

## Towards a Theory of Human Capital Transformation Through Human Resource Development

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*This paper summarizes a larger study conducted to create a theory of human capital transformation through HRD. The paper describes the problem, explains what human capital transformation is, and then presents the findings of the study. The two major findings are: 1) the process of conceptual development (part of theory building research) consists of five universal components; and 2) HRD transforms human capital by changing the relationships between organizational value creation drivers.*

Keywords: Human Capital, Theory Building, Human Resource Development

The purpose of this manuscript is to provide a summary of the study entitled “*Towards A Theory of Human Capital Transformation Through Human Resource Development*.” The study was conducted during 2003-2004 as part of the preparation to complete a Ph.D. thesis. This thesis used *theory building research methods* as its primary research methodology. As such, the nature, scope, and process of this thesis are different from a thesis using either quantitative or qualitative datum. This manuscript describes the theory building research methods and then the findings. For dissertations using theory building research methods, the findings of the study are represented in the specified theory that emerged from applying theory building research methods to the phenomenon of interest. The finding of this dissertation is *the theory of human capital transformation through human resource development*. The manuscript will begin with describing the problem and research questions, and then continue with a presentation of the theory building research methods and findings. The article concludes with the implications for human resource development scholars and practitioners.

### Problem

Business organizations rely on the brainpower of employees. This is an immutable fact of the knowledge economy. Like a car needs gas to run, organizations need employees capable of thinking, performing, and adapting. Organizations depend on this *human capital* in order to succeed in today’s economy (Nakamura, 2003; Van de Ven, Polley, Garud, & Venkataraman, 2001; Nooteboom, 2002). Due to increasing competition and changes in the employer/employee relationship, organizations know that without continual development of and investments in human capital, they run the risk of failure—organizations know that *human capital is the primary determinant of organizational success* (Hand & Lev, 2003; Nooteboom, 2002; Shapiro & Varian, 2003).

Much has been written about how to measure the value of human capital (Fitz-enz, 2000; Kaplan & Norton, 1996, 1998). However, less is known about *how* human capital contributes towards organizational success, and how human capital is related to the other value creation drivers (structural and social capital, to name two) embedded in organizational processes. The problem is we need to know more about the *process* of developing and managing human capital for sustained performance. We also need to know more about the *relationships* between human capital and the other value creation drivers. This study sought to find answers to these problems by creating a *theory of human capital transformation through human resource development* to explain how HRD interventions develop and manage human capital, as well as improve and/or mediate the relationships between the different value creation drivers embedded in organizational processes.

Neo-capital, an umbrella term, is used to describe the various types of value creation drivers (including human capital) embedded in organizational processes (Lin, 2000). In the literature, a ‘driver’ is considered to be some kind of enabler that increases the value producing capacity of the organization. Some types of neo-capital drivers include structural, intellectual, social, human, cultural, relational, and social capital—depending on who you read. Neo-capital is central to performance in today’s economic environment (Swanson & Holton III, 1997; Nonaka & Takeuchi, 1995; Nooteboom, 2002; Nahapiet & Goshal, 1998). In fact, neo-capital is increasingly viewed as *the primary* driver of value creation in today’s knowledge economy (Blair & Kochan, 2000; Nooteboom, 2002; Shapiro & Varian, 2003). These various types of neo-capital work together to transform human capital into organizational output (Nakamura, 2003; Van de Ven, Polley, Garud, & Venkataraman, 2001; Nooteboom, 2002).

Despite the abundance of literature about these value creation drivers, there is not a lot of writing on how HRD relates to these drivers in both a strategic and tactical sense. On a strategic level, how do OD and T&D shape the *emergence and existence* of specific types of neo-capital? On a tactical level, how do OD and T&D *improve the*

*value producing capacity* of the different types of neo-capital? There is a gap in the literature in terms of the relationship of HRD to neo-capital and in terms of how the various types of neo-capital relate to each other. For those studies that do focus on HRD and neo-capital, this study found that most scholars focus on only ONE type of neo-capital and do not attempt to conceptualize how the various types of neo-capital work together to shape (or transform) the human capital embedded in organizations. This study was designed to fill that gap.

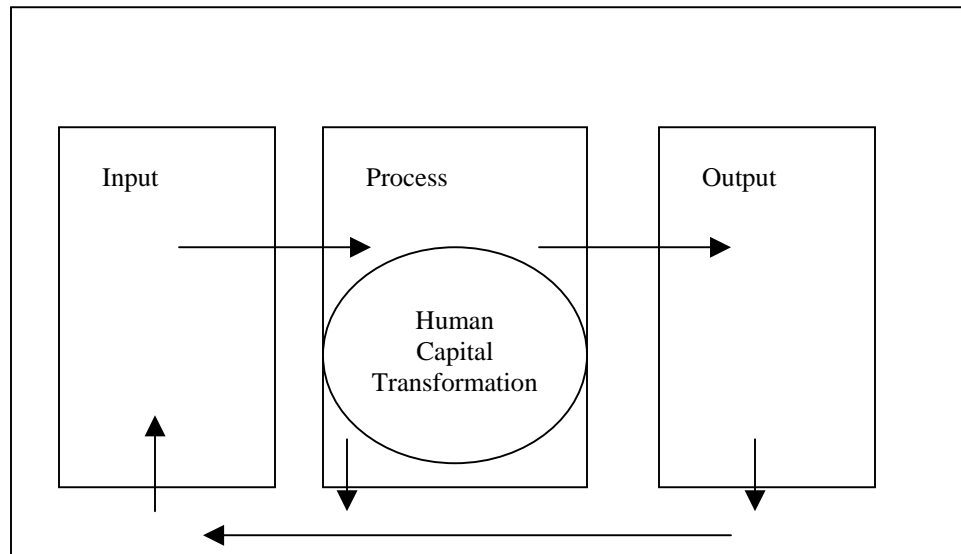
### Definition of Human Capital Transformation

This study adopts the University of Minnesota's definition of the purpose of HRD: to develop and unleash human expertise through training and development (T&D) and organization development (OD) in order to improve performance. This perspective was adopted because the study sought to understand the performance outcomes of human capital transformation. To improve performance, HRD uses a variety of research-based interventions that focus on individual development (T&D) and organization development (OD). These interventions are implemented, with greater or lesser success, by business organizations because the organization wants to see some type of improvement in quality, quantity, cost, etc. Often, the OD literature focuses on the process of OD and not on the outcomes (Egan, 2002). Thus we know a lot about how to 'do' OD, but we do not know a lot about how OD changes, amends, or impacts the various types of neo-capital found in today's business organizations.

How OD and T&D interventions work remains unclear. How is it that HRD improves performance? We know it can—evidence suggests that HRD can positively impact the organizational bottom line (Swanson & Holton III, 1997). But the relationship between *learning* (through training and development) and *performance* (actual on the job actions improved through OD) remain underdeveloped in the scholarly literature. This study sought to understand the relationship between *learning* and *performance*, and adopted the phrase *human capital transformation through human resource development* to describe what happens when people learn and then perform on the job. In other words, the phrase human capital transformation means that employees learn new or enhanced skills and then optimally transfer, or apply, the skills on the job.

Human capital transformation is a multi-level organizational process: it is both the process of developing individual knowledge, skills, or abilities **and** the process of improving the relationships between various types of neo-capital. This study found that HRD changes and/or mediates the relationships between neo-capital and consequently improves organizational performance. For example, good HRD would not only conduct a training session (T&D), but it would also consider how the training will transfer on the job as well as performance outcomes (OD). By taking these two topics under consideration, HRD is then moving into the realm of mediating and or changing the relationships between: 1) people; 2) people and process; and/or 3) people and structure. It is logical, then, from this perspective, that HRD changes the capacity of and the relationships between the various types of neo-capital that is critical for organizational success.

**Figure 1: Systems Model of Organizations**



When HRD changes the relationships between the neo-capital performance drivers and transforms human capital, it does so by amending organizational processes (OD). From this perspective, human capital transformation is embedded in the organization processes of a typical systems model. Systems models, like Figure 1 above, offer an easily identifiable input-process-output diagram and are used to explain many complex organizational dynamics. For this study, the transformation of human capital into organizational output was found to occur in the ‘process’ center of the systems model. When HRD intervenes in organizations, work and organizational processes are changed and consequently the relationships between the various types of neo-capital are reconfigured.

### **Purpose and Scope of the Study**

The purpose of the study was to create a theory to understand and possibly explain how human capital is transformed by human resource development. The scope of the study was narrowed to three types of neo-capital that are found in organizational contexts. For this study, and based on the literature review, a decision was made to consider human capital as one of **three** types of neo-capital embedded in organizational contexts. The other two types of neo-capital identified were **social capital** (e.g., resources embedded in social networks) and **structural capital** (e.g., everything left at the office after the employee leaves). This tripartite configuration of value creation drivers is adapted from the intellectual capital work of Bontis (2002 a,b).

This configuration was selected because it is based on a theoretical framework for understanding the relationships between value creation drivers that other scholars do not address. Bontis (2002 a,b) provided a theoretical rationale to make sense of the different value creation drivers in a conceptual manner, while other scholars made sense of the value creation drivers in a piecemeal, or practical, manner. Since this study was using theory building research methods, Bontis’ (2002 a,b) conceptual foundation of neo-capital fulfilled the need for the conceptual development component of theory building research.

### **The Research Questions**

This study answered three research questions. One question focused on theory building research methods: Which theory building research method should be used to create a theory of human capital transformation through HRD? Two questions focused on human capital transformation: How does human resource development impact the relationships between human, social, and structural capital? And What are the temporal sequences of the process of human capital transformation?

### **Research Findings and Theory Building Process**

In order to create a theory of human capital transformation through human resource development, this study first conducted theory-building research in order to identify the most appropriate theory building research method for understanding how HRD transforms human capital. Based on a literature review of theory building research methods, the study adopted Lynham’s (2002) General Method of Theory Building Research in Applied Disciplines to complete the theory building process (see figure 2 below). The General Method was selected over others because of its multi-paradigm, reiterative framework for theory construction. Overall, the theory-building research findings suggested that the process of theory building is bigger than a dissertation; indeed, theory building according to the General Method (Lynham, 2002) is best understood as a long-term, reiterative, and multi-phased process that is conducted over a lifetime.

As illustrated below, the General Method is a five-phased, recursive model of theory building research. Theory building research involves multiple studies and multiple phases, and, according to Lynham (2002), is never completely done. The study summarized in this manuscript completed the conceptual development, operationalization, and half of the confirmation or disconfirmation phases. The study produced findings both in terms of theory building itself, and in terms of how HRD transforms human capital. The study also produced two case study designs in order answer the two research questions and to test the theory of human capital transformation created in the conceptual development and operationalization phases. A summary of the findings for each theory building research phase is described below.

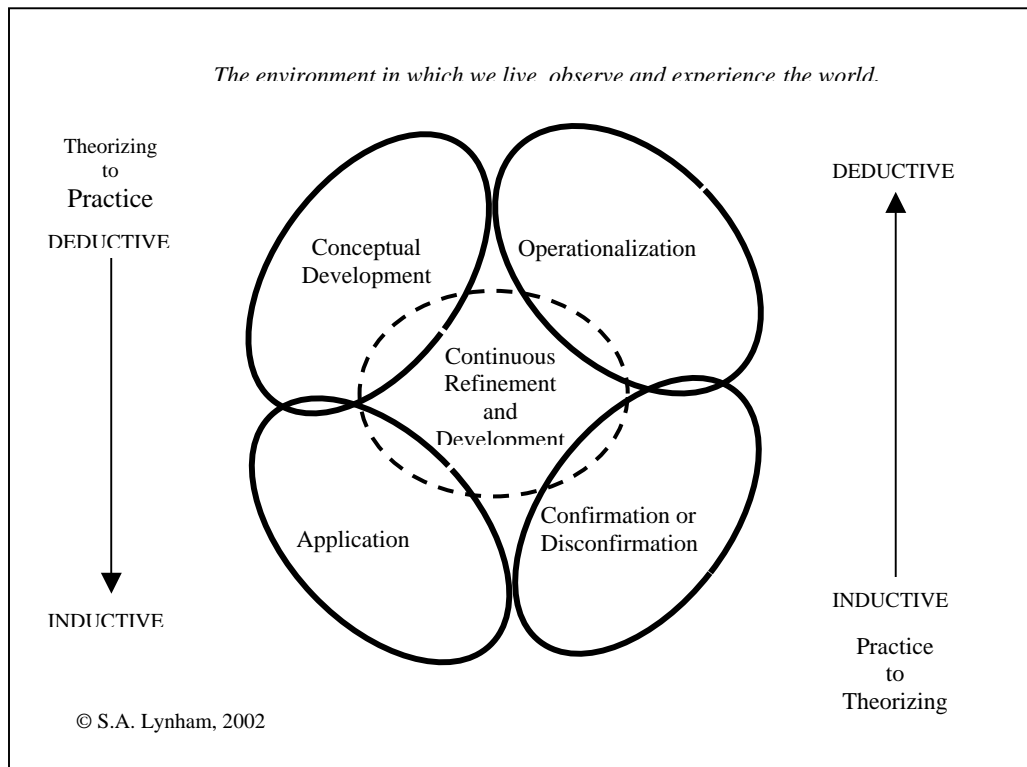
#### *Findings for Phase #1: Conceptual Development*

The conceptual development phase of theory building research is by far the most challenging and fruitful component of building theory. Many scholars from diverse disciplines have contributed towards understanding the various facets of conceptual development, and this study found that these individual contributions do in fact ‘fit’ in the conceptual development phase of the General Method. The conceptual development phase completed in this

study produced two findings: 1) a finding pertaining to theory building research methods; and 2) a model of human capital transformation through HRD.

The first finding was not about the theory of human capital transformation itself. This first finding was a surprise finding that emerged from the theory building research literature. This study found that there are five basic components of conceptual development that recur over and over in the theory building research methods literature. The five components represent an integration and synthesis of the theory building research methods literature which previously had not been reported.

**Figure 2: The General Method of Theory Building Research in Applied Disciplines**



These conceptual components are embedded in the conceptual development phase of the General Method. The five conceptual development components are:

1. Component #1: Identify, understand, and select alternative theory research perspectives and processes;
2. Component #2: Resolve paradigmatic issues;
3. Component #3: Resolve foundational theory issues;
4. Component #4: Resolve preliminary research design issues; and
5. Component #5: Identify and select the appropriate modeling process.

The contribution of these findings is an enhancement to the General Method of Theory Building Research in Applied Disciplines (Lynham, 2002) as well as an integration and synthesis of the theory building research methods literature examined in this study. The conceptual development phase of the General Method, prior to this study, provided criteria for completion but did not offer specific guidance for the actual process of conceptual development. The findings of this study; namely, that there are five generic components of conceptual development in applied disciplines, provides the guidance that was previously lacking in the General Method. By identifying five universal components of conceptual development, this study meets one of Torraco's (2004) concerns about theory building research in HRD. Through these findings, an alternative theory building research method (other than Dubin; 1978, and Glaser and Strauss; 1990) is available to HRD theoreticians/scholars.

Due to space limitations, it is not possible to present a comprehensive description of each component here. Briefly, however, the study found that conceptual development required the theorist to make the following decisions:

1. Component #1: Decide which theory building research methods are most appropriate for the phenomenon under study and be able to justify your decision;
2. Component #2: Decide which paradigm (or paradigms) are most appropriate for understanding the phenomenon under study and answer the research question(s) and be able to justify your selection(s);
3. Component #3: Decide which prior research findings and theories are under girding your theory—in other words, on whose shoulders are you standing? Justify your decisions.
4. Component #4: Decide which form of research design is most appropriate for your study and justify your selections; and
5. Component #5: Decide which modeling process(es) you will follow and be able to justify your decision.

These components provide specific decisions the theorists have to make in order to complete the conceptual development phase of theory building research. Various scholars have contributed answers to one or more of these components, but the General Method offered a way to understand the holistic nature of the various contributions and how they relate to each other. This study fleshed out the details of the conceptual development phase and these findings offer a new and detailed process for building HRD theories.

The second finding of the conceptual development phase was a completed conceptual model (figure 3 following) with propositions. The model emerged out of the integration and synthesis of the five components of conceptual development. During the study, the five components variously emerged and receded as the focus of inquiry, at differing times impacted the other components, and ultimately contributed insight and direction through a circular and dialectic process. The model that was created is itself embedded within the systems model (imagine figure 3 embedded in the second box of figure 1) and is a part of organizational processes.

The ‘actions’ component of the model is central to how the model works, and represents actions taken by people to accomplish work related goals and ambitions. For this study, organizations were viewed as socially constructed arenas where people take action to satisfy work goals and ambitions (Poole, et al, 2000). From this foundation, the study examined how, why, and under what types of circumstances employees take actions. In addition, the study examined the literature on goals and ambitions found in work contexts. Overall, an extensive literature review was conducted in order to understand how people are motivated to take action and contribute towards organizational performance outcomes. The study found that HRD can improve or enhance the actions of employees through mediating, or changing, the relationships between the three types of neo-capital value creation drivers. The study found there are three categories of action enhancement: 1) through T&D focused on individual development; 2) through OD focused on interpersonal development; and 3) through OD focused on the people/structure or process interface. Examples include: T&D to increase the ‘stock’ of human capital; OD to improve collaboration (thus increasing the access to and from the resources embedded in social networks, or social capital); and OD to improve the human and technology/process interfaces (thus enabling better connections between people and the organization’s structural capital). This list is not exhaustive, but rather is presented in order to explain how HRD works in multiple ways to improve the ‘action’ component of the model and thus improve individual and organizational performance. Please note: there are many more possible ways to interpret how HRD interventions improve human actions in organizational contexts.

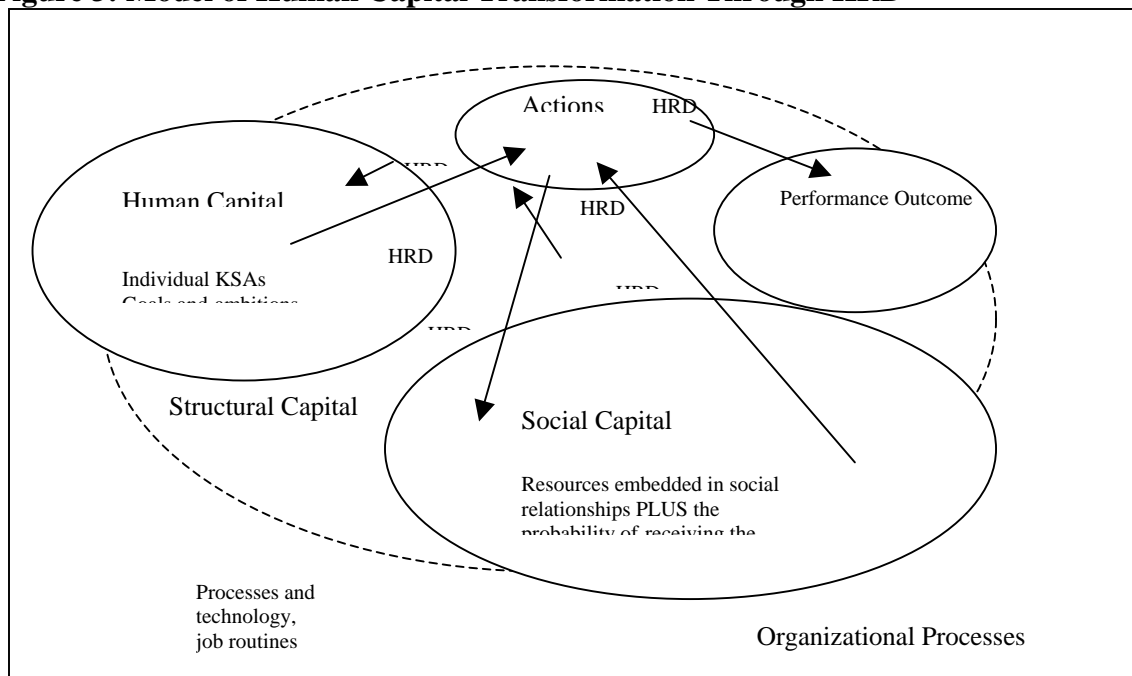
While these categories appear individually in the literature, there has not been an attempt to integrate them into an understanding of the full phenomenon of human capital transformation. This model posits that each category needs to be addressed in order for effective, sustained human capital transformation. Further, one of the main contributions of the model is the identification of six HRD intervention points (seen as ‘HRD’ next to the six arrows above) required for human capital transformation. HRD mediates the relationships between human, social, and structural capital at these six points. This model provides a broad-based view of the relationships between these value creation drivers, and the model is based on a comprehensive literature review of these three types of neo-capital.

The arrows highlight how T&D and OD interventions transform human capital by changing the relationships between the three value creation drivers. Think of the arrows as ‘from’ and ‘to’ the different types of neo-capital and human action. Following are some examples to clarify the model. Please note, due to space limitations only select examples are given in this manuscript. In reality, there are many other interpretations of how the model and the arrows make human capital transformation possible.

1. Human capital (individual knowledge, skills, and attitudes or KSAs) lead to actions in the organizational context. In this model, T&D interventions act to change how employees chose to act by providing opportunities for developing new KSAs. Therefore, the arrow from human capital to action represents how HRD can positively impact (either through frequency or quality of actions) how employees act to accomplish their work goals and ambitions.

2. The arrow from action to social capital represents one way individuals can take action to accomplish work goals and ambitions. This arrow represents how HRD can positively impact individuals seeking out and applying social resources to accomplish work goals and ambitions. Studies suggest that social capital can be a resource for individuals *if and only if* the individual takes action to connect with those resources (Lin, 2000). HRD can enhance these actions in three ways: 1) by developing superior interpersonal or relational skills through T&D; 2) by developing an organizational climate or environment conducive to accessing social capital; and 3) by developing an organizational climate or environment conducive to sharing resources amongst colleagues. Items 2 and 3 also include process or policy type of interventions designed to minimize the structural and procedural barriers to collaboration and resource sharing.
3. The arrow from action to structural capital represents another alternative for individuals to accomplish work goals and ambitions, and for HRD to positively impact the relationship between human capital (people) and structural capital (process, policy, structure). HRD can enhance these actions in at least two ways: 1) developing employee competencies in using organizational resources; and 2) developing organizational resources (policies, practices, knowledge management, etc.) which encourage and support employees seeking to satisfy work goals and ambitions.

**Figure 3: Model of Human Capital Transformation Through HRD**



Because HRD consists of interventions able to impact individual, group, and process components of organizations, this study asserted that *HRD is the only tool organizations have in order to impact the relationships between all three value creation drivers*. Other tools, like I/O psych, or KM, or various management perspectives, only focus on one 'arrow' in the model. HRD as a field and a discipline offers the only comprehensive perspective of how human capital can be transformed for sustained organizational performance. The model, created through the interplay of the five conceptual development components described earlier, identified the specific intervention points for the effective development and management of human capital, i.e., how human capital is transformed for sustained organizational performance. This holistic, or systems view (Von Bertalanffy, 1968) of HRD is innovative and encourages new thinking about the role of HRD in organizations.

#### *Findings from Phase #2: Operationalization*

The operationalization phase advanced the conceptual model into two different forms created to answer the two research questions focused on human capital transformation: Operationalization required creating empirical indicators and testable hypotheses for the theory of human capital transformation through human resource development. Space permits only a brief explanation here. For RQ #1: How does human resource development change the relationships between human, social, and structural capital? The empirical indicators were gleaned from the empirical literature on KSAs and social and structural capital components. The indicators were selected from

previously conducted studies dealing with the relevant content area. For RQ #2: What are the temporal sequences of the process of human capital transformation? The empirical indicators for this research question were developed in a way described by Poole, et. al, (2000) from a more interpretive, or narrative, perspective. Statements of developmental process were dissected in order to uncover the incidents relevant to human capital transformation. The incidents are then considered the raw data from which the study derived.

From the empirical indicators (for research question #1) and raw data (for #2), propositions and testable hypotheses were then generated to test the model. The study sought to carefully select, from the dozens of possible propositions, those which would advance the understanding of human capital transformation the most. Following is a list of propositions and accompanying hypotheses for each research question:

1. Research question #1, proposition #1: Training and development interventions aimed at developing explicit job knowledge are positively associated with an increase in accessing structural capital to accomplish work goals.
  - a. Hypothesis #1: Individuals with a high degree of explicit job knowledge more frequently use organizational resources than those who have less explicit job knowledge.
2. Research question #1, proposition #2: Training and development interventions aimed at developing social network understanding and relational skills are positively associated with improved performance.
  - a. Hypothesis #2: Individuals who develop an accurate understanding of their social network perform better than those who do not.
  - b. Hypothesis #3: Individuals who develop strong interpersonal or relational skills have a higher probability of receiving requested resources from colleagues.
3. Research question #2, proposition #1: Human resource development interventions aimed at developing implicit and emancipatory knowledge is positively associated with an employee's explicit work goals and ambitions.
  - a. Developmental statement #1: Individuals who perceive they are developing implicit and emancipatory knowledge will develop a stronger sense of goals and ambitions and be more able to explicitly communicate those goals and ambitions.
4. Research question #2, proposition #2: Human resource development interventions aimed at developing explicit social network knowledge and interpersonal or relational skills are positively related to an increase in accessing and receiving social capital.
  - a) Developmental statement #2: Individuals who perceive they are developing 1) an understanding of the potential impact of their social connections; and 2) higher level interpersonal or relational skills; will increasingly seek and receive help (information, resources, connections, etc.) from colleagues over time.

#### *Findings from Phase #3: Confirmation / Disconfirmation.*

The findings from this phase were two separate case study designs that advanced the propositions and hypotheses into the real world of work. The case studies were carefully designed to ensure validity and reliability; detailed information about data collection and analysis was provided; and the case studies are ready to be implemented in the next phase of this long-term study. The two case studies will be executed in subsequent phases of the researcher's long-term research agenda. For more details about the case studies, please see the dissertation manuscript of the author.

### **Implications for Human Resource Development**

Human capital transformation is at the core of what human resource development scholars and practitioners are all about. HRD is about how people work together in organizational contexts, co-creating the processes, practices, norms, standards, and environment of the organization. Embedded within these processes lie three different types of capital, or value creation drivers: individual knowledge, skills, and attitudes (e.g., human capital); social relationships (e.g., social capital); and organizational systems (e.g., structural capital). Each of these three have the potential to create value for both the organization and the individual, and knowing how HRD changes or mediates the relationships between the three is critical to understanding how value is created in organizational contexts.

From this study, practitioners have an innovative, research-based model to make sense out of the relationships between these value creation drivers. The theory of human capital transformation through human resource development illuminates specific, targeted intervention points designed to improve the relationships between the three value creation drivers. Practitioners will be interested in how to best align the relationships for sustained performance, and therefore will look to these intervention points as key areas for improvement.

Scholars are given multiple opportunities for future research from the model. This study designed two case study plans that, when executed, will provide new knowledge about certain relationships between the value creation drivers. Additional studies could easily be created to explore other facets of other relationships, and replication studies could further confirm or disconfirm findings. Guided by a scholarly interest to understand more about these relationships, these future research findings can contribute towards the practice of human resource development by identifying 1) effective interventions; and 2) key levers for change. Practitioners want the interventions, and scholars want to know how the intervention will lead towards improved individual and organizational performance.

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