

# HUMAN CAPITAL DEVELOPMENT DYNAMICS: THE KNOWLEDGE BASED APPROACH

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## ABSTRACT

*Discussions on how to reduce cost and improve on gains in organizations have increased. As a result, effective utilization of resources in the organization has been daunted as the key to creating a competitive advantage (Wernerfelt, 1984). Human capital is among key organizational resources that are hard to imitate therefore, maintaining and developing it is crucial for organizations to stay in the forefront. Organizations have used different approaches to develop human capital. As organizations become more dynamic, so does the approach to human capital development. Technological changes, especially in the virtual world have greatly influenced different human capital development approaches. Therefore, this paper proposes to look at current human capital development approaches and their integration into the knowledge based approach. The paper will further explore the importance of human capital development approaches in achieving a strategic competitive advantage. The first section of the paper will explore the current literature on human capital development approaches in firms and their strategic necessity in the knowledge sphere of the organization. In the second section, the paper will connect human capital development approaches to the five knowledge utilization characteristics described by Grant (1996) : 1)transferability- How do human capital development approaches affect the transfer of both tacit and explicit knowledge?; 2) capacity for aggregation- how do the right human capital development approach affect the best aggregation methods; 3) Appropriability- does the human capital development approach create a possibility for return on human capital development investment; 4) specialization in knowledge acquisition- How do human capital development approach affect transfer of required knowledge; and 5) the knowledge requirements of production- does human capital development approach matter in the input and output of knowledge in human production? In the third section, the paper will seek to explore the strategic importance of human capital development approaches in expounding the nature of knowledge in a firm and how this ties to a firm existence. In conclusion, this paper will seek to look at ways in which human capital development approaches play a role in the future contribution of the knowledge based view.*

## INTRODUCTION

Human capital development has been described as a key economic driver (Benhabib & Spiegel, 1994; Schultz, 1961). How a society develops may result from the accumulation or absorptive power of knowledge available to them. The economic muscle emanating from human capital is depicted in the endogenous growth model where Romer (1990) articulates a positive relationship between large pulls of human capital and faster economic growth. Human learning occurs continuously and is influenced by their surroundings and contact with others. Therefore, learning becomes a critical factor at an organizational and individual level (Malerba, 1992). How you strategically operationalize learning in the real world may determine your success in the use of the knowledge acquired. Investing and rebuilding, customizing or adjusting skills has a positive effect on human capital development (Iepak & Snell, 1999). Technology has boosted learning and consequently human capital development in general. Organization Human capital development approaches (HCDA's) aim to improve value, team work, consciousness among individual employees and overall collective performance. Today, technology plays a big part in human capital development as the demand for new skills and relational requirements in organizations increases. (Waldeck & Leffakis, 2007). The 1950's through 1970's saw the dominance of the production industrial economy. During this period a labor based human capital was very important to the organizational processes. However, today with change in organizational demographics, globalization, and technological changes; emergence of the knowledge based worker has taken prominence as the new model in organizations (Chinowsky & Carrillo, 2007; Merriam, Caffarella & Baumgartner, 2007). Human beings are seen as a critical aspect of any organization, where they are seen as business agents and both tangible and intangible assets in organizations exist and are sustained by people (Sveiby, 2001). Knowledge, even though intangible, can be part of the strategic process in the organization (Spender, 1996). The significance of knowledge in the organization may have gained higher written prominence in recent times but its importance has been recognized throughout history. Weber (1968) articulated that where bureaucracy exists, it is organized on the basis of knowledge rather than the basis of power only. How then does a firm develop knowledge to allow strategic gains? HCDA such as training or mentoring are a few of the ways to improve both human knowledge and competence. Technology as a value added tool has enhanced the way in which HCDA's are conducted and transferred in organizations. Technology influenced approaches of human capital development are a vital piece in the knowledge based view literature while at the same time looking at the strategic utilization of the knowledge by the organization and the individual employees. As an emerging branch of the resource based view, knowledge based view enhances the theory of the firm by addressing areas such as nature of coordination, organization structure, role of management, and the allocation of decision making (Grant, 1996). Therefore, for knowledge to create value the paper considers simple aspects that intertwine with Grant's (1996)

characteristics of knowledge utilization within the firm: Human Capital Development Approaches (HCDA), knowledge utilization and performance.

## GROUNDWORK

### *The HCDA-knowledge- performance connection*

Human capital is a strategic factor in production (Son, 2010) as it represents the cognitive competencies, skills, relational behavior and knowledge of individuals that enhance productive output (Shuller, 2000) that eventually contributes to organization productive performance (Shuller, 2000; Son, 2010). Resources based view (RBV) articulation on the internal firm resources as a form of competitive advantage (Hoskisson, Hitt, Wan & Yiu, 1999) gave value to the strategic importance of people in an organization. RBV brought to light the added value of people in organization strategic management literature by defining and linking concepts such as knowledge (Argote & Ingram, 2000; Grant, 1996), dynamic capability (Eisenhardt & Martin, 2000; Teece, Pisano & Schuen, 1997; Barreto, 2010), organization learning (Fiol & Lyles, 1985; Fisher & White, 2000), and organizational leadership (Norburn & Birley, 1988) to strategic organizational performance. Changes in both external and internal environments may affect organizational performance (Chattopadhyay, Glick, & Huber, 2001) therefore; HCDA's are used to enhance knowledge and use it to strategically attain firm value (Petty & Guthrie, 2000). The ability to increase intellectual knowledge in the organization creates increased productivity (Petty & Guthrie, 2000). HCDA such as training has been linked to skill building and knowledge building which results to organization productivity (Goldstein & Gilliam, 1990). Research done by Black and Lynch (2001) on the manufacturing and non-manufacturing sectors on the link between knowledge improvement training and productivity revealed that for manufacturing the greater the proportion of time spent in formal employee training the higher the organizational productivity. For non-manufactures the content of training programs provided by employers seems to have an important impact on firm productivity. Organizations have shifted their outlooks about HCDA from a stand-alone event to an entirely integrated, strategic component of the firm (Salas & Cannon-Bowers, 2001). Strategically, even though a firm may have a great strategic plan in place, if the human capital is not developed to a point where they have access to the relevant knowledge, skills, and attitudes to successfully support or carry out the strategic plan, the plan is watered down (Sum, 2010) With the cost of human capital development today running into billions of dollars annually (Green, Patel, Lemke & Bussenger, 2010), investments made in human capital development approaches require justification in terms of improved organizational performance (Huselid, 1995; Shuller, 2000). As a result different human capital development approaches, including action learning (Freedman, 2011; Kuhn & Marsick, 2005), just-in time training( Beckett, Agashae & Oliver 2002) , mentoring (Allen et al., 2004; Kram, 1985), coaching (Wales, 2002; Locke, 2008) and technology simulation (Read & Kleiner, 1996)

have been a key in influencing the sphere of knowledge development. Firms operating in knowledge based environment are said to be more dependent on employee knowledge (Porter, 2000). Therefore, the approach used to develop human capital has a significant contributing linking factor to the outcome of knowledge retention therefore; the performance of the firm (Sum, 2010).

Many scholars have embarked on looking at the knowledge based view of the firm (Demsetz, 1988; Conner & Prahalad, 1996; Kogut & Zander, 1992; Grant, 1996; Madhok, 1996) in the hope of developing it into a theoretical status. Knowledge is among the valuable resource to the firm that is protected and ways are sorted by the management on how to organize it and efficiently generate knowledge and capability (Nickerson & Zenger, 2004). How and what knowledge is imparted and integrated into the firm influences the competitive edge that results from use (Eisenhardt & Martin, 2000; Grant, 1996). Knowledge based view as a strategic formulator is reinforced by its main components: the people who are the knowledge carriers and the agents of the business (Sveiby, 2001); organizational structures created by the people to allow interaction as well as self-expression (Weick, 1983; Sveiby, 2001); transfer capabilities of knowledge both internal and external (Sveiby, 2001); and knowledge management (Nickerson & Zenger, 2004; Bencsik & Solyom, 2011). The literature advances the idea that human capital development approaches is a basic entity of knowledge generation (Sum, 2010) which results to strategically using the acquired knowledge and hence evoking firm performance (Conner & Prahalad, 1996; Eisenhardt & Martin, 2000). This connected depiction triggers the model described in this paper based on Grants (1996) characteristics that are pertinent to utilization of knowledge within the firm to create value.

### **HUMAN CAPITAL DEVELOPMENT APPROACHES AS KNOWLEDGE BASED FACTOR**

Grant's (1996) analogy on knowledge based theory of the firm is a realization of the different types of knowledge that are important to the firm. Grant established the characteristics that have consequences to management as they try to create knowledge value in the organization. In his description Grant (1996) pinpoints a number of characteristics that are pertinent to the utilization of knowledge within the firm to create this value: transferability, capacity for aggregation, appropriability, specialization in knowledge acquisition, and the knowledge requirements of production. The given characteristics according to Grant (1996) articulate that firms exist as institutions for production of goods and services because they can create conditions under which multiple individuals can integrate their specialize knowledge. Grant (1996) looks at these characteristics in terms of whether knowledge is explicit versus tacit, its transmission and receipt, return on knowledge resource, capacity to acquire and the production of knowledge to value; in the current paper we consider the characteristics that are pertinent to the utilization of knowledge within the firm as emanating and grounded in the HCDA aspect. For knowledge to be

communicated (Pérez-Bustamante, 1999), absorbed (Cohen & Levinthal, 1990), dispensed (Argote, Ingram, Levine & Moreland, 2000), managed (Nickerson & Zenger, 2004) and valued, there should be concerted effort to improve the HCDA of the firm. Even though Grant's (1996) work was based on the assumption that knowledge creation is an individual activity and that the primary role of firms is in the application of existing knowledge to the production of goods and services, the aspect of imparting the knowledge can be generated by the organization and the failure to connect it would not portray a complete picture. Given this view, this paper is based on three assumptions: 1) knowledge creation is both an organization's and individual's activity, 2) the role of the firm is the application of knowledge repositories to the production of goods and services and 3) How knowledge is imparted in an organization is just as important as the processing and using the knowledge to create value. However, the aim is not to undermine the characteristics explored by Grant but rather to add a component that reinforces these characteristics. Similar to Grant (1996), the paper develops the characteristics of knowledge factoring in the HCDA's.

### **Impartibility**

The global aspect of business today and ways in which different resources are shared has made the concept of knowledge transfer important. Increased research has indicated that organizations that efficiently transfer knowledge as a resource within its units have higher productivity and a higher chance of survival (Argote, Beckman & Epple, 1990; Baum & Ingram, 1998). While there are different levels of knowledge, Grant (1996) looks at two aspects: 1) knowing how with tacit knowledge and 2) knowing about facts and theories with explicit knowledge. While Grant rightly differentiates the two aspects in terms of transferability, the critical distinction made here is in impartibility and the contrivance of imparting knowledge to individuals across space, time and regions. Explicit knowledge can be easily expressed. Organizational practices can be used to help individuals articulate the knowledge they have and store it. How an organization shares this asset in the organization matters (Teece, 2000). Therefore, the aspect of improving employees through HCDA enables knowledge to be imparted and acts as the transfer mechanism. On the other hand, tacit knowledge is hard to estimate and its transfer may be slow and costly (Gill, 2000; Kogut & Zander, 1996) however, both tacit and explicit knowledge intertwine into a synergetic relationship (Gill, 2000). While looking at ways of imparting tacit knowledge, forms of expressing it need to be developed (Nonaka & Konno, 1998). Nonaka and Konno (1998) four stage model socialization, externalization, combination, and internalization give prominence to the aspect of interaction and learning for the knowledge to be shared. While tacit knowledge cannot be imparted through all approaches of human capital development directly, for example through training education (Brockmann & Anthony, 1998), some HCDA's (like mentoring and coaching) create environments that allows interaction and hence a chance to impart the tacit knowledge (Haldin-Herrgard, 2000).

### **Ability to consolidate**

Grant's assessment on knowledge transferability depended in part upon its potential to aggregate. Transfer according to Grant involves transfer and receipt. In terms of HCDA, we look at knowledge imparting involving diffusion and receipt. The knowledge receipt analogy, which is similar to Grant's is in terms of the absorptive capacity (Cohen, & Levinthal, 1990), creates a path dependency absorptive capacity where accumulating knowledge in an organization in one period will permit it more efficient accumulation in another (Cohen, & Levinthal, 1990). Competitive advantage in knowledge consolidation can be achieved when knowledge assets (Tece, 2000) can be exploited to full value in an organization. For example, General Motors in the United States committed to more compact cars for U.S. production, may use its European subsidiaries for help where the knowledge on such information is consolidated. How then an organization disseminates bundled knowledge that may be specific to an organization depends on how well they can diffuse their knowledge through HCDA's in the firm.

### **Measurability**

Measurability refers to the ability of the organization to be able to assess the contribution of a given resource value they own (Davidove, 1993). As individuals are imparted or generate knowledge, the organization disseminates the knowledge in order to make it more accessible and applicable (Albino, Garavelli & Schiuma, 2001). However, it is difficult to measure tacit knowledge directly because most of its components cannot be described accurately and can be communicated only by means of socialization processes (Albino, Garavelli & Schiuma, 2001). In contrast, explicit knowledge has challenges that stem from assuring adequate articulation, evaluation, application, and protection of knowledge assets (Sanchez, 2004). Since every individual is entitled to their own knowledge, how it is measured becomes a challenge given the market structures. Since much of the explicit and tacit knowledge is imparted and is specific within the firm, return on investment is measurable through the organizations HCDA components engrained in the organizational processes and output. Using HCDA evaluation tools like the Kirkpatrick (1994) evaluation model, transferred knowledge can be measured based on given characteristics

### **Generality in knowledge acquisition**

Since the human brain has limited capacity to acquire and store knowledge it would be ample to focus on the organization as a whole, in terms of its systems, structures and processes as actors of organization memory (Hedberg, 1981; Walsh & Ungson, 1991). While individuals may act as the learning vessels, their knowledge is transferred into organization repositories (Van der Bent, Pauwe & Williams, 1999) where it can be used in human capital development



functions in the future. The structures and processes within an organization act as repositories which are not constrained by the limits of the human brain and can be used to influence the employee development through HCDA (Van der Bent et al., 1999). Therefore, the organization can act as the vessel and imparter of knowledge while individuals in the organization can master the required trades.

### **Productivity of knowledge**

The knowledge based view sees knowledge as the most strategic resource in the production function. Knowledge is seen as an input factor in production that results in valuable output (Grant, 1996). However, we consider knowledge as good as it is acquired. If all human productivity is knowledge dependent as Grant (1996) indicates then all knowledge acquired is dependent on the type and ways of acquiring that knowledge. Therefore, input aspect of knowledge using HCDA's into the organization or the individual matters as much as the processing and use of the knowledge to attain valuable output.

Considering the characteristics discussed HCDA's create a new dimension of looking at knowledge in a firm and as a result creating a fair share of contribution to the knowledge-based view. This HCDA's influence trickles down to the firm knowledge organization and the strategic capabilities of their use.

### **EXISTENCE OF THE FIRM**

Firms are said to act as a unit that can produce goods and services due to their ability to create ample condition for individuals integrating specialized knowledge (Grant, 1996). The aspect of tacit and explicit knowledge has been explored to explain how knowledge is created in a firm and what role it plays (Nonaka, 1994). However, few researchers have considered the human capital development approach as one of the basic influencing factor of the knowledge based view. Capital is viewed as a resource asset in many organizations (Octavian & Nicoleta, 2010) however, human capital may relate to knowledge and skill development and characteristics of productive individuals in an organization (Miller, Ippolito & Lei, 1998). The paper approaches the knowledge analogy of the firm in terms of knowledge and skill building using HCDA by individuals in a firm. Similar to Grant (1996) who emphasized the firm as an institution for knowledge application, we emphasize the aspect of the firm as an institution for knowledge building and integration.

### **Firm knowledge Diffusion and Absorption and HCDA**

HCDA differ in terms of the medium used to train and the mode adapted to articulate information (Read, & Kleiner 1996). How a firm uses the HCDA to diffuse the knowledge may

impact the level of knowledge absorption and coordination. There is an increased amount of literature in strategic management that looks at the firm's knowledge absorptive capacity (Stock, Greis & Fischer, 2001; Tsai, 2001; Verona, 1999). Zahra and George (2002) classified absorptive capacity of a firm into four capabilities: acquisition, assimilation, transformation, and exploitation of knowledge. In their analogy Zahra & George (2002) highlighted that the acquisition capability refers to the identification and attainment of knowledge that is external to the firm. Assimilation was referenced as specific routines that allow a firm to analyze and infer the information that has been acquired. Transformation refers to the synergies that exist in combining new and existing knowledge, eliminating some unwanted knowledge or interpreting the knowledge in a different way. Exploitation refers to the integrative aspect of the acquired knowledge into the operation. Referencing the knowledge based view of the firm as a unit that has the ability for individuals integrating specialized knowledge (Grant), for production to occur in a firm, knowledge has to be acquired, assimilated, transformed and exploited. To espouse these four firm areas of knowledge absorptive capacity, a go between aspects of HCDA can be considered. Transforming data to useable information improves the strategic capability of the firm (Bukman, 2004). Raw data has little meaning and thus has little value to a firm if not transformed to meaningful units (Smith, 2001). To transform the data to meaningful information human intervention is usually needed to deduce and pinpoint various types of useful information (Lee, 2000). The human intervention requires individual capabilities on exploiting both the tacit and explicit knowledge they have acquired. Tacit and explicit knowledge can both be acquired on the job and to do so HCDA's can be used to coordinate and diffuse this knowledge (Smith 2001). Given the absorptive capabilities (Zahra & George, 2002), improvement on individual capabilities influenced by the go between facets of HCDA (such as training methods) are used to impart knowledge to the individuals making the decisions. Once the information is acquired, the firm's tacit and explicit assimilation capabilities (Smith, 2001; Zahra & George, 2002) that allow individual analysis of information can be taught through HCDA's. Learning can be conducted using different approaches of human capital development. Once information has been analyzed the integration of new and existing knowledge to the operation of a firm takes place (Zahra & George, 2002). This integration requires individual and organizational tacit and explicit knowledge to allow exploitation and recognition of opportunities by refining the existing routines. How the tacit and explicit knowledge is developed as mentioned requires HCDA that tie into approaches used to impart the knowledge. The final stage of knowledge absorption exploitation (Zahra & George, 2002) aims at harvesting and incorporating the value knowledge into its processes and operations (Tiemessen, Lane, Crossan, & Inkpen, 1997). How this information is incorporated requires individuals with strategic tacit and explicit knowledge to achieve results. Building firm knowledge for production of goods and services requires the absorptive dimension (Zahra & George, 2002) of the firm, ability to harness (Pascarella, 1997) knowledge, integrating (Tobin, 1998; Zahra & George, 2002) knowledge and interconnecting (Tobin, 1998; Zahra & George, 2002) the knowledge for use. With HCDA's used in a firm the



explicit and tacit knowledge absorbed by individuals connects intimately with the method used to impart this knowledge. In addition the HCDA's allow knowledge bundles (Fletcher, Tobias & Wisner, 2007) to be established in a firm for easier knowledge diffusion in the future.

### **Firm coordination and HCDA's**

The coordination of knowledge in a firm gives rise to efficiency that allows competitive advantages to be derived from the functioning of different firm activities (Grant, 1996). The current growth of knowledge based perspective has led to knowledge coordination being referenced as a challenge faced by a firm as it tries to build, integrate, transform and transfer the knowledge ( Grant, 1996; Kotlarsk, Fenema & Willcocks, 2008). How information is integrated is said to depend upon the features of the process of technology deployed (Grant, 1996). Grant (1996) further advocates four mechanisms of integrating specialized knowledge: 1) rules and directives, 2) sequencing, 3) routines, and 4) group problem solving and decision making. Rules and directives refer to the standard which regulates interaction between individuals and integration occurs through set procedures and rules. Sequencing refers to coordinating production activities through a set of patterned time slots. Routines refer to patterns of repetitive behavior that supports firm coordination with minimal interaction and coordination. Group problem solving and decision making refers to coordinated effort among individuals to tackle challenges together maximizing the communication aspects. What roles do the HCDA play in the firm knowledge coordination mechanism? Human capital development is considered an important factor in economic development. Therefore, the approaches used to mediate the capital development play a significant role as a medium. Interorganizational information activities require coordination to achieve efficiency and return therefore, referencing Grant's (1996) mechanisms of integrating specialized knowledge HCDA act as a strategic asset in enhancing coordination. Rules and directives whether informal or formal regulate the interaction between individuals (Grant, 1996). How the rules are communicated in a firm affects their diffusion or absorption and in turn coordination. Therefore, using HCDA rules and regulations are communicated and as a result knowledge integration can be more efficient as everyone knows the rules. On the other hand, when firm procedures are sequenced to allow efficient production of activities (Clack & Fujimoto, 1992; Grant, 1996), initial learning on how to conduct the sequence has to occur. HCDA's can be used as a medium to facilitate learning on the integrative sequential process. Even though routines are a simple sequence (Grant, 1996), the routine process itself comprises of a set of rules and processes that individuals have to learn. Without knowledge on the routines for example a bank teller cannot know the right procedure in processing a bank check. How the individual acquires the routine knowledge stems back to the organizational HCDA's used. Group problem solving and decision making on the other hand allows communication and brainstorming for knowledge integration however, once a consensus and results are produced by the group diffusion and integration to the firm can be done through

HCDA's. Another contributions of the HCDA's to the knowledge-based view stems from the cost incurred as both explicit and implicit knowledge are integrated and diffused to the firm. In addition Common knowledge (that is language, symbolic communication, common specialized knowledge, shared meaning and recognition of individual shared domain) as a knowledge integrative factor has uniform elements that are found in all individuals in the organization (Grant, 1996). HCDA's can be used to coordinate and diffuse this common knowledge (for example through approaches such as mentoring, training, and coaching) and as a result improving firm's knowledge integration.

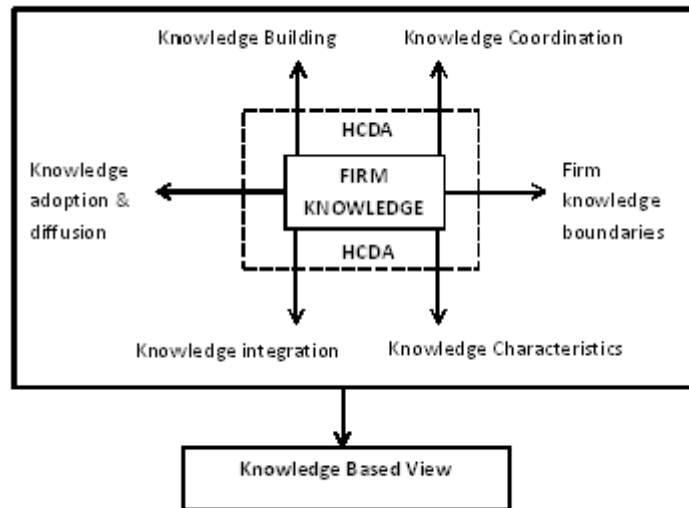
### **Firm boundaries and HCDA's**

The integrative aspect of knowledge that fuels the knowledge based view on firm existence has shortcomings in efficiency across markets (Grant, 1996). Knowledge specialization enables an integrative link within firm's technology units (Yang, Lin & Lin, 2010). However, the nature of reconfiguration of firm boundaries through instance alliances and acquisition changes how knowledge specialization and integration occurs and is managed (Grant, 1996; Yang, Lin & Lin, 2010). The firm's ability to mitigate boundary inefficiencies and unite the necessary knowledge bases with technological related means is critical (Lane & Lubatkin, 1998; Yang, Lin & Lin, 2010). Firm boundaries whether horizontal or vertical (Grant, 1996) are faced with the challenges of information uncertainty and learning (Boot, Milbourn & Thakor, 2000; Lane & Lubatkin, 1998). Specialized knowledge prompts firms to concentrate on individual resource endowments and this blinds there venture outside the constricted domain (Yang, Lin & Lin, 2010). HCDA's that are technologically savvy (for instance advanced distributed learning or virtual training) allow firm's internal individual knowledge learning capabilities and external sharing of general knowledge bundles (Fletcher, Tobias & Wisher, 2007; Yang, Lin & Lin, 2010). Additionally, research indicates that firm knowledge collaboration even occurs when partnering firms have high technological distance between them (Yang, Lin & Lin, 2010). Human capital development approaches as platforms for knowledge diffusion, absorption and integration as discussed contribute to the imperfect knowledge sharing markets between firms by allowing efficient firm knowledge exchange.

### **SYNERGY OF KNOWLEDGE BASED VIEW AND HCDA'S**

The discussed role of HCDA's as one of the fundamental concepts that improve debate on the strategic role of knowledge-based view on firm's existence gives a contributed effort to a more comprehensive future knowledge based theory. The Human capital development approach connection to the firm knowledge sphere is represented diagrammatically in Figure 1.

Figure 1: The Synergistic Process



Key: HCDA- Human Capital Development Approaches

Given Grant's (1996) components of knowledge based view that contributes to firms existence, knowledge whether tacit or explicit can be found in an organization's repository and in individuals per se. However, the link between the roles of knowledge in a firm's existence is part of components that explain the shell structure that allows production of goods and services. HCDA acts as a medium that allows integration, coordination, absorption and diffusion of generated knowledge. HCDA contributes to the informal and formal status of knowledge dissemination that feeds both the absorption of explicit and tacit knowledge among individuals and the organization as a whole. Interaction between organizations allows knowledge infused capabilities to be generated between interacting partners. Nevertheless the knowledge has to be made valuable through impartation to the necessary organizational units and individuals. This is possible through HCDA's. Therefore, the synergistic approach depicted by Figure 1. pin points the need for Human capital development approach in the knowledge based view analogy. Figure 1 (above).

1. Firm knowledge (Tacit and Explicit) - this is both individual and organizational knowledge that is dormant. For it to be valuable it has to be strategically diffused into the right organizational units.
2. HCDA's - these are the methods used to diffuse valuable knowledge to the organizational units and individuals (they include; mentoring, action learning, just-in-time approach, coaching and technology simulation). Having organizational structures that support human capital development will result to HCDA that fit to the organization knowledge growth process.

3. Firm knowledge elements- elements that intertwine with firm existence will affect the firm's knowledge building process. The different components (knowledge building, knowledge coordination, knowledge adoption and diffusion, firm knowledge boundaries, knowledge characteristics and knowledge integration) have an effect on the efficiency of knowledge utilization and discerning of capabilities. As a medium HCDA provides knowledge movement around individuals and units thus enhancing efficiency on the different components.
4. Knowledge based view- ultimately the ability to integrate knowledge efficiently through all the elements that make up a firm allows growth in the knowledge based view. The human capital development approach angle develops a bridge that explains the diffusion concepts as relates to firm existence.

### CONCLUSION AND FUTURE RESEARCH

This paper has identified the role of HCDA's in integrating both tacit and explicit knowledge in organization and individual that results in production of goods and services. Using the analogy of knowledge as a bottom line of firm existence knowledge coordination, integration, absorption and sharing can be cushioned by use of human resource development approaches. The absorptive nature (through HCDA's) of knowledge diffused in a firm adds to the spectrum of knowledge-based view that goes in contrast to the bureaucratic approaches that influence organization structure and decision making. Alliances and external connection of firms brings to light the usefulness technologically advanced HCDA's minimal mitigation of coordination and knowledge exchange in an uncertain market. This advances the knowledge-based approach theoretical constructs that allow understanding of innovation and trends. Future research should seek to explore the applicability of individual HCDA's in the knowledge based view realm. In addition, empirical evidence on how much knowledge diffusion and the extent of coordination can be attributed to HCDA is needed. Similar to Grant's (1996) work that sort to progress the knowledge based view of the firm, this paper attempts to bring synergy to the concept of building organization knowledge and organizational knowledge coordination and the role of HCDA.

The focus on knowledge diffusion and coordination and not creation becomes a serious limitation. Furthermore, assumption that all firms are organized to a point where HCDA are part of their structure may be deceiving in more informally set up firms. The use of Grants (1996) view on the firm also limits us to the few areas and concepts explored in his paper. A more detailed analysis inclusive of other models of creation, diffusion, coordination and application of knowledge would contribute to a future knowledge based theory endeavor.

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