days to fill a position (SHRM, 2017), thus including employees hired within this window captures the relatively stable collection of individuals who will be working together within the new store.

Relatedly, I also eliminate any temporary hires who did not transition into permanent roles within the store and employees coded as rehires. On average, these stores were structured such that each store had roughly 1 general manager, 3 assistant managers, and 20 non-managerial employees. *Non-manager firm-specific HCR* was

measured as the proportion of employees in the new store with a non-managerial title such as “Cashier” or “Sales Associate” who had prior experience in another store.

Manager firm-specific HCR was measured as the proportion of managers in the new store with a managerial title who worked directly in the unit such as “Assistant Manager” or “General Manager” who had prior experience in another store. Individuals for both variables were identified as existing employees when their employee ID was associated with other store ID(s) prior to the date the new store opened. New hires were identified when their first assigned store ID was the new store, but also by cross-checking those with a new-hire flag, a label created by the company to identify the month the new employee was first hired, with the month the new store opened to ensure their first hire date was within the date window of the new store opening. The proportion of non-managerial employees with prior firm experience ranged from 0-80% of non-managerial employees in the store. The proportion of managerial employees with prior firm experience ranged from 0-100% of managers within the store.

Covariates. I included two variables as controls to rule out alternative explanations. First, I included *median household income*. This variable was measured by linking the zip code of each store to the Bureau of Labor Statistics data on median household income from 2016 (the year my data begins) to control for the wealth of the local area (Ployhart et al., 2011). I also controlled for the average tenure of the transfers, *transfer tenure*, to rule out the possibility that stores disproportionately transfer employees with more experience. In the longitudinal models, I included a dummy variable for calendar month to account for the effects of trends associated with a particular calendar month (e.g., December-Christmas).

There are several other potential control variables that were ultimately not included but are included here to give insight into the types of variables available within the data. Total number of employees [also broken into manager/non-manager]—typically used to control for firm size, but it is the denominator of the transfer proportion variable & median household zip code partially accounts for that. Turnover—the average number of employees who turnover in the first year. Female employees—the sample is predominantly female given the products the store sells. The customers of this company are largely female and retail sales are dependent on the ability to sell and effectively direct customers toward products. Given that women tend to use these products more frequently, they may have established knowledge which provides them an advantage. Rehires—there are employees who are included in the total count of employees who are not classified as new hires or transfers because they are rehired to the company. Part time employees—units are made up of a combination of full-time and part-time hires. I did not restrict the sample to only full-time employees given the high number of part-time employees in the sample.

2.5 RESULTS

Table 2.1 shows descriptive statistics and correlations. In Hypothesis 1, I predicted that higher firm-specific HCR would result in higher average performance. Results from Table 2.2, Model 2 show that transfer proportion had a statistically significant effect on performance ($b=138,895.09$; $SE=32,016.11$; $p<.01$).¹ Hypothesis 2 and Hypothesis 3 predicted that the firm-specific manager and non-manager respectively

¹ While firm-specific HCR was measured as the proportion of managers, to aid in interpretation I also ran each model with the number of transfers and added a control for number of total employees. In this model, holding the number of total employees constant, the addition of a transfer was associated with a \$10,049 increase in sales which is an approximately 3.5% increase.

would be associated with higher average performance. Results in Table 2.2 Models 3 and 4 show both Hypotheses were statistically significant in the hypothesized direction.² Hypotheses 4a and 4b offered competing explanations for the strength of the effects of manager firm-specific HCR and non-manager firm-specific HCR on performance. Hypothesis 4a (4b) predicted manager firm-specific HCR would have a more positive (less positive) effect on performance compared to non-manager firm-specific HCR. Model 5, which presents the results from the tests of these hypotheses, find support for Hypothesis 4b. The coefficient for manager firm-specific HCR failed to reach significance, while the coefficient for non-manager firm specific HCR is significant ($b=157,786.37$; $SE=36,030.77$; $p<.01$). Additionally, the change in r squared between the baseline model (Model 1) and the model with the non-manager transfer proportion (Model 2) was greater than the increase in the model with manager transfer proportion (Model 3) providing further evidence that the non-manager transfer proportion is primarily driving the benefit in average sales performance.

Hypothesis 5a and 5b predicted how the relationship between manager and non-manager firm-specific HCR and performance changed over time. Hypothesis 5a predicted the relationship between manager firm-specific HCR and performance would be curvilinear such that the relationship would be marginally positive initially but grow stronger over time. Contrary to this prediction, the results in Table 2.3 Model 3 show that the relationship is initially positive, as predicted, but decreases at later time periods. Hypothesis 5b predicted the relationship between non-manager firm-specific HCR and

² Holding the number of total employees constant, the addition of a manager transfer was associated with a \$12,624 increase in sales, or 4% increase while the addition of a non-manager transfer was associated with a \$12,608 increase, or a roughly 4% increase.

performance would be curvilinear such that the relationship was be strongly positive initially but decrease in strength over time. I find support for this prediction (Table 2.3 Model 4), meaning the initial positive effect of non-manager firm-specific HCR is attenuated over time.

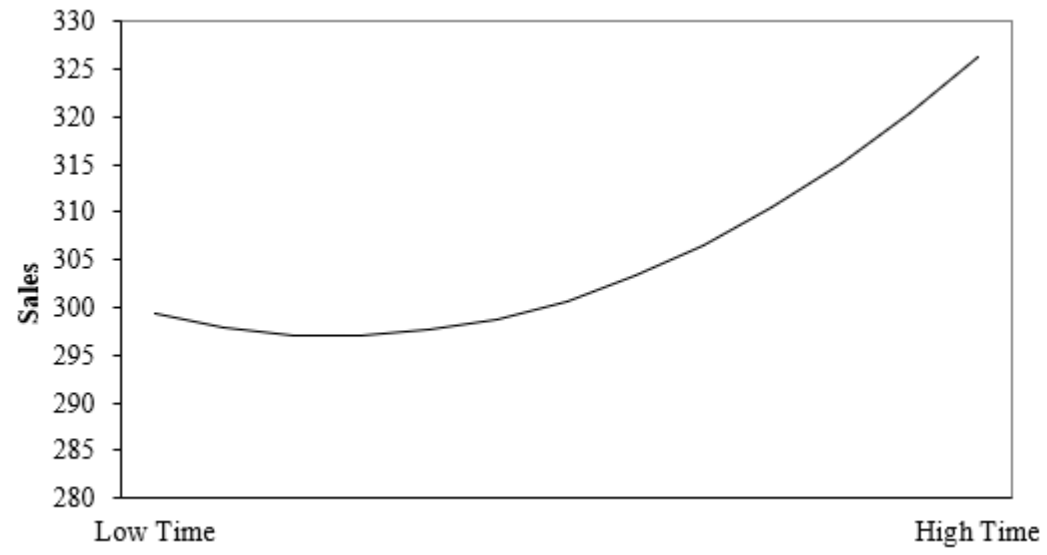


Figure 2.1 This picture depicts the curvilinear relationship between sales and time. Sales are in thousands.

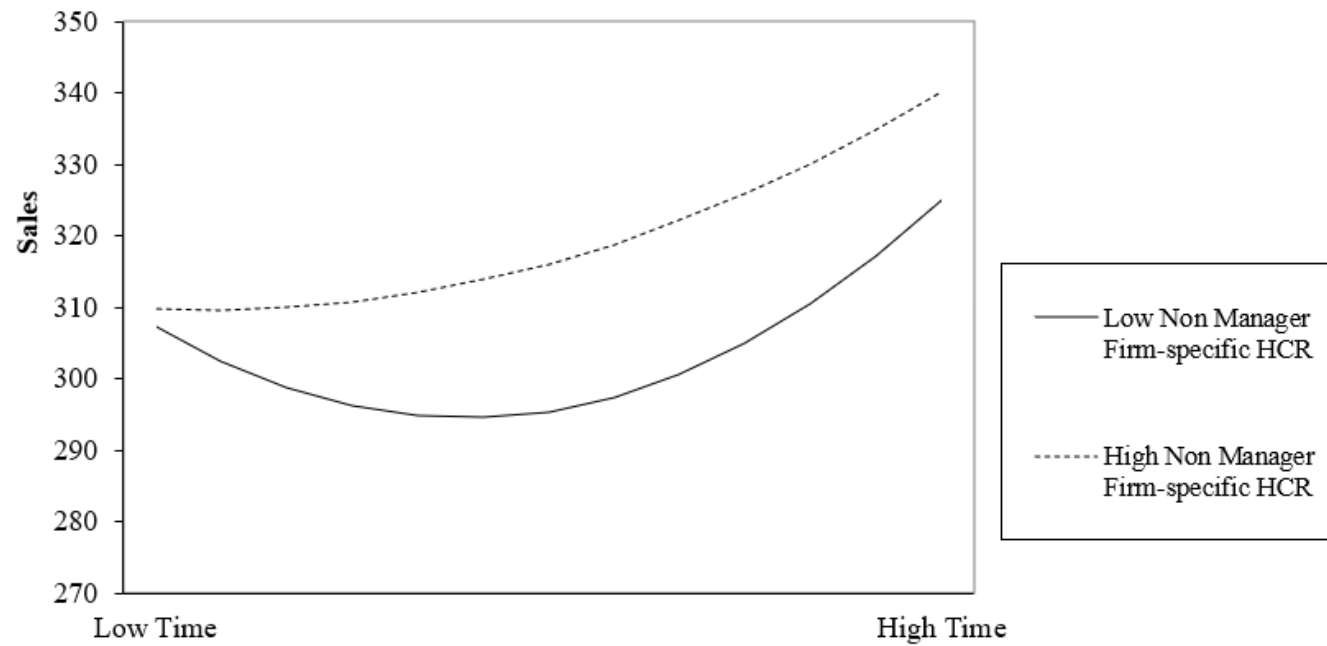


Figure 2.2 This picture depicts the interaction between non-manager firm-specific HCR and time. Sales are in thousands.

Table 2.1 Descriptive Statistics and Correlations

	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
1. Sales	307936.83	99869.62						
2. Median household income	11075.27	6638.32	0.22					
3. Transfer tenure	27.07	18.56	-0.07	-0.03				
4. Transfer proportion	0.20	0.17	0.33	0.21	0.11			
5. Manager transfer proportion	0.37	0.30	0.16	0.17	0.21	0.65		
6. Non-manager transfer proportion	0.15	0.16	0.36	0.19	0.05	0.92	0.41	
7. Month	6.40	2.60	0.07	0.04	-0.01	-0.21	-0.05	-0.13

Note. N=190

Table 2.2 Results of Transfer Proportion Predicting Sales-Hypotheses 1-4

	Model 1		Model 2		Model 3		Model 4		Model 5	
Intercept	283911.43*	(14401.70)	268025.34	(14239.81)	276410.24	(14777.62)	269992.93	(13901.18)	269460.35	(14193.48)
	*		**		**		**		**	
Median household income	2.64**	(0.88)	1.84*	(0.86)	2.33**	(0.88)	1.86 *	(0.84)	1.84*	(0.85)
Transfer tenure	-293.20	(338.80)	-454.02	(325.84)	-446.34	(344.84)	-376.56	(320.47)	-390.93	(329.38)
Transfer proportion			138895.09	(32016.11)						
			**							
Manager transfer proportion					38070.06*	(19126.73)			3937.44	(19849.75)
Non-manager transfer proportion							160592.77	(33051.20)	157786.37	(36030.77)
							**		**	
R ²	0.05		0.14		0.07		0.16		0.16	
Adj R ²	0.04		0.12		0.06		0.14		0.14	

Note. N=190. Standard errors are in parentheses.

**= $p < .01$; *= $p < .05$; += $p < .10$

Table 2.3 Results of Transfer Proportion Over Time Predicting Sales-Hypothesis 5

	Model 1		Model 2		Model 3		Model 4	
Intercept	285723.44**	(14303.07)	302873.81**	(14530.90)	313745.08**	(14738.96)	316905.90**	(14877.41)
Median household income	1.54	(0.84)	1.54	(0.84)	1.54	(0.84)	1.54	(0.84)
Transfer tenure	-536.47	(331.50)	-533.90	(331.65)	-533.65	(331.68)	-533.79	(331.67)
Manager transfer proportion	6655.68	(19460.47)	6684.59	(19469.39)	-18540.82	(21234.14)	6689.76	(19470.70)
Non-manager transfer proportion	150831.16**	(30814.97)	151367.93**	(30829.11)	151384.84**	(30831.30)	90490.78**	(33870.47)
Time	2818.30**	(312.19)	-3263.80**	(947.29)	-7300.18**	(1582.17)	-8125.64**	(1456.59)
Time ²			451.12**	(66.65)	725.67**	(110.68)	758.34**	(102.19)
Manager transfer proportion X time					9485.74**	(2991.67)		
Manager transfer proportion X time ²					-647.27**	(208.16)		
Non-manager transfer proportion X time							21776.83**	(4956.98)
Non-manager transfer proportion X time ²							-1381.17**	(345.34)
Month dummy	Yes		Yes		Yes		Yes	
Log likelihood	-272166.13		-27138.72		-27119.50		-27113.92	

Note. N=190 observations=2280. Standard errors are in parentheses. **= $p < .01$; *= $p < .05$; += $p < .10$

CHAPTER 3

SOCIAL ACTIVATION OF HUMAN CAPITAL RESOURCES

In Chapter 2, I provided specificity to HCR by building and testing a model of firm-specific HCR including how firm-specificity is enacted in unique ways by managers and non-managers, and how the effects of firm-specificity change over time. While that chapter works to tease out *who* and *what* makes up the HCR and strives to place some boundaries regarding how the effects of firm-specificity change over time, it does not account for how the potential value contained in HCR is extracted or activated. Hence, the prior chapter helps explain what makes up the HCR potential, but does not address how that potential becomes action, ultimately leading to performance. Failure to distinguish potential value from activated value is another point of imprecision in most HCR research that prevents researchers from fully understanding how to predict the value gained from HCR.

While rare in HCR literature, research distinguishing potential and actual value from resources is not uncommon in the resource-based literature more broadly (e.g., physical resources; organizational resources). For instance, an organization can own a resource such as oil, but until the oil can be extracted from the ground through an oil extraction process, it is not activated into a useful output for the firm. The importance of these processes for extracting value from resources is known but has not yet been applied to research on HCR. This may be due to struggles with imprecision in the construct,

making the boundaries of HCR unclear. For instance, HCR definitions use the word “capability” to define HCR (Ployhart et al., 2014) implying that HCR is the potential, yet studies often link HCR to outcomes by explaining how the KSAOs included in HCR are applied to unit tasks that result in collective behaviors or collective performance. It is also likely that this distinction between potential and activated resources has yet to be applied to HCR because we have not fully accounted for the human piece of HCR, which makes them distinct from other types of resources. Meaning, theories such as RBT, which are often purported to explain the importance of all types of resources may not be a sufficient theory for explaining the process for extracting value from human resources.

To address these issues, the intended contributions of Chapter Two are threefold. First, I distinguish between potential and accessible value. The lack of specificity in most HCR research makes it appear that most studies are trying to use the entire HCR as a predictor. For instance, if HCR is measured as the total education of individuals within the unit, the assumption is that all of that education can be utilized by the unit. My results show that there are differences between a measure which captures the *potential* HCR versus the amount of HCR extracted implying that the totality of the HCR may not always be fully utilized. Second, I build and test a model examining how potential is extracted. I do this because research is unclear about how to turn potential HCR into value for the organization. I propose and test a model arguing that social connections are the key to extracting value. Third, I contribute to the growing literature aimed at delineating the effects of human and social components of the HCR (Ray et al., in press). While debates in HCR literature and HR literature more broadly have struggled to disentangle human and social capital (Wright & Essman, 2019), my results show how

social capital can be conceptualized as the process through which the value contained in individual's KSAOs is actualized. Further, it brings precision to the types of social connections that are most likely to be used effectively to extract value given that social connections are multidimensional and more complex than is frequently accounted for. Together, this research importantly helps us understand why and why the value from HCR can be actualized toward use and result in higher performance.

3.1 THEORY

3.1.1 POTENTIAL VERSUS ACTUAL RESOURCES

Resources are defined broadly as “all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness” (Barney 1991; pg. 101) and may refer to both potential and actual (i.e., “realized”) value contained in such resources. The distinction between potential and actualized value has caused some confusion in defining resources (e.g., Kraaijenbrink, Spender, & Groen, 2010) but is a critical distinction because the potential value can be substantially different from the actualized value of the resource (Kraaijenbrink, 2011). For instance, while a firm may acquire an oil field, the oil exists as a potential source of value until before it is extracted from the ground. The extraction of value from a resource often occurs through the development of other resources or processes--for instance in this example, oil is extracted when the firm uses specialized machinery to collect oil from the ground. The amount of oil extracted from the ground is dependent on the efficiency of the process used to extract the oil. Inefficient processes may yield lower amounts of oil for use even when the total potential supply of oil is greater, creating a discrepancy between

the resource supply and the subset of the resource that is available for firm use. While some resource-based literature has attempted to disentangle resources (i.e., total stock or supply) from capabilities (i.e., the ability to deploy resources), but the processes needed to extract value (e.g., Holcomb, Holmes, & Connelly, 2009; Makadok, 2003) are often overlooked, failing to explain how much of the resource can be activated for use toward unit relevant outcomes.

While the distinction between potential and actual value is recognized in the resource-based literature (e.g., Kraaijenbrink et al., 2010), HCR research has not yet distinguished between potential and actual HCR. This is partially due to the lack of clarity and consensus in defining HCR (Ployhart et al., 2014; Ray et al., in press) and the fact that HCR are distinct from other types of resources and thus are often treated differently both theoretically and empirically. Given their complexity, HCR are often touted as the most important resources due to their intangibility and potential for competitive advantage (Barney, 1991; Fulmer & Ployhart, 2014). The complexity that makes HCR valuable also increases the difficulty defining HCR, including distinguishing between potential and actualized HCR; such complexity also suggests that clarifying the distinction and addressing each aspect of this distinction may be necessary for truly understanding what the HCR is. This is a particularly critical issue for HCR because the consequences associated with not fully understanding HCR are more severe compared to other types of resources due to the natural complexity of the HCR resulting from being human based (Coff & Chadwick, 2019).

Current work in the HCR literature that comes closest to making the distinction between potential and actualization is work by Wolfson and Mathieu (2021) that explains

how social capital resources interact with the stock of HCR and situational characteristics to impact performance. While their discussion highlights the importance of attending to the environment in which HCR are deployed (i.e., the task characteristics), it stops short of explaining precisely when and how social interactions help activate the value contained in HCR. That is, their work suggests there are differences between HCR stocks and HCR that is used toward performance, but they do not explain how social interactions contribute to the activation process and focus instead on how tasks necessitate higher or lower levels of HCR stock. Other novel work in HCR has suggested that the link between HCR and performance is mediated by the collective behaviors that facilitate higher performance (Ployhart, 2021). This suggests that there are intermediary processes between HCR and performance that require exploration, but these works do not explain precisely how and why HCR will be combined into these collective behaviors. Stated simply, these two works, which substantively advance the conversation by making it clearer that there are differences between potential and actualization in the HCR, do not address questions regarding how much of the HCR will be available or accessible for use toward the collective behaviors required for higher performance.

To focus directly on the distinction between the stock of HCR and the processes needed to activate HCR, I introduce the HCR social activation process to explain how potential HCR becomes activated. Before discussing the social activation process, which explains how social relationships can be used to activate more of the value contained in the stock of HCR, I distinguish this process from the social process of HCR emergence, where social relationships generate higher levels of HCR.

3.1.2 HCR EMERGENCE

Relevant HCR emergence theoretical discussions (Ployhart & Moliterno, 2011) are usually grounded in multilevel theory that is used to explain how human capital is amplified and/or transformed across levels to become collective HCR (Ray et al., in press). Initial conceptualizations of this process suggest that task complexity influences the development of shared collective states that define how unit members collectively think, act, and feel (Ployhart & Moliterno, 2011). This results in synergistic effects which make HCR distinct from the totality of aggregate human capital. Recently, HCR emergence theory was created to address the role of social interactions in the HCR emergence process (Ray, Nyberg, & Maltarich, in press). Specifically, HCR emergence theory posits that unit social capital can increase (or decrease) the availability, accessibility, or coordination of the group which results in more (or less) resulting HCR. This discussion of social interactions in the emergence process is used to explain how to generate more potential HCR--that is, how to combine individuals in advantageous ways which create or enhance the total supply of HCR (Ray et al., in press). However, HCR emergence does not explain how social interactions can be used to activate the HCR once it has emerged. This means that social interactions, which are used to explain how HCR is created (Ray et al., in press), but are not clearly explained regarding how HCR is motivated toward performance. This latter is concerning because it seems clear that the social components that may lead to the creation of the HCR are also likely to influence the effectiveness of that HCR (Nyberg & Ployhart, 2013).

3.2 HYPOTHESES

3.2.1 SOCIAL ACTIVATION PROCESS

The social activation explains how social relationships determine how much of the potential HCR can be extracted from the HCR. Social activation consists of two separate mechanisms, 1) making higher quantity or quality KSAOs contained within the HCR more available and 2) better channeling or applying the potential KSAOs contained in the HCR toward unit purposes. I examine three types of social relationships that affect the social activation process: internal relationships (i.e., relationships among individuals in the HCR), manager relationships (i.e., relationships between individuals in the HCR and managers), and source diversity (i.e., the number of units that comprise the firm-specific component of the HCR).

3.2.2 FIRM-SPECIFIC HCR

My first hypothesis is a baseline hypothesis that firm-specific HCR will have a positive impact on unit performance. I previously hypothesized this relationship in Chapter 2, but in this chapter I measure firm-specific HCR as the number of employees with firm-specific experience instead of the proportion of the unit with firm-specific experience to better align with the theoretical perspectives I draw from. As discussed in Chapter 2, firm-specific HCR will lead to higher average sales performance because as the number of individuals with relevant experience increases, their ability to make higher quality contributions to the unit.

Hypothesis 1: Higher firm-specific HCR leads to higher sales

3.2.2 INTERNAL RELATIONSHIPS

Internal social capital, or the goodwill contained between individuals within the unit, impacts the coordination of unit members (Liu, 2014; Wang & Cotton, 2018). Internal social capital affects HCR creation by changing how individuals interact, which in turn, shapes how and if human capital is spread throughout the unit, thus affecting the HCR emergence process (Ray et al., in press). Social capital research specifies that beyond the existence of relationships, the quality of social ties matters (Nahapiet & Ghoshal, 1998). Consequently, the strength of these internal social relationships also affects how HCR are created (Ray et al., in press). For instance, stronger social relationships help units integrate knowledge more effectively (Grigoriou & Rothaermel, 2017). Likewise, better use of star employees in the unit, by increasing their willingness to share their human capital with others in the unit also helps units integrate knowledge more effectively, leading to higher unit performance (Liu, 2014). In addition to the positive impact on the ability for HCR to be disseminated and activated, social interactions can also restrict the development of collective HCR. For instance, if social interactions prevent valuable diverse opinions from being heard and utilized within units (Wang & Cotton, 2018), for instance, when there are cliques that do not share information for factions that lead to the exclusion of ideas from being shared, it can harm the performance of the HCR.

Internal relationships can also help convert relevant KSAOs from the potential HCR to actualized HCR by increasing the quality or quantity of contributions toward unit outcomes. This may occur both due to feelings of closeness that develop in social relationships, which may make individuals more motivated to both share more KSAOs

with others and motivate individuals to use more of their KSAOs on behalf of the unit. Alternatively, these same behaviors can occur due to pressures to conform to group standards that pressure individuals to adhere to norms which are beneficial to the group, such as sharing more with the group and working on the group's behalf (Coleman, 1988).

In addition to helping individuals become collectively more willing to use their KSAOs on behalf of the unit, internal relationships can also help apply relevant aspects of the HCR more efficiently toward unit outcomes. Specifically, social ties represent the shared experience individuals have working together and these shared ties then facilitate unit members to develop better and more efficient processes for working together. Prior research suggests that shared experiences result in the development of critical colleague-specific knowledge (Campbell et al., 2014) that can be critical for maintaining high performance (e.g., Groysberg, Lee, & Nanda, 2008). Some of the shared processes that increase efficiency, which are built through shared experiences, include: communication, collaboration, and coordination. Each of these three (i.e., communication, collaboration, and coordination) increase the ability for individuals to work together (Mathieu, Maynard, Rapp, & Gilson, 2008), and consequently increase the likelihood that the potential HCR will be better utilized due to higher efficiencies and greater effectiveness in these processes.

Additionally, the existence of social relationships also makes it more likely for new relationships to develop within units (Borgatti & Foster, 2003). Increasing the ability and likelihood of fostering new relationships increases the likelihood that newcomers will become better integrated into units and integrated more quickly. This suggests that more of the HCR will be applied toward unit outcomes. While social relationships can

sometimes be associated with downsides if the relationships contain negative content (Portes & Landolt, 1996) or when the existence of relationships leads to the development of subgroups, which could inhibit the potential to extract content from relationships, this is less likely to occur given that relationships that contain negative content often increase the likelihood of turnover (Jo & Ellingson, 2019; Morrison, 2002), meaning these types of relationships are less likely to endure.

Hypothesis 2: More internal relationships strengthens the relationship between firm-specific HCR and sales

3.2.3 MANAGER RELATIONSHIPS

HCR can also be activated through the relationships between the HCR (subordinates) and managers³. Prior research suggests managers play a crucial role in the utilization of resources (Holcomb, Homes, & Connelly, 2009; Sirmon, Gove, & Hitt, 2008; Sirmon, Hitt, & Ireland, 2007). For instance, Holcomb and colleagues (2009) find that manager's abilities impact the productivity of resources. This collection of research mainly focuses on manager's abilities but does not address how the manager's relationships can be used to extract more value from the HCR.

Managers work to activate relevant KSAOs from potential HCR by facilitating the increase in the quality and/or quantity of individual and collective contributions. This can occur in ways that are similar to peer relationships (i.e., affective feelings), which

³ It is an interesting and unresolved question in the HCR literature as to where "managers" are relative to a firm's HCR. That is, the definition of HCR does not make it readily clear as to whether managers should be part of the unit's HCR or separate from the unit's HCR. In this chapter, I treat them as separate, but the logic applies equally well if the managers were considered part of the HCR.

cause individuals to work and share more due to their positive feelings toward managers (Avolio, Walumbwa, & Weber, 2009), and to the individuals' desire to make a positive impression to increase future chances of promotion (Bolino, Long, & Turnley, 2016). In addition to positive feelings, which compels individuals to work harder on behalf of the manager, managers also have additional methods to get individuals to apply their skills towards unit tasks, such as changing incentive or reward structures. This can get individuals to work harder and/or be more motivated (Rynes, Gerhart, & Parks, 2005) leading to higher utilization of their potential toward unit outcomes. Additionally, managers often have control over task and schedule assignments. This means that managers can match individuals to roles that the individuals will be able to optimize their contributions and this in turn is also likely to be roles that bring the individuals greater satisfaction (Weller, Hymer, Nyberg, & Ebert, 2019). Managers have this ability to create matches because of their greater understanding of desired outcomes for the units than many individuals possess and an ability to compare across individuals KSAOs.

Additionally, manager relationships also help activate potential HCR by channeling collective HCR more efficiently and effectively toward outcomes. One way this happens is through the knowledge and experience of how to effectively fit people together to maximize collective performance. Prior research on matching (Weller, et al., 2019) and fit (e.g., Jansen & Kristof-Brown, 2006) emphasize that the way people come together matters and can lead to more effective and efficient coordination and utilization of the HCR, allowing for more to be activated (Weller et al., 2019).

Additionally, the existence of more manager relationships with individuals can lead to better inclusion and coordination of new hires through the modeling of

relationships. This occurs because when managers have effective working relationships with their subordinates, new hires are able to observe these existing, high functioning, relationships and observing these high functioning relationships will help new hires understand the expectations of the manager and adjust to his/her manager style. One natural way of creating more of these intact, functional manager-individual relationships in new HCR is to bring over in-tact relationships from prior existing situations (e.g., when a manager takes subordinates to a new firm or when new units are seeded with managers and individuals whom the manager has worked well with in prior situations). This situation of managers bringing individuals who have experience working with the manager also helps establish the hierarchical structure of a unit; hence, increasing the manager's power. This occurs because while managers may have some structural power over individuals that report to the manager, when managers bring individuals that they have worked well with in the past, those managers should also have more respect from the prior individuals (managers are less likely to bring individuals who do not respect them than individuals who do respect them) and this respect that already exists for the managers will lead to higher reputational power for the managers over the specific individuals who have a working history with the manager and this additional reputational power will spill-over to additional individuals (Greer, de Jong, Schouten, & Dannals, 2018). In combination, this increase in respect and power should lead to better and faster ability to coordinate new employees.

It is the case that previously established relationships between individuals within the HCR and managers could potentially lead to negative outcomes (e.g., a hostile work environment, undermining of authority, etc.) if animosity toward managers was brought

over into the new unit from individuals who had negative relationships with managers. For instance, if negative feelings are carried over from prior experiences, it could cause negative relationships to managers to be more widespread and make newcomers less willing to work on behalf of the manager if these antagonistic relationships are modeled (Cooper, Rockmann, Moteabbed, & Thatcher, 2014). However, like internal relationships, the likelihood that employees with extreme negative affect toward managers would be willing to accept transfer assignments with a manager they dislike is unlikely, and managers are less likely to bring individuals into new situations with the manager if there is a hint that such a relationship is negative. Therefore, it is more likely that manager relationships will help to activate more potential HCR than to undermine potential HCR.

Hypothesis 3: More manager relationships strengthen the relationship between firm-specific HCR and sales. Specifically, when the number of manager relationships with prior individuals is high, the positive relationship between firm-specific HCR and sales will be stronger.

3.2.4 SOURCE DIVERSITY

Examining the diversity of the sources that contribute to firm-specific HCR (i.e., the number of units represented in the firm-specific HCR) offers an opportunity to test whether firms should prioritize the heterogeneity of the specific information contained in the HCR or maximize the number of relationships that are maintained--allowing for better/more effective processes for making potential HCR into actualized HCR. This question about comparing the number of diverse perspectives, which can increase the

amount and variety of different informational perspectives, versus the strength of existing ties, which may increase coordination and efficiency of communication, is a long-standing question that traverses many topics (e.g., diversity and inclusion; board governance, etc.). Recent arguments, across literatures, have emphasized the importance of collecting diverse perspectives. For instance, the idea of structural holes in social networking highlights the value of bridging different social groups to maximize the knowledge generated by a focal group (Ahuja, 2000; Granovetter, 1973). However, research also recognizes that stronger social ties and sometimes redundant ties can lead to benefits too (Coleman, 1989). For instance, as the strength of social dyads increases, the communication between the two is likely to become more efficient. When there is a redundancy of information and knowledge, it can also make it easier for one individual to make-up for and help-out with issues that a similar individual is facing. This type of awareness regarding another individual also makes it easier for one individual to engaged in organizational citizenship behaviors because it is easier for the individual to understand what help is beneficial (Bergeron, 2007).

While firm-specific HCR is valuable because it allows collectives to understand and contribute in beneficial ways, units can also develop unit-specific elements, which are tailored to the needs or purpose of their units but are not shared between all members of the firm as a whole. As the number of sources from which individuals come from increases, the variety of unit-specific HCR increases. This variety may be beneficial because it adds heterogeneous KSAOs which can make the HCR more complex. When everyone has the same type of unit-specific HCR, the addition of additional members from that unit may be less impactful (Lazarsfeld & Merton, 1954; McPherson, Smith-

Lovin, & Cook, 2001). However, as the diversity of unit-specific sources decreases, meaning when individuals all come from the same unit, a higher degree of the social ties needed to extract potential HCR are preserved. These relationships come with the added collaboration and increase the consensus between individuals that allows for less conflict and a higher likelihood of application of the HCR toward unit purposes. Thus, I predict that the process of extracting HCR is more important than the diversity of the potential HCR both due to the nature of my setting, where a complex HCR is not necessary for higher performance, and because the inability to understand, coordinate, exchange and activate complex HCR leaves significant untapped potential that makes such diversity less likely to lead to higher performance.

Hypothesis 4: Increased source diversity weakens the relationship between firm-specific HCR and sales. Specifically, when source diversity is high (members of the unit come from heterogenous backgrounds), the positive relationship between firm-specific HCR and sales will be weaker.

3.3 METHODS

3.3.1 MEASURES

I utilize the same data from Chapter 2, but I use several different measures, outlined below.

Sales. The dependent variable for this study is month 6 of retail sales. Sales is used because it is a commonly used measure in the literature to capture unit outcomes that are similar to the units being compared in this sample. Additionally, sales represent one of the key goals of the organization as new units are formed.

Transfers. While I measure transfer proportion in Chapter 2, in Chapter 3 I use the number of transfers as my independent variable. This measure better aligns with my theory that proposes that the number of individuals with social relationships impacts the ability to extract value from each individual and my emphasis on dyadic social ties.

Social relationships. To measure relationships within the unit, I created three variables. *Internal relationships* were calculated as the number of non-managerial employees who entered the unit with at least one other person. *Manager relationships* were calculated as the number of non-managerial employees who transferred with a manager. While these measures allow for assessment of how the number of ties influences performance, it does not consider how the variance that may be associated with the size of the group that moves together (e.g., 2 versus 15 employees). Thus, tests of alternative social relationship measures should be further tested. *Source diversity* is calculated as the number of different groups represented in the unit. For instance, if a unit received 5 transfers that came from the same unit, it would be coded “1” because only 1 group is represented. However, if those 5 transfers came from 5 different units, it was coded as “5”.

Covariates. *Total number of employees* [also split into manager/non-manager] is often included in studies to control for firm size, but in this study the denominator of the transfer proportion variable and median household zip code partially accounts for that.

Female employees—the sample is predominantly female given the products the store sells. The customers of this company are largely female and retail sales are dependent on the ability to sell and effectively direct customers toward products. Given that women tend to use these products more frequently, they may have established knowledge which

provides them an advantage. *Rehires*—there are employees who are included in the total count of employees who are not classified as new hires or transfers because they are rehired to the company. *Median household income* was measured by linking the zip code of each store to the Bureau of Labor Statistics data on median household income from 2016 (the year my data begins) to control for the wealth of the local area (Ployhart et al., 2011). I also controlled for the average tenure of the transfers, *transfer tenure*, to rule out the possibility that stores disproportionately transfer employees with more experience. In the longitudinal models, I included a dummy variable for calendar month to account for the effects of trends associated with a particular calendar month (e.g., December-Christmas). There are several other potential control variables that were considered but ultimately not included.

3.4 RESULTS

Hypothesis 1 predicted that the number of transfers would increase average sales performance. I find support for this hypothesis mirroring the results of Chapter 1.

Hypothesis 2 predicted that the number of transfers with at least one social tie would increase the positive effect between transfers and performance. While this result was statistically significant, it was in the opposite direction originally proposed ($b=-7,047.50$; $SE=222.96$; $p < .01$). Hence, my results fail to support Hypothesis 2.

Examining the test results for Hypothesis 2 in closer detail reveals that as the number of transfers with pre-existing social ties increased, the positive effect of transfers on performance weakened. Specifically, every additional increase in transfers who had at least one social tie decreased the positive benefits of a transfer by over 50%. This finding may suggest that while individuals' relationships may transfer, negative relationships can

also be maintained which could explain why sales may be lower. Future research with more fine-grained measures of social capital (i.e., survey measures that assess the relational content of such ties) would be helpful to further investigate this possibility. Alternatively, it may be that the redundant knowledge shared by those with previous ties may somehow negatively impact the value of firm-specific HCR, suggesting a potential substitution effect.

The results support the predictions made in Hypothesis 3. Hypothesis 3 predicts that the number of manager-employee social ties increases the impact of firm-specific HCR on sales ($b=9,308.68$; $SE=2791.52$; $p < .01$). Specifically, I found that for every additional non-managerial employee that came with a manager (holding the total number of non-managerial employee's constant), sales increased by roughly 3%. This may suggest that the value contained in the relationships between managers and non-managers may be transferable and can be used to extract more value from the HCR.

The results failed to support Hypothesis 4 which predicted that the number of groups, where members of the unit come from heterogenous backgrounds would weaken the positive impact of firm-specific HCR on sales.

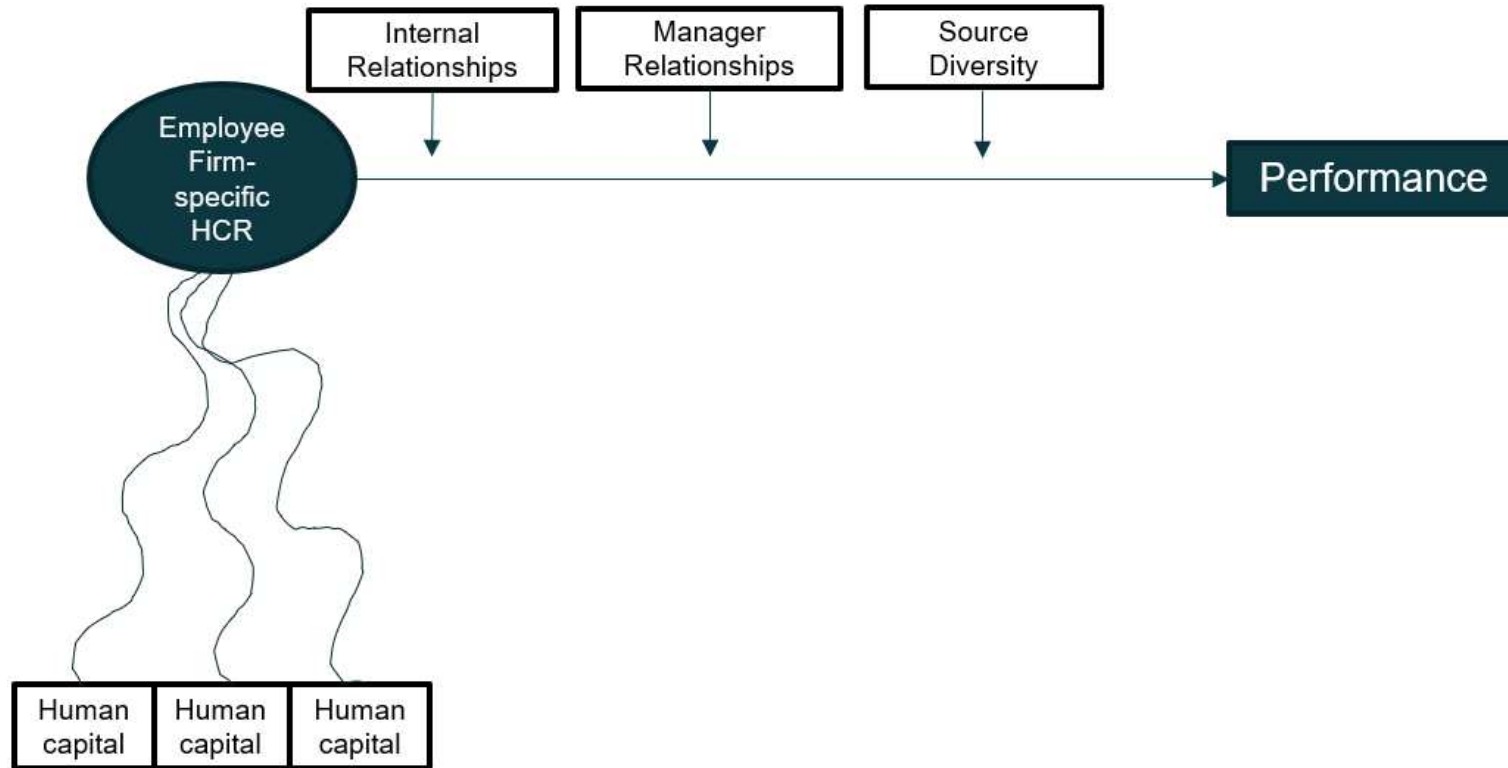


Figure 3.1 This figure depicts the model outlined in Chapter 3 of the relationship between firm-specific HCR and performance and the moderating effects of social connections

Table 3.1 Descriptive Statistics and Correlations

	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
1. Sales	310700.20	115813.68								
2. Median household income	11075.27	6638.32	0.18							
3. Transfer tenure	27.07	18.56	0.01	-0.11						
4. Rehires	0.16	0.44	0.07	-0.10	0.38					
5. Female employees	17.23	7.80	0.07	0.01	0.05	0.25				
6. Total non-managerial employees	19.46	10.11	0.04	0.02	0.05	0.23	0.95			
7. Manager relationships	0.97	1.81	0.21	0.18	0.05	-0.06	-0.08	-0.05		
8. Internal relationships	2.25	2.68	0.18	0.22	0.16	-0.04	-0.07	-0.05	0.88	
9. Number of groups	2.79	1.55	0.22	0.00	0.15	0.08	0.18	0.18	-0.02	0.06

Note. N=190

Table 3.2 Results of Social Ties and Transfers Predicting Sales-Hypothesis 1-4

	Model 1		Model 2		Model 3		Model 4	
Intercept	262100.81**	(31630.05)	248515.50*	(22585.99)	201663.16*	(27497.06)	203265.67*	(36040.63)
Median household income	2.63*	(1.17)	1.81	(1.15)	2.53*	(1.19)	2.23+	(1.18)
Transfer tenure	-268.88	(499.98)	-413.69	(483.11)	-28.29	(586.89)	-12.91	(572.97)
Rehire	7308.56	(18780.51)	11419.32	(18142.64)	14887.85	(19877.47)	11404.03	(18724.76)
Female employees	3022.79	(2763.22)	1745.64	(1961.47)	4565.96	(2901.80)	3890.67	(2846.38)
Total non-managerial employees	-2471.32	(2646.64)	-3893.66	(2579.32)	-4447.09	(2780.26)	-3665.59	(2734.48)
Transfers			12212.42**	(3200.40)	9555.97	(8789.99)	23870.39*	(12071.67)
Manager-employee relationships					13911.62	(8429.43)	-32614.35+	(17111.18)
Social ties					-9051.43	(6870.37)	17834.11+	(10479.84)
Number of groups					8268.21	(8218.08)	3722.33	(11731.61)
Manager relationships X transfers							9308.68**	(2791.52)
Social ties X transfers							-7047.50**	(2222.96)
Number of groups X transfers							-95.50	(2252.83)
R ²	0.04		0.11		0.14		0.20	
Adj R ²	0.01		0.08		0.09		0.14	

Note. N=190 observations=2280. Standard errors are in parentheses. **= $p < .01$; *= $p < .05$; += $p < .10$

CHAPTER 4

DISCUSSION, LIMITATIONS, AND FUTURE RESEARCH

4.1 DISCUSSION

The dissertation presented here attempted to make five primary contributions. First, I added clarity to the role of content and structure of HCR to provide more precision in our understanding of the construct. Research implies that there are distinct types of HCR (Nyberg et al., 2014; Ployhart et al., 2014), but the different types of HCR are rarely specified or addressed theoretically or empirically (Ray et al., in press). This lumping of HCR without distinction or clarity creates confusion and imprecision for readers and makes it difficult to distinguish HCR from more general theories (e.g., human capital theory; Becker, 1964) that link all HCR to performance.

Second, along the lines of being more precise about the HCR structure (including the precise components that form the HCR), the findings from this dissertation highlight the value of considering the role of time when thinking about the HCR. Naturally, the HCR, which is a function of the emergence process, necessarily develops over time; however, HCR research generally avoids describing the role of time when describing the HCR. This is particularly challenging because the HCR is constantly evolving and thus establishing when in time we are examining the HCR is particularly relevant for understanding the construct; perhaps much more important than for understanding constructs that are not as consistently in a state of change. For instance, when we leave-

out considerations of time, it is easy to see an incomplete picture of the impact firm-specific HCR has on sales. Considering the role of time also helps us understand that there are differences regarding who is influencing the effectiveness of the HCR (e.g., manager, non-manager) in understanding their impact of the HCR on unit performance.

Third, this dissertation helps to establish how potential HCR (the result of the emergence process from human capital to the HCR) can be activated to affect performance. Distinguishing between the emergence process, which enables the collection of the HCR potential, from the activation process, which is the role of converting that potential into unit performance, helps us add precision to the HCR construct, including how it is developed and how it contributes to unit performance. Further, distinguishing between the formation of HCR and the activation of HCR also helps better align HCR literature with the resource-based view and strategic human resources (SHR) management literatures. For example, with current resource-based views, a theoretical perspective that has long dominated the HCR space (Nyberg & Moliterno, 2019), this distinction between HCR development and activation creates an opportunity to strengthen the ties to the resource-based views and to allow for greater learning between the two research disciplines. While HCR is recognized as a crucial resource, research on the resource-based view also recognizes that the value of resources can only be fully realized when they are appropriately used by the firm (Lippman & Rumelt, 2003). Without separating HCR into the development and actuation phases, research mostly relies on the assumption that there is necessarily a relationship between

superior HCR (quantity or quality) and unit performance; however, this ignores out the internal activation processes that make more potential HCR available. Through separating the development and activation phases we can understand both better while also focusing research on more direct and specific questions. In addition to aligning the HCR research space more clearly with the resource-based view literature, this separation also helps align HCR research more directly with the strategic HCR literature. Without this distinction, the HCR space may be helpful for strategic HR research in terms of helping explain how organizations may influence part of the process (e.g., the development of the HCR or the activation process), but it lacks the ability to explain how the people that constitute the HCR play a role in the bottom-up process of HCR activation.

Fourth, this work integrates research on social interactions, including social capital, with theories on human capital and HCR. While the assertion that human and social capital are related certainly is not new (Coleman, 1988), and there have been initial attempts and describing the similarities or at least the relationship between social and human capital (e.g., Wright & Essman, 2019), in general research on HCR has been slow to meaningfully integrate social theories into views of HCR leading to increasing calls for attention to the role of social processes in HCR (e.g., Nyberg & Wright, 2015). This dissertation addresses the role of social interactions in HCR activation, distinguishing between manager/non-manager relationships (bolstered by insights from LMX literature) and non-manager relationships (drawing from insights from socialization and social

capital literatures). By integrating and synthesizing views across these different literatures, the current paper draws stronger connections to meaningfully inform HCR literature.

Fifth, the current paper works to distinguish and explain aspects of how managers are used within their organizations by theorizing and empirically testing three distinct ways that managers behaviors can affect unit performance. Distinguishing among these areas informs the HCR literature because while we know managers' involvement with employees is crucial to firm performance (Kehoe & Han, 2019), little is known about the multiplicity of the role that managers have in affecting how HCR function. Thus, through showing the interactions between manager actions and HCR, this research can inform how managers affect unit performance. I do this through showing how managers are included as a resource to affect unit performance, how managers affect non-manager HCR and how manager social capital indirectly influence non-manager HCR, and which of these roles may offer more unit value, at least under some specific situations.

4.2 LIMITATIONS AND FUTURE RESEARCH

Future directions of HCR specificity. Overall, while this dissertation makes some meaningful contributions, it may raise more questions than it answers. For instance, while the role of managers has in influencing HCR is interesting, there is likely an interaction effect between manager and non-manager resources. At the moment, however, I was unable to find any theory regarding what appropriate predictions for such reactions would

be. Answering such a question could lead to better understanding of how to position managers in relationship with non-managers. Similarly, if there is such an interaction effect, it would be interesting to examine if there is a substitution effect (e.g., can non-manager firm specific HCR make-up for a lack of manager firm specific HCR or could the differences lead to increased challenges. For instance, if it is the case that non-manager firm-specific HCR could substitute for manager firm-specific HCR, it would suggest value in moving managers to groups of non-managers with firm-specific HCR. The non-manager firm-specific HCR may make-up for deficiencies in this area of an incoming manager (e.g., pushing culture to remain constant) thereby allowing the manager to focus on new initiatives while still receiving the benefits of non-manager firm-specific HCR. Alternatively, it could be that bringing in managers that do not have much firm-specific HCR to units with high non-manager firm-specific HCR could create conflicts between the two groups that make it difficult to create change.

While my research moves the field toward greater delineation of HCR, there are many opportunities for going considerably farther. For instance, there are many jobs and roles with jobs that do not fit neatly into the category of non-managers used in this study. Additionally, some roles may matter more in terms of having firm-specific HCR. For instance, cashiers may play a different role than salespeople who are expected to work with customers sharing expertise. It is likely that if we can become more specific than just non-managers, the additional specificity would provide additional insights about the HCR.

Another area that demands greater attention is the use of proxies in measuring HCR. Even in this paper, where I am arguing that we need greater specificity, I continue to use a proxy that does not fully capture the multidimensionality of the HCR. For instance, is the proxy that I use in this paper really capturing the KSAOs that are useful for unit outcomes? And, is this proxy really capturing a good picture of the full construct or is it just capturing a small component? Learning how to address these questions will help make marked differences in propelling the field forward and will help us interpret our results much more accurately.

Future directions of HCR activation. One major challenge that still needs to be overcome is that even with trying to integrate social capital with human capital, it is extremely challenging to identify strong measures for how the social capital manifests itself. For instance, even the proxies used here only account for the number of individuals with a social tie but not the number of people who came together into the unit. This means the measure used here does not distinguish between those who came with one other person to the new unit versus those who came in larger groups, and the differences may make a substantial difference in how the results are interpreted. I work to overcome this using additional measures in other tests, but even these tests are not perfect.

Even more complicated is that research needs to disentangle the role of social interactions in emergence from their role in making HCR available/accessible toward performance. Given that the HCR emergence process is continuous and that the outcome effects of HCR also influence the foundations that make-up the HCR (Rat et al., in press),

there is necessarily some recursiveness throughout the process. However, to fully understand how the HCR is created and subsequently activated, it would be helpful to go much further in disentangling the role of social interactions in the emergence process or in the development of the HCR from the role of social interactions in applying the HCR toward unit performance. The role of social interactions very likely affects both the emergence enabling process and the actuation process and understanding how these interactions are different will strengthen the theory and the measurement of HCR. Along these lines, it would be very helpful if we could develop better ways of measuring the relevant social relationships (currently, the value of the social interactions is presumed based on things like density or centrality). However, it would be much more effective if we could identify social interactions are particularly useful for activating HCR to unit performance.

Another limitation of this paper, which leads to opportunities for future research, is the strength of the social network tie of employees who previously worked together. While incomplete, at least accounting for the amount of time that individuals worked together would at least be a closer proxy of the unit relevant characteristics that I am trying to capture by measuring social capital. While I try to take this into account by controlling for tenure, I am not really identifying precisely how long (or more ideally how strong connections are) people have worked together. Even a more improved social capital measure, but one that is still a distant proxy, would at least incorporate measures of how long individuals have worked together. Another limitation related to the

measurement of social relationships is the high correlation between internal relationships and manager relationships of .88 which may call into question the interpretation of my findings presented in Chapter 3. Future research must do more to better disentangle these relationships to ensure that conclusions on their independent effects may be drawn.

As is always the case when using a single organization, there are real questions as to how generalizable the results reported here may be. For instance, in my last hypothesis, I predict that source diversity will have negative consequences, and this is predicated on the idea that in this context the increased strength of social ties will overcome the challenges associated with engaging when backgrounds are different. However, there is plenty of research that extolls the benefits of greater heterogeneity. Consequently, it could be that the roles within the context that I am analyzing are simple enough, but require enough coordination that the benefits of greater heterogeneity do not outweigh the benefits of greater coordination that may accompany more homogenous networks. It may be that different contexts will reveal substantially different outcomes.

General. One overall limitation that could affect how my results are interpreted is that not every unit had a GM, and units differed in terms of the number of managers each had. While I could do preliminary analyses to see that the number of managers did not seem to have a meaningful effect, different numbers of managers could change the dynamics of the unit's leadership, potentially impacting how managers provide value and interact with subordinates. For example, if assistant managers are closer in the hierarchy to non-

managerial employees, they may form stronger social networking relationships or they may interact more informally than in groups with greater hierarchical distinctions, and these different actions may affect HCR performance. It would be useful, going forward, to tease-out the effects of these differences.

Another topic that is seeing increasing attention in the literature is rehires or boomerang employees (Keller, Kehoe, Bidwell, Collings, & Myer, 2021). While my study accounts for the social networking strength among employees by examining how long they have worked together, my data does not inform what happens if people had worked together, stopped, and then are working together again. Likewise, the role of firm-specificity is measured as the amount of time that individuals worked in the organization, but this fails to capture any employees who once worked in the organization, left, and then returned. It seems likely that failing to capture these employees should only attenuate my results, as in my data they would be recorded as having no firm-specific HCR, when they would actually have some, thus the benefits of having some firm-specific HCR would accrue to groups that were measured as if they did not have any. However, these boomerang employees may also bring entirely different benefits that are not captured at all in my analyses. Future research should look closely at the unique attributes of these employees.

Additionally, while I highlight the need for considering time and while I believe that the current manuscript moves our understanding in a positive direction regarding the role

of time, it is clear that even here the use of time is quite rudimentary. For instance, can future research look more carefully at different time periods (e.g., monthly, yearly) to examine how the HCR changes over time and how its impact on unit performance changes over time. It would also be informative to look at how different outcomes are affected over time. For instance, over time, rather than examining sales, how is growth effected by a changing HCR and how do actual versus budgeted sales change in response, over time, to changes in HCR.

One obvious research area that should also be more extensively brought into the HCR literature, particularly as we think about the influence of social networking, is the comobility literature. While I touch on this literature throughout my dissertation, there is a need for substantially more focus. For example, can the HCR be moved in unison or does the very change of context for the HCR affect the HCR? Future research could build on prior research, such as that which examined the movement of stars (e.g., Groysberg, Nanda & Prats, 2007) to develop expectations for how HCR can best be deployed.

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