

Exploring the Corporate University Phenomenon

Greg G. Wang and Judy Y. Sun
The University of Texas at Tyler

Jessica J. Li
University of North Texas

Xuejun Qiao
Peking University

This study explores the corporate university (CU) phenomenon based on human capital theory through a comprehensive review of literatures in economics and HRD. Different from existing CU literature, the study found that, as HRD operational entities, CUs and traditional universities are rooted in different skills contexts, and that theorizing the CU phenomenon is to theorizing HRD. The study explores an alternative model to understand the CU phenomenon. Implications to HRD research are also discussed.

Keywords: Corporate Universities, Human Capital Theory, Specific and General Skills

During the past two decades, corporate universities (CUs) have played important roles in human resource development (HRD) (Holland & Pyman, 2006; Blass, 2001; Prince & Beaver, 2001). However, the literature on the CU phenomenon appeared to be constrained to comparing corporate universities with traditional universities (TUs) or focusing on unsubstantiated classifications of CUs with inconsistent criteria (e.g., Allen, 2002). While some claimed that “practically every best-of-breed global corporation seems to be going into the university business (Schrage, 1999, p. 224),” others argued that “...corporations’ adoption of the title ‘university’ has dumbed the term down, making it acceptable for the term to be used in a variety of inappropriate ways (Blass, 2001, p. 169).” Apparently, the CU phenomenon presents a striking challenge to the worldwide HRD research communities on how to understand, explain, and interpret this increasingly popular HRD trend. This study represents an effort in exploring the CU phenomenon from a theoretical perspective.

Purpose and Significance

Based on literatures in human capital (HC) and HRD, this study investigates the CU phenomenon from the lens of HC theory to answer the following questions: (1) How should the CU phenomenon be explained with respect to human capital theory? And (2) What is the fundamental relationship between CUs and traditional universities (TUs) from skill provision perspectives? We further explore a framework to advance the understanding of the CU.

This study is significant in the following aspects. First, economics is considered one of the foundations of HRD (Swanson & Holton, 2001). Yet, our understanding of economic foundation is largely intuition based. While much of CU related literature mentioned human capital (e.g., Dealtry, 2006; Holland & Pyman, 2006), none has used it as an analytical tool to explore the CU practice. Second, the current literature indicated that theoretical exploration of the CU phenomenon lagged behind the HRD practice. Majority of CU literature was focused on practical aspects of CUs (e.g., Allen, 2002; Meister, 1994, 1998; Moore, 2002; Prince & Stewart, 2002). Limited scholarly effort was found to theoretically explore the CU phenomenon. The lacks of theory building effort in this emerging HRD phenomenon may hinder further development of the practice. Lastly, lacking of theory-based research on the CU phenomenon is likely to impair our ability to understand future trends and emerging practices in other HRD areas. The prosperity of CUs in organizations may indicate the ever increasing role played by HRD. Given the growing outsourcing trend, many traditional HRM functions are subject to outsourcing to external vendors, especially in the traditional HRM areas, such as hiring, compensations/benefits, employee relations, and OSHA (Cooke, Shen, & McBride, 2005). HRM is likely to take more roles in developing human resources. On the other hand, due to its business and skill specificity, many functions in HRD realm are unlikely to be outsourceable, except for limited customizable training programs. Building a theoretical base for a better explanation and understanding of the CU phenomenon will certainly help understand the future HRD and HRM trends.

Method

We adopted a literature review approach to the study. Two bodies of literatures were searched and reviewed: economics literature in HC and HRD literature in CU related research. We first conducted a broad review of CU literature produced by practitioner and peer-reviewed journals through thoroughly searching six major databases in business/economics and education: ABI/Inform Complete, ProQuest, ERIC, PsychInfo, Academic Search Premier, Business Search Premier, and JSTOR Arts and Sciences Collection. The following terms in varied combinations with “corporate university” were used to generate as many publications as possible: *training, corporate education, business strategies, organization learning, online learning, management development, traditional universities vs. CUs*. The search generated 2,598 entries related to CUs. We excluded most media reports and trade journal articles. The remaining of the publications were mostly represented by peer-reviewed journals and books on CU issues. Next, a content analysis was performed for the CU literature. Qualitative techniques, open coding, and the constant comparative method were applied to identify major themes for in-depth knowledge of the CU phenomenon.

For the economics literature, we reviewed all major economics journals since Becker’s seminal work in 1962 in the above major databases. The criteria were based on the literature’s authoritativeness and the impact on economics theory. For space limitations, the literature discussed in human capital theory omitted all relevant mathematical derivations and used the framework explicitly as an analytical tool for the CU literature.

Economic Theory on Human Capital

The distinction between general and specific skills (Becker, 1962, 1997) is the cornerstone of the standard human capital theory (Acemoglu & Pischke, 1999b). Understanding the CU phenomenon should logically depart from this distinction. Although formal education and workplace learning are both considered HC investment activities, they were treated differently due to the difference in skill context. Becker classified them into two categories: general and specific training (1964, 1997). The two different HC investment behaviors have different policy implications.

Relationships between General and Specific Skills

In the formal schooling of TUs, students receive training on general skills and knowledge that are portable to many employers. At the same time, they pay for the cost of training in the forms of tuitions, although sometimes such cost may be subsidized by the public, e.g., the difference between in- and out-state tuitions in the U.S. On the other hand, most lines of business require skill that cannot be provided by such general education; new technologies and organization change efforts require continuous learning, best accomplished by workplace learning.

To understand why firms actually offer certain degree of general training to employees, Katz and Ziderman (1990) first proposed that firms may pay for general training if the amount of the training investment is not observed by outsiders. Imperfect information about the training level limits the wages that a trained worker can obtain in the outside market, and it gives a monopsony power to the employer that supports firm-sponsored investments in general skill training. Acemoglu and Pischke (1998) demonstrate that under asymmetric information, providing employees general skill training is a way for firms to reach equilibrium given market imperfection. Firms have strong incentive to provide such training for productivity gains. Barron, Black, and Loewenstein (1989), Barron, Berger, and Black (1993) find that the effect of an hour of training on productivity growth is about five times as large as the effect on wage growth. Loewenstein and Spletzer (1998) also demonstrate how contract enforcement can lead to employers paying for purely general training.

TU and CU as substitutes. Mincer (1962), in a pioneering study on HC, explicitly discusses relationship regarding formal schooling and specific training by firms, “(I)t is useful to view the two broad classes of training not only as a sequence of stages but also as alternatives or substitutes. In many cases, the same degree of occupational skill can be achieved by “shortening” formal schooling and “lengthening” on-the-job training or by the reverse. The degree of substitutability between the two will of course, vary among jobs and over time with changes in technology (p. 50).” Acemoglu and Pischke (1998) reach a similar conclusion in a study on Germany apprenticeship programs. They find, under non-competitive theories, there are important links between schooling and equilibrium training provided by firms, especially because the breadth of skills provided by schools and the amount of uncertainty about new employees’ ability are major determinants of firm’s incentives to provide training. More importantly, schooling provides general-purpose knowledge through conceptual tools and information that is useful in a variety of occupations and industries. Therefore, formal schooling both facilitates the acquisition of more specific skills and provides the flexibility necessary to realize their comparative advantage.

HRD Literature on Corporate Universities

Definitions and Classifications of CUs

The HRD literature seemed to have difficulties in a consensus definition on the CU. According to a recent study compiling existing definitions of CUs (Li & Alagaraja, 2006), there were at least 15 different CU definitions by researchers and practitioners. When closely examining all the keywords included in the definitions, a clear pattern emerged. All definitions included two components. The first included one or more of the following terms: Learning, learning processes, knowledge assets, performance competencies, developing/educating employees, employee capacity, individual and organizational learning, knowledge, skills, organization change, knowledge management, training, career development, etc. The second consisted one or more of these terms: business strategy, organization success, shareholder value, strategic business goals, organizational mission, strategy, etc. Clearly, the keywords in the first group are means of CUs, and those in the second group are ends of CUs. Furthermore, the terms in the first group, included every aspect of HRD subject areas, and the terms in the second group are the purpose of HRD.

Related to the CU definitions, a number of authors attempted to classify and categorize the types and stages of CUs. According to Walton's (1999) three generational framework, the first generation of CUs was a rebranding of conventional training and development activities, with organization specific modules and classroom attendance. The emphasis for this generation was on the promotion and acquisition of corporate values. The second generation reflected a broader strategy towards organizational learning but still tended to be campus and location specific; and the third generation possessed a virtual element in the learning process and encompassed a broad range of strategies for the development of intellectual capital. Similarly, Allen (2002) proposed a four level framework for CUs. Level one CUs provided training only, level two engaged in training plus management and executive development, level three offered courses for academic credit, and level four CUs' led to an academic degree.

Likewise, a rank-ordered classification was found in Rademakers (2001). The CU was divided into three progressive phases. A CU was simply an advanced training department on phase one; phase two brought CUs as knowledge back-bones; and the CUs became the knowledge factory on phase three. An additional parallel classification, CU learning curve, described comparable developmental stages of CUs (Dealtry, 2002, 2003, 2006). This scheme defined three "models" along a CU learning curve or educational learning pathway. The first level model was traditional educational model with all characteristics of traditional training departments. The second one was training and development which added developmental attributes such as management development and career opportunities. The final model was presented as a complex context-based CU blueprint including diploma and degree programs (Dealtry, 2000b, 2003). To reach the latitude of the third model, the CU model, organizations had to cross over a threshold called "management's learnergate (2003, p. 77). Moreover, on a two-dimensional quadrant, Taylor and Paton (2002) added an equivalent classification of CUs. The horizontal continuum had "training" and "education and research" at its two polars, and the vertical ends were labeled as "E and distance learning" and "campus based." Under the quadrant setup, CUs under Quadrant 1 is classified as traditional training. Quadrant 2 covers those under computer-based training and the Internet. Quadrant 3 describes those traditional face-to-face management development programs, termed as Chateau Experience, and the final type in quadrant 4 is called Polymorphous University to include a dynamic environment where many organizations operate with blended learning experience. This classification attempted to cover a wide range of learning for both employees and management. Apparently, the criteria used in the classification schemes are different and inconsistent, reflecting different understanding of the CU without rationale or justification on why and how the criteria were identified.

Comparison of CUs and TUs

Comparative analyses of CUs and TUs are, by far, the most popular topic found in HRD related literature (e.g., Blass, 2001, 2005; Meister, 1998; Nixon & Helms, 2002; Moore, 1997; Thompson, 2000; Walton, 2005). Thus far, the comparisons have covered historical evolutions (Blass, 2001; Kavanagh, Johnson, & Mattson, 2003), functional differences, (Blass, 2001; Dixon & Helms, 2002; Rademakers, 2005), student body and market differences (Blass, 2001; Dealtry, 2000a; Thompson, 2000), and ownership and controls (Blass, 2001; Thompson, 2000). Another frequent comparative area was specifically focused on the management development and education, comparing traditional management education, such as MBA, with CU preferences in terms of processes and outcomes (e.g., Dealtry, 2000a).

As a result, a number of authors believed that the failure of traditional universities to provide qualified and skilled workforce to match industry needs was one of the major contributing factors to the phenomenal growth of corporate universities (e.g., Meister, 1994; 1998; Blass, 2001; 2005; Thompson, 2000). According to this viewpoint, when educational supply did not meet the business demand in the workplace, CUs as a new source and a solution emerged to meet the challenges (Jarvis, 2001). At the same time, the emergence and prosperity of CUs also presented a threat to TUs (Nixon & Helms, 2002; Thompson, 2000). Most recently, Blass argued that the emergence of CU was to fill the gap between corporate demand and university supply. Therefore, CUs could pose an even greater threat to traditional public universities in the future, as CUs may be better placed to provide a meaningful

undergraduate experience than was currently provided in the education sector (2005).

Conceptual Understanding of the CU Phenomenon

In the CU literature, only one model was found to conceptualize the CU internal processes (Prince & Beaver, 2001; Prince & Stewart, 2002). Derived from a learning organization framework, this model proposed four major processes as core elements of CUs. Knowledge system and processes, including technology, capture system, database and decision tools; Networks and partnerships processes, including internal and external networks and learning partners; Learning processes, encompassing learning culture, management commitment, learners and learning programs, and People processes: It was interpreted as enhanced learning through the state of art HRD process and procedures. The processes were circled within organization context and centered around the CU’s structure. For this reason, the framework was named the CU wheel.

In summary, current conceptual development of the CU phenomenon appears to be focused on three major aspects: classification of CUs as it relates to the definition of CUs, comparison between CUs and TUs, and conceptualization of CU processes. These attempts, although informative, were lack of theoretical base and empirical support. Over all, current understanding of the CU phenomenon is still at an initial formative stage.

Discussion

Challenges in Theorizing the CU Phenomenon

The content analysis of CU definitions is helpful to understand the nature of the CU phenomenon. According to the pattern of the CU definitions presented above, the CU is indeed an operational entity that focuses on all major HRD related functions and interventions in developing organizational specific human capital. As such, we argue that any attempt to reaching a consensus definition of the CU without an agreeable definition on HRD is likely to be fruitless. To this end, defining the CU is to define the field of HRD in practical term. This finding demonstrates the critical importance of HRD theory building at even the definitional level, and how theoretical confusion may cause problems in explaining emerging HRD practices. A clear definition of HRD will certainly help understand the evolving HRD trends and emerging practices.

Compared to the development of CU definition, the classifications of CUs appeared to be more confusing. First, the ambiguous criteria and underlying logic were misleading. If the CU was perceived as a HC and HRD entity, it is problematic to use non-human resource factors, such as technology and related learning platforms, as criteria (Walton, 1999; Taylor & Paton, 2002). Whether to apply advanced learning technology to the CU operations is purely a business decision that should be made by the CU or the host organization per their specific business needs. Second, a number of existing CU classification schemes treated workplace skills differently and inconsistently (Allen, 2002; Dealtry, 2002, 2003, 2006) by classifying management and leadership development at a higher level and traditional skills training at a lower one. It seems to convey a connotation that the former is superior to basic skill training. According to the HC theory, they are all skills required for business success. The only difference may be the generality or specificity. In reality, a CU may be engaged in both types of skill building programs. As long as CUs addressing critical business needs, it may not be necessary to artificially classify the CUs according to skills provided. Lastly, but not the least, some classification schema categorized accreditation and earning college credits as an advanced level of CUs (Allen, 2002; Dealtry, 2006; Taylor and Paton, 2002), suggesting academic credits or degrees be superior to all other skill building interventions. These classifications not only overlooked the relationship between specific and general skills requirements presented in the human capital literature, but also inconsistent with the business reality. General Motors Institute (GMI), as the earliest CU established in the 1920s, has served GM exclusively for over half a century. In 1982, GMI was transformed into a traditional university, known as Kettering University, and received accreditation from North Central Association of Colleges and Schools’ (NCA) Higher Learning Commission to offer academic degrees (Morin & Renaud, 2004). From that time, GMI or KU ceased to be a CU for GM. Similarly, the Arthur D. Little School of Management was found in 1964 as the CU for the consulting firm ADL. In 2003, it became Hult International Business School and no longer affiliated to ADL. In both cases we cannot say that they reached their highest developmental level as CUs. Further, if CUs and TUs are so different in all aspects, we have no reason to consider TUs the highest level or stage of CUs.

Human capital capacity building: CUs vs. TU. It is important to understand the CU phenomenon from HC theory. The standard HC theory on the distinction between general and specific training provides a convenient

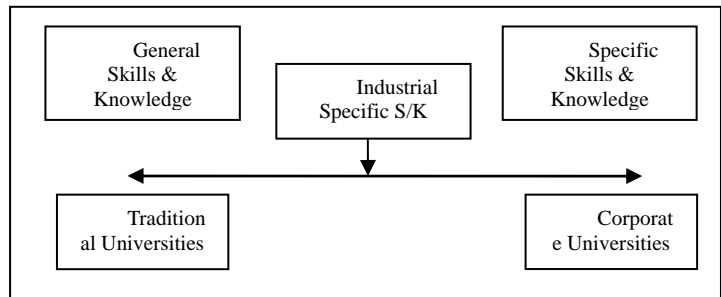


Figure 1. Human Capital Investment

analytical foundation to differentiate HC capacity building roles for TUs and CUs. They should not be considered competing sources of HC investment as suggested by the CU literature, but complimentary and substitutable. Due to the different roles in skill capacity building, one cannot expect TUs to prepare individuals with skills exactly meeting a particular organization's skill requirement, considering the vast differences in industries and occupations. In other words, TUs cannot, and will not be able to, supply organizations with one-size-fit-all skill sets. Obviously, in providing general-purpose knowledge, TUs increase HC through conceptual tools and knowledge that is useful in a variety of occupations and industries. Thus, it is inappropriate to consider CUs a consequence of failure in TUs.

To illustrate the skill building roles by CUs and TUs in HC investment, we present a HC investment continuum in Figure 1 (omitted). Let line AB be HC investment requirements in any organization. At point A, lies the general skill training by TUs (we may extend the line further to the far left to represent secondary or elementary education) and point B, CUs. Each point along the continuum represents a unique combination of general/specific skills, thus, a unique human capital capacity that is required by a specific job position at the time of entering an organization.

It is necessary to differentiate industry specific CUs from firm specific CUs for point C. The former provide industry specific training and related interventions that may be general in an industry. The Institute of Textile Technology established in the late 1930s in the U.S. (Hawthorne, et al., 1983) is an example. These CUs usually not only provide skills that are transferable within an industry, but also create industry learning standards. The latest example is Microsoft Certificate training programs in the information technology industry.

At the individual level, consider the "just-in-time knowledge" requirement in the workplace. It may occur at any point along the continuum requiring learning for performing immediate task at hand. The skills requirements to the job may be changed due to any combination of the following: changes in job requirement, promotion, technology advances, market induced strategy changes, or changes in government regulations, etc. Under any of those situations, employees at all levels will need to be prepared for additional skills by a CU in the host organization, and TUs are unlikely to meet the immediate skill needs. In organization reality, such changes in skill requirements are usual incremental, thus, the need for CUs or the equivalent. This analysis also demonstrates that the same functional entity will always be needed in organizations even with the most successful TU systems in any society. The entity providing such specific skills may be under any name, CUs, traditional training departments, or other names a host organization chooses.

The CU is a logic extension of organization specific or general training under HC and knowledge economy as defined by Becker (2002). Although the format of skill components required by host organizations and offered by CUs may be different, the skill nature remains similar to that offered by traditional training department. The only difference is the social economic contexts. Given the relationship between specific and general skills discussed in the economics literature, and corresponding relationship of the CU and the TU analyzed in this section, the development of CUs is not caused by the failure of TUs, and is unlikely to present a threat to the overall development of TUs.

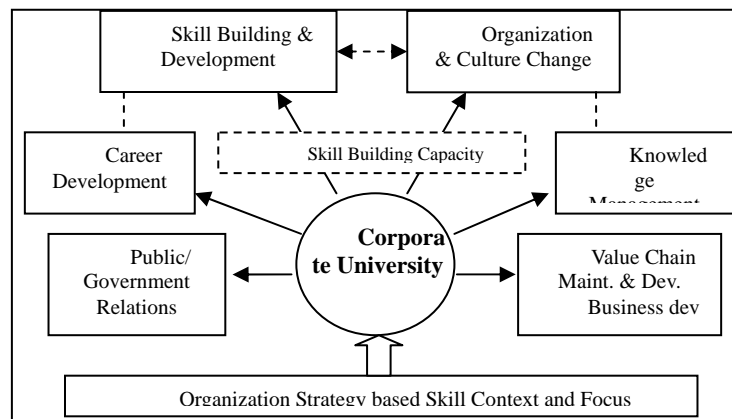


Figure 2. A Functional Model for CUs

Conceptual Framework

The flawed and a-theoretical interpretation of CUs apparently stalled the conceptual development of the CU phenomenon. This may explain the fact that only one process model of CUs was found in the literature. The process model proposed by Prince & Stewart (2002), in fact, failed to capture the uniqueness of CUs. For example, all TUs have their own knowledge system and processes as represented not only by academic programs in research and curricula, but also in TU administrations. Networks and partnerships can also be observed in TUs in the forms of outreach and partnering with business, government, and communities, among other constituents. The partnership and network process also include internal interdisciplinary and inter-program process, and has become a norm for almost all TUs. Learning processes are even more emphasized throughout the history of TUs, and student-centered process has been overwhelmingly emphasized with commitment from all levels of TUs. People process in TUs is not only reflected by student-centered processes, but also populated through policies on faculty and staff retention and development. Clearly, a conceptual framework for CUs should not only capture CUs processes and operations, but also be differentiable from their TUs counterparts and reflective of the specificity in organization settings with

uniqueness. Incorporating findings in this study, we propose a CU functional model to conceptualize CUs in organization settings in Figure 2.

All the functions presented are based on and subject to one critical requirement. That is the host organization's skill contexts with specific business needs and strategic direction. Due to the skill requirements on generality and specificity, whether tactic or strategic, all skills should be considered equally critical to the organizations' business success. This fundamental base determines all other functional components of the CU in the model. In general, two categories of functions can be defined in CU operations: Skill building capacity and affiliated functions. Skill building capacity as a core function of CUs can be further decomposed into four elements, (1) Skill building and development, (2) Organization & culture change, (3) knowledge management, and (4) career development. All four components in the core CU functions are interrelated and interdependent as represented by the dotted lines.

First, building and developing organizational specific skills is and has been a key component of all CUs. The areas may range from orientation training to technical skill training, from management/leadership development to executive coaching and mentoring, among other skill building related activities. Some classifications consider the first pair as traditional training but the second pair as advanced CU stage. This model defines the two pairs as interdependent to reflect the business reality. From a system point of view, no single skill alone can ensure a business success. This may be the very reason that the name "corporate university" is adopted in the first place. The skill building function of CUs may take different learning platforms, such as e-learning, blended learning in addition to traditional classroom training. Dealing with organization and culture change has become a critical skill at individual and organizational levels. Under change pressure, CUs often take a role as change agent in organizations. This function is frequently coupled with the skill building, especially management and leadership development initiatives in organization reality. In this aspect, the CU may also play a role as a catalyst, a consultant, or a facilitator for organization learning.

In essence, CUs are a major part of the host organizations' knowledge infrastructure (Jansink, Kwakman, & Streumer, 2005; Wiig, 1997). Through skill building and change interventions, CUs facilitate and leverage the creation, assimilation, and dissemination of new tacit and articulated knowledge and skills directly related to the host organization's core business activities (Hedlund, 1994). CUs, due to their skills and knowledge focus, usually become a central place for the host organizations to assembly accumulated business knowledge because of their centralized organization expertise. To maintain employees' motivation and ensure the host organization's constant supply of human resources, CUs also serve as employees' career development center in conjunction with the skill building and knowledge management functions.

In addition to the core CU functions, other related functions may also be assigned to a CU by the host organization based on business strategy. Value chain maintenance and development is an example. A CU may provide training to the host organization's suppliers or customers along its business value chain. Sometimes, public and government relations may become an affiliated function assigned to a CU by the corporate headquarters. As CUs becoming a branding image for organizations, it is a logical function for CUs to assume. For example, at Motorola University, the corporate Government Relations was part of MU China's operational functions.

The model should be equally applicable to either centralized or decentralized organizations regarding CUs' structure. For a centralized CU, it may include all core functions while decentralized structure may focus on only one or two functions. For example, Wal-Mart, as a decentralized organization, has established four different CUs for different business needs and operational specifics. (1) Wal-Mart University is for Wal-Mart retail business divisions, (2) Sam's University for Sam's Club business unit, (3) Logistics University for company-wide procurement and distribution centers, and (4) Wal-Mart Corporate University for corporate headquarters. Clearly, Wal-Mart Corporate University would emphasize more management and leadership development while Sam's University would develop employee skills in warehousing retailing (A. Wang, personal communication, March 23, 2007).

The proposed CU functional model has several advantages in understanding the CU phenomenon. First, it effectively distinguishes CUs from its TU counterparts in different skill building contexts, thus consistent with the HC theory in the economic literature. All core CU functions are based on organizations' specific business needs, not general skills requirements. Second, it clarifies the confusion on the skill specificity in the existing literature regarding the CU developmental levels or stages. For instance, we cannot say that Wal-Mart Corporate University is at a higher level of CU stage than Wal-Mart Logistic University simply because it provides more leadership development programs. Third, it has the flexibility to embrace other related value-added functions as defined by the host organization. More importantly, the model displays that the CU is a unified HRD operational entity in the business reality, thus exploring the CU phenomenon is to research the HRD practice under the name of the CU. Whether call it a training department, a corporate university, or something else, is purely a business preference.

Implications and Future Research Directions

This study has several implications for future HRD research. First, economics foundation, especially human capital theory, is an effective tool to analyze and make sense of emerging HRD practices. This study, not only conformed the predictive and analytical power of HC theory, but also demonstrated that analysis of the CU as an HRD phenomenon based on that theory can produce logical and consistent analysis and explanation of the current CU research and HRD practices. As an interdisciplinary field, HRD research is frequently challenged to explain emerging practices. Any plausible explanation and understanding of a new practical phenomenon should be firmly based on theories or theory development. Therefore, it is important for HRD researchers to have a fuller understanding of the foundational theories. This study is an initial effort in understanding the CU practices. More research is required to build HRD theory that is not only able to explain and describe the nature of the CU phenomenon, but also guide the further development of CU practices. Therefore, conducting empirical studies is an urgent need and a future research direction for gathering first-hand data from CU reality. Over the past two decades, worldwide CUs have accumulated substantial rich practices to be studied. For any new business phenomenon, case studies proved to be an effective way for building theory (Eisenhardt, 1989). Instead of producing unilateral roadmaps for the CU from researchers' perspectives, extensive empirical research should be conducted focusing on understanding the roles, functions, nature, and business impact of CUs.

References

- Acemoglu, D. & Pischke, J. (1999a). Beyond Becker: Training in imperfect labor markets. *Economic Journal*, 109, F112-F142.
- Acemoglu, D. & Pischke, J. (1999b). The structure of wages and investment in general training. *Journal of Political Economy*, 107(3), 539-572.
- Acemoglu, D. & Pischke, J. (1998). Why do firms train? Theory and evidence. *The Quarterly Journal of Economics*, 113(1), 79-119.
- Allen, M. (2002). What is a corporate university, and why should an organization have one? In M. Allen (ed). *The corporate university handbook: designing, managing, and growing a successful program*. (pp. 1-14). NY: AMACOM.
- Barron, J. M., Berger, M. C., & Black, D. A. (1993). *Do workers pay for on-the-job training?* Working Paper No. E-169-93. Lexington: University of Kentucky.
- Barron, J. M., Black, D. A. & Loewenstein, M. A. (1989). Job matching and on-the-job training. *Journal of Labor Economics*, 7(1), 1-19.
- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *The Journal of Political Economy*, 70(5) (Part 2), 9-49.
- Becker, G. S. (2002). The age of human capital. In E. P. Lazear (ed.), *Education in the twenty-first century* (p. 1-8). Hoover Institution Press, Stanford University.
- Bishop, J. (1991). On the job training of new hires. In D. Stern and J. M. Rizen (Eds.) *Market failure in training? New economic analysis and evidence on training of adult employees* (pp. 61-96). NY: Springer-Verlag.
- Blass, E. (2001). What's in a name? A comparative study of the traditional public university and the corporate university. *Human Resource Development International*, 4(2), 153-172.
- Cooke, F. L., Shen, J. & McBride, A. (2005). Outsourcing HR as a competitive strategy? A literature review and an assessment of implications, *Human Resource Management*, 44(4), 413-432.
- Cranck, E. T. (1987). Corporate classrooms. *European Journal of Engineering Education*, 12(3), 237-252.
- Dealtry, R. (2000a). Strategic directions in the management of the corporate university paradigm. *Journal of Workplace Learning*, 12(4), 171-5.
- Dealtry, R. (2000b). Case research into corporate university development, *Journal of Workplace Learning*, 12(6), 252-257.
- Dealtry, R. (2002). Managing the corporate university learning curve. *Journal of Workplace Learning*, 14(2), 76-81.
- Dealtry, R. (2003). Issues relating to learning accreditation in corporate university management. *Journal of Workplace Learning*, 15(2), 80-86.
- Dealtry, R. (2006). Achieving integrated performance management with the corporate university. *Journal of Workplace Learning*, 17(1/2), 65-78.
- Eisenhardt, K. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Hawthorne, E. M., Libby, P. A. & Nash, N. S. (1983). The emergence of corporate colleges. *Journal of Continuing Higher Education*, 31(4), 2-9.
- Hedlund, G. (1994). A model of knowledge management and the N-form corporation. *Strategic Management*

- Journal*, 15(1), 73-90.
- Holland, P., & Pyman, A. (2006). Corporate universities: a catalyst for strategic human resource development? *Journal of European Industrial Training*, 30(1), 19-31
- Jansink, F., Kwakman, K. & Streumer, J. (2005). The knowledge-productive corporate university. *Journal of European Industrial Training*, 29(1), 40-57.
- Jarvis, P. (2001). *Universities and Corporate Universities*. London: Kogan Page..
- Katz, E. & Ziderman, A. (1990). Investment in general training: The role of information and labor mobility. *Economic Journal*, 100(4), 1147-1158.
- Kavanagh, P., Johnson, B., & Mattson, K. (2003). *Steal this university: The rise of the corporate university and the academic labor movement*. New York: Routledge.
- Li, J. & Alagaraja, M. (2006, December). *Emergence of corporate universities*. Paper presented at the Fifth Academy of Human Resource Development Asian Research Conference. Kuala Lumpur, Malaysia.
- Loewenstein, M. A. & Spletzer, J. R. (1998). Dividing the Costs and Returns to General Training, *Journal of Labor Economics*, 16(1), 142-171.
- Meister, J. C.(1994). *Corporate quality universities: Lessons in building a world-class work force*. Alexandria: American Society for Training and Development.
- Meister, J.C. (1998). *Corporate Universities – Lessons in Building a World-Class Work Force*. New York: McGraw-Hill.
- Mincer, J. (1962). On-the-job training: Cost, returns, and some implications. *Journal of Political Economy*, 70(5), Part 2, 50-79.
- Morin, L. & Renaud, S. (2004). Participation in corporate university training: Its effect on individual job performance. *Canadian Journal of Administrative Sciences*, 21(4), 295-306.
- Moore, T. E. (1997). The corporate university: Transforming management education. *Accounting Horizons*, 11(1), 77-85.
- Moore, J. (2002). Running a corporate university like a business: A financial model. In M. Allen (Ed). *The corporate university handbook: designing, managing, and growing a successful program* (pp. 33-42). NY: AMACOM.
- Nixon, J. C. & Helms, M. M. (2002). Corporate universities vs higher education institutions. *Industrial and Commercial Training*, 34(4), 144-150.
- Prince, C., & Beaver, G. (2001). The rise and rise of corporate university: the emerging corporate learning agenda. *The International Journal of Management Education*, 1(3), 17-26.
- Prince, C., & Stewart, J. (2002). Corporate universities – an analytical framework. *Journal of Management Development*, 21(10), 794-811.
- Rademakers, M. (2001). Hoe strategisch is uw corporate university (How strategic is your corporate university)? *Opleiding & Ontwikkeling*, 3(4), 15-18.
- Rademakers, M. (2005). Corporate universities: Driving force of knowledge innovation. *Journal of Workplace Learning*, 17(1/2), 130-136.
- Romer, P. (1993). Idea gaps and object gaps in economic development. *Journal of Monetary Economics*, 32(2), 543-573.
- Schrage, M. (June 1999). Sorry, no keg parties here. This university is on the desktop: Campus clones or automated autodidacts? *Fortune*, 139(11), 224.
- Swanson, R. A. & Holton, E. F. (2001). *Foundations of human resource development*. San Francisco: Berrett-Koehler.
- Taylor, S. & Paton, R. (2002). *Corporate universities: Historical development, conceptual analysis, and relations with public-sector higher education*. London: The Observatory on Borderless Higher Education.
- Thompson, G. (2000), Unfulfilled prophecy: the evolution of corporate colleges. *The Journal of Higher Education*, 71(3), 322-341.
- Walton, J. (1999). *Strategic human resource development*. London: Pitman.
- Walton, J. (2005). Would the real corporate university please stand up? *Journal of European Industrial Training*, 29(1), 7-20.
- Wheeler, K. & Clegg, E. (2005). *The corporate university workbook: Launching the 21st century learning organization*. San Francisco: Pfeiffer.
- Wiig, K. M. (1997). Knowledge Management: Where did it come from and where will it go? *Expert Systems With Applications*, 13(1), 1-14.