INSTITUTIONAL CONTEXT, COLLABORATION, HUMAN RESOURCE DEVELOPMENT INFRASTRUCTURE AND PERFORMANCE OF UNIVERSITIES IN KENYA

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A Thesis Presented In Partial Fulfillment of the Requirement for the Award of the Degree of Doctor of Philosophy in Business Administration, Department of Business Administration, School of Business, University of Nairobi.

October, 2012

DECLARATION

I, the undersigned, declare that the work contained in this Thesis Report is my original work and has not been presented in its entirety or in part in any other university for a degree. All the citations have been duly acknowledged.

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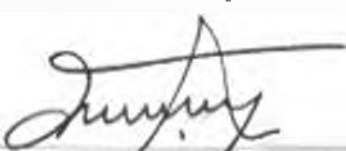Signed: _____ Date: 05/11/2012

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DEDICATION

To My Father,

Titus Kilika,

For his dedication, inspiration and support towards my education. Long live his legacy.

ACKNOWLEDGEMENT

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ABBREVIATIONS

AIHEPS : Alliance for International Higher Education Policy Studies

HE : Higher Education

HRD : Human Resource Development

HRM : Human Resource Management

KESSP : Kenya Education Sector wide Support Programme

NHRD : National Human Resource Development

SHRD : Strategic Human Resource Development

U-I : University-Industry

U-I C : University-Industry Collaboration

VET : Vocational Education and Training

ABSTRACT

The purpose of this study was to determine the influence of the institutional contexts of universities and the phenomenon of University-Industry Collaboration on the relationship between the Human Resource Development Infrastructure and performance of universities in Kenya. The study was guided by five objectives, namely to determine: the relationship among the various components that constitute the HRD Infrastructure for universities in Kenya; the relationship between the HRD Infrastructure and University-Industry Collaboration; the influence of the University-Industry Collaboration on the strength of the relationship between the HRD Infrastructure and University Performance; the influence of the Universities' responsiveness to institutional contexts on the strength of the relationship between University HRD Infrastructure and University Industry Collaboration and the influence of the Universities' responsiveness to institutional contexts on the strength of the relationship between University Industry Collaboration and University Performance. The design of the study was guided by the positivism epistemological orientation and used a descriptive survey design that targeted 180 respondents from 19 Universities 130 of them responded from 16 universities The research found that the degree of responsiveness to the national culture is just slightly above the level of indifference, moderate for the institutional context and high for human capital development needs and the HRD value base. The study reports low scores on responsiveness to the tolerance to mistakes, an aspect that was considered to reflect in the design of the HRD Infrastructure with low scores on building the ability to solve problems and encouragement of managers to take risks. The reported mean scores show that the universities have a clear picture of the set of OD Needs which reflects in the components of the HRD Infrastructure. However, they rate lowly on areas that are critical to building learning systems. The reported score on the motivation to pursue collaboration is slightly above the 50-50 chance while the level of collaboration is relatively moderate with high variation in responses. The types of collaboration programs were found to be slightly high for all the items except in technology licensing, research parks and technology transfer where low scores and wide variation among the universities were reported The readiness for change performance registered a higher mean score than that of bottom line performance. Hypothesis one was partially supported, hypotheses 2, 3 and 4 fully supported while hypothesis 5 was not supported. The study found that: there is a significant correlation

between the University HRD Infrastructure and University Industry Collaboration; U-I-C partially mediates the relationship between HRD Infrastructure and University Performance; responsiveness to the institutional context moderates the relationship between the HRD Infrastructure and U-I-C and not the relationship between U-I-C and University performance. The findings of the study provide an insight into the situational positioning of HRD in universities in Kenya whereby it is reported that HRM is yet to become strategic. The findings offer some practical and epistemological lessons to managers in this sector and scholars in management respectively. The findings provide empirical evidence that strengthens the calls for U-I collaboration and those for the integration of the resource based view and the institutional theory in research. The findings also confirm the empirical and theoretical underpinnings drawn from the multidisciplinary set of theories and provide an epistemological support for research in HRD based on a positivist perspective. The study recommended that universities adopt programs that will strengthen their learning capability and alignment of the learning cultures with their set of HRD Practices. The study called on future research efforts to replicate the current study from the industry side using objective indicators of the variables used and integrate the organization theory imperatives of size and strategy.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The term Human Resource Development (HRD) was first used by Leonard Nadler in 1969 at the Miami Conference of the American Society for Training and Development (ASTD) and later provided its definition in 1970. This development was out of the recognition that HRD fed into most organizational areas (Galagan, 1986). Prior to this, focus had just been given to the aspects of training and development based on the traditional personnel management orientation. Wilson (2005) observes that HRD represents the latest evolutionary stage in the long tradition of training, educating and developing people for the purpose of contributing towards the achievement of individual, organizational and societal objectives. HRD has since then grown to a point of recognition as an area of professional practice and interdisciplinary body of knowledge that has emerged to meet organizational needs (Jacobs, 1990; Kahnweiler, 2009).

There is a general consensus among HRD scholars that the most comprehensive definition of HRD is that advanced by McLean and McLean (2001, pp 1067), which states that "HRD is any process or activity that either initially or over the long term, has the potential to develop adult's work based knowledge, expertise, productivity and satisfaction, whether for personal or group/team gain or for the benefit of an organization, community, nation or ultimately the whole humanity". Other approaches provided by Watkins (1989), Chaffosky (1992), Joy-Matthews Megginson and Surtees (2004), and Armstrong (2006) have presented HRD as a discipline build on the area of learning, addressing the concerns for the development of organizations through a multi level perspective as espoused in the area of organizational behavior. Behavioral scientists have addressed concerns for the performance of organizations on the basis of three levels: the individual, the group and the organization (Luthans, 1992; Robbins, 2005; Robbins & Judge, 2007). HRD has thus embraced a great deal of the propositions of the behavioral science literature in impacting organizational systems as its roots are strongly grounded in the behavioral sciences from which it has grown to address the HRM concerns for the growth and development of employees in an organization, which is necessary for its performance and survival in a rapidly changing environment.

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HRD as an integral part of an organization's HRM System is set against a background of turbulence and change in organizational life (Joy-Matthews et.al, 2004). The change arises from developments in business environments, work processes and organizational cultures, which drive the need for successful change management strategies. HRM has been associated with change management initiatives in organizations in which case it serves as an agent for change (Tomkinson, 2005; Jackson & Schuler, 2000; Lopez, Peon & Ordas, 2005; Dessler, 2003; Joy-Matthews et.al. 2004). Some scholars are of the view that change programs in organizations largely depend on an organization's human resources (Prasad, 1996; Jackson & Schuler, 2000; Weigl et.al. 2008). Prasad (1996) has indeed postulated Organizational Development and change programs as part of an organization's HRM system. Thus, HRD utilizes the theories of change and their relationship to an organization because change affects individuals, groups and organizations. HRM has been positioned as a strategic partner in many organizations for facilitating organizational change (Dessler, 2003; Jackson & Schuler, 2000; Joy-Matthews et.al 2004). This HRD agenda for managing change in organizations embraces a multi-disciplinary approach (Galagan, 1986; Nafukho, Hairston & Brooks, 2004; Lincoln, 2004; Tomkinson, 2005; Paprock, 2006) and a "levels of analysis" perspective in organizations.

From the multi-disciplinary approach, Bates and Chen (2005) note that HRD roles and functions within work systems are based on three distinct paradigms. The first one is the learning paradigm which focuses on change through learning which is expected to produce development of the individual and therefore postulates learning as a critical part of an organizational culture. On this basis, HRD serves the basic need of facilitating learning and adaptation to a changing work environment (Toracco, 2005) and is thus concerned with fostering learning which is aimed at enhancing employee learners' efficacy in an organizational setting which ultimately affects organizational performance (Frank, 1988; Scully-Russ, 2005). The second paradigm is the performance paradigm which presents HRD as an area focused on advancing the performance of systems that sponsor HRD by improving the capabilities of individuals working in the system and improving the system. The third one is the meaning of work paradigm which takes a holistic approach to human development and the development of organizations and focuses on the development of the whole person so as to realize their full potential meaningfully and enhancing Organizational health through programs that have a human appeal (Huczynski & Buchanan,

2001, 2007) and transcend organizational boundaries to improve Quality of life in the organization, the society and the world as a whole.

1.1.1 The Organization Infrastructure for Human Resource Development

HRD has been described as strategic in nature (Stewart & McGoldrick, 1996, Joy-Matthews et.al, 2004; Balderson, 2005; Wilson, 2005; Garavan, 2007) and as such it takes place in a supportive environment characterized by healthy human resource practices, and linkage to the strategy of an organization, in which context it is considered an investment equivalent to investments in technology, new product development and entry into new markets (Beardwell & Holden, 1997; Garavan, 2007; Balderson, 2005; Wilson, 2005) The emerging aspects of the Strategic Human Resource Management (SHRM) and Strategic HRD areas call for clear linkages between an organization's HRM and HRD programs with the organization's strategy (Balderson, 2005;Wilson, 2005), creation of an organization conducive environment supporting the growth of healthy HRD (Stewart & McGoldrick,1996; Watson,1998), and the adoption of a stakeholder based orientation in both HRM and HRD (Watson, 2007; Torington, Hall & Taylor, 2005; Hall & Goodale, 1986; Armstrong, 2006; Jackson & Schuler, 2000; Clark & Beardwell, 2007; Watson, 2007; Garavan, 2007). Menger (2001) refers to these aspects accounting for the HRM practice as HRM Infrastructure. This infrastructure is based on the role of the human resource component in providing sustainable competitive advantage to the organization.

Garavan (2007) uses the human capital development and resource based theories to indicate that HRD is best achieved through a strategic approach. Prasad (1996) observed that HRD policies, plans and actions must commence from business strategy. Watson (1998) noted that HRD gains in meaning and significance when its contribution to enhancing the strategic capability and intellectual capital of an organization is clearly spelt out and understood across the spectrum of the organizational membership. Successful SHRD depends on the existence of a favorable learning climate which exists in an organizational setting that supports organizational learning. The climate is supported by a number of characteristics that are central to HRD in organizations which are aligned with the organizational developmental needs of an organization that seek to increase organizational health in order to attain sustainable levels of competitiveness as supported by human resource based competencies (Beckhard,1969; Bennis, 1969; Burke, 1982).

SHRD scholars agree that the alignment between HRD and organizational strategies is attained through organizational development approaches designed to manage strategic change that address internal knowledge and skills, protection of core competencies, building strategic capability, management of culture and organizational values, learning organizations and sustaining organizational effectiveness (Balderson, 2005; Beardwell, Holden & Claydon, 2004; Carnall, 2007; Garavan,1991; Garavan, 2007; Cummings & Worley, 2008; Jackson et.al, 2009; Joy-Matthews et.al, 2004).

Watson (1998) focused on the human resource based competencies to advocate for the development of a suitable organizational paradigm that is accommodative of global competitive and societal influences. On the one hand, Kuhn (1970) considered the term paradigm as a constellation of concepts, values, perceptions and practices shared by a community which form a particular vision of reality that is the basis of the way a community organizes itself." A community in this case is used to refer to a nation state, a work organization or members of a specific discipline / professional body. Thus a paradigm is a set of beliefs taken for granted assumptions people make about the world which in time become unchallenged and unchallengeable. Another perspective of thinking about a paradigm treats it as an interpretive device intended in order to provide people with a practical route map for making their way in the world. The map helps them to sort out complexity, comprehend, evaluate, categorize and filter the information that comes to them rapidly and incessantly from all directions. The mental maps in organizations arising from the prevailing paradigm dictate a number of things such as acceptable ethical standards, organization of the workplace, resource allocation for training and development, treating customers, response to competition, and involvement with the community outside the workplace.

1.1.2 Organizational Performance

HRM is presented in theory and practice as a core function accounting for the performance of organizations. Performance is understood in terms of the output of work that is undertaken in organizations quantified into objectives the organization wants to achieve (Armstrong, 2006). The achievement of the objectives is ensured through the people factor in organizations. The HRM perspective to performance leans towards the behavioral science dimension that links organizational performance with human behavior. One approach employed by the behavioral

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scientists considers organizational behavior as what people do in the place of work (Robbins, 2005). Thus the behaviors resulting from the performer lead into actions that transform from an abstract to action state. The behavioral science perspective is of the view that performance of organizations is attained through various levels starting at the individual employee level through the departmental to the organizational. The Organizational Behavior (OB) approach observes that under the performance orientation the concern is the productivity of an individual within the organization and how it can be improved. Individual performance contributes to group performance, which in turn contributes to organizational performance. It is this performance that results in the effectiveness of an organization. The cited performance indicators of performance at this level are job satisfaction, psychological growth, physical health, and security. In turn, these contribute to performance at group and organizational levels that is indicated by efficiency, productivity, profitability, innovation, quality of life, contribution to culture and adaptation to change.

The behavioral science approach is relevant in an HRD situation in that one of the major concerns is that touching on the way in which HRD influences performance in organizations. Some stream of research has attempted to identify the paths and links that lead from HRD to organizational performance (Katou, 2009). The analysis provided by the behavioral science perspective based on the three levels and the respective indicators of performance at each level highlights the set of employee inputs that lead to the attainment of organizational performance. What thus emerges from this analysis is the fact that performance in organizations relies on human factors as the key drivers to organizational performance. The SHRD perspective is more focused on the human factors that will account for competitiveness and sustainable levels of competitive advantage and the organizational conditions suitable to condition employees towards attainment of distinctive competence. Scholars in this area identify the role of organization culture, which in HRD scholarship is addressed by the learning orientation.

Learning has for long been acknowledged as a major determinant of organizational success. From the behavioral sciences, learning has been studied at the individual level and connected with change in behavior. Organization theorists have studied the concept from an organizational perspective. In both perspectives, the aspect of change is a notable ingredient in the learning process. Scholars in HRD borrow from this change perspective to advance a case for the

adoption of a learning orientation in order to respond to environmental dynamics. Morgan (1988) underscored the role of learning and advised that Managers need to understand learning and development, find ways of developing and mobilizing the intelligence, knowledge and creative potential of human beings at every level of the organization, increasingly become skilled in placing quality people in key places and developing their full potential. It therefore becomes important to recruit people who enjoy learning and relish change and to motivate employees to be intelligent, flexible and adaptive. Kanter (1992) linked the learning of organizational members to the survival and effectiveness of an organization in a competitive organizational environment characterized by rapidly changing technology, in which the organization needs flexibility to add or delete products, open or close facilities. Learning plays a developmental role and serves as a key lever in HRM that enables assure that people are employable, implying that they will be sought out for new jobs within the organization and elsewhere.

HRD scholars have cited learning in organizations as a source of competitive advantage in the context of change. Learning in an environment of change positions people as a source of distinctive competence and makes them become the only source of differentiation and sustainable competitive advantage (Kontoghiorghes, Awhrey & Feurig, 2005; Storberg-Walker & Gubbins, 2007; Collin, 2007). The resource based view to competitive advantage based on human resources identifies the critical conditions that bring about this distinctiveness as employees who add value, are rare and cannot be copied (Jackson & Schuler, 2000; Golding, 2007). Lopez, et.al (2005) indicate that organizational learning constitutes a source of competitive advantage, and identify particular HR activities that promote learning such as recruitment and selection activities, training programs and design of compensation systems that reward knowledge acquisition and learning. Prevailing change demands new ways of working which can only be supported through not only extensive training in new skills but also completely new ways of thinking about work and relating with one another.

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1.1.3 Human Resource Development and Organizational Performance

HRD influences performance at the various levels of analysis. At the individual and organizational levels, HRD approaches based on the learning orientation are expected to positively influence the performance outcomes of systems that support the HRD initiatives and thus the concept of performance has featured prominently in the HRD literature (Kontoghiorghes et al, 2005; Leiponen, 2008; Newbert, 2008; Davis & Daley, 2008, Katou, 2009). Pfeffer (1994) indicated that there is a correlation between how workers are managed on the one hand and sustained organizational performance on the other. Huselid (1995) found that HR practices impact turnover, productivity, and corporate financial performance. Delaney and Huselid (1996) found HR practices impact perceptions of organizational performance. Barbuto et.al (2003) noted that innovation thinking has been in the past considered as extra role behavior. Joy-Matthews et.al (2004) presented performance as one of the areas in the approaches to HRD and identified three levels of performance: implementing, improving and innovating. Greve (2009) notes that organizational performance and survival result from competitive advantage and call for the identification of competitive advantage through its consequences for performance. Thus, Lilly et.al (2008) support the position that the HR function in many organizations serves as the voice of management in the sense that HR policies and procedures indicate how the organization views its employees and that the way employees are treated directly impacts organizational performance.

From the perspective of the resource based view widely espoused in HRM, HRD contributes to the development of employees whose performance and contribution in an organization leads to the attainment of sustainable competitive advantage. This competitive advantage from human resources results from employees who add value, are inimitable, are rare and organization-specific (Jackson & Schuler, 2000; Golding, 2007). HRD shares the same value orientations to the strategic role of the human resource in organizations by recognizing that the only true unique resource for business firms is their human capital (Armstrong, 1999; Ardichvili & Dirani, 2005) and that human resources are the most important contributors to an organization's competitive advantage. HRD therefore has a distinctive and defining nature that focuses on how these human resources (capital) should be developed. The benefits obtained from HRD at the individual and organizational levels contribute toward performance of national systems. A number of scholars point at the role of HRD at the national level in enhancing competitiveness at the regional and

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global levels (Porter, 1995; Stead & Lee, 1996; Beardwell & Holden, 1997). Other performance areas include the development of national innovation systems, quality of educational institutions and international reputation. Using this evidence, a number of scholars have recommended the adoption of HRD in implementing national policies and standards for human capital development (Murphy & Garavan, 2009; McLean, 2006; Paprock, 2006; Garavan, McGuire &O'Donnell, 2004; Stead & Lee, 1996) especially by institutions involved in the development of human capital at higher education levels.

It is on this basis that at the national level of the HRD-Performance linkage, HRD proponents advocate for the development of a National Human Resource Development (NHRD) Policy to facilitate the implementation of national policies on human capital development (McLean, 2006; Paprock, 2006; Garavan et.al, 2004; Stead & Lee, 1996). A major component of HRD at this level is the concept of Education and Training which is considered as the primary means by which a nation's human capital is preserved and increased to ensure workforce competence, competitiveness of firms and nations and the welfare of social groups (Xiao &Tsang, 2004). This education has been placed at the center of the effective functioning of an economy as well as the competitiveness of firms through workforce development (Beardwell & Holden, 1997). HRD thus enhances a nation's Vocational Education and Training (VET) Programs whose major focus is the role played by Universities in achieving a nation's HRD requirements. Sohn (2005) indicates that universities were established in most countries as part of educational systems to develop manpower to maintain existing industrial facilities and therefore play the significant role of contributing to the expansion of the nations' science and technical human resources. Rapinoja and Soininen (2005) observe that Universities lie in the core of successful leading economies in the world and continue to push industrial development through the commercialization of their inventions. Wu (2005) points that Universities can play a significant role in changing a country's economic situation from that of a labor intensive to that of knowledge intensive economy.

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1.1.4 Institutional Contexts and Human Resource Development

HRD as part of an organization's HRM system is embedded in the context of each organization and thus HRD experts in many organizations practice within the constraints of institutional contexts (Watson, 1998). Collin (2007) underscores the importance of understanding the complex context of HRM in any setting at three levels namely: the organization; the environment; the historical, national and global so as to obtain the language to understand it and its meanings. Katz and Kahn (1966)'s approach to the context is of the view that all systems function within five elements, namely cultural, political, economic, technological and ecological out of which the cultural element has been associated with variations in HRD Practices and systems among countries and regions in the world (Dirani, 2006). The institutional context constitutes the rules of the game both formal and informal that structure the economic, political and social relationships in a society or country (Chan et.al, 2008) and is composed of norms and values from stakeholders (customers, investors, associations, government, collaborating organizations), reflects what the greater society views as correct ways of organizing and behaving (Daft, 2007) and considers organizations to be operating in a highly interconnected manner.

Scholars in Organization Theory use the Institutional Theory to explain how organizations survive in their institutional contexts (Jones, 2004; Daft, 2007) and indicate that organizations survive and succeed through congruence between an organization and the expectations from its environment. It argues that organizations need legitimacy from their stakeholders and that organizations perform well when they are perceived by the larger environment to have a legitimate right to exist. Thus the institutional view believes that organizations adopt structures and processes to please outsiders and these activities come to take on rule-like status in organizations. The institutional perspective has been used to explain the importance of social and cultural influences on strategic decisions because organizations respond differently to common institutional pressures (Delmas & Offel, 2008). Kirsdv, Goldfarb and Azigera (2009) have used the cognitive decision making theory to indicate that decision makers rely on cues from the institutional context to determine the strategic behavior of their firms. Nadkarni and Barr (2008) suggest that top managers develop two major forms of subjective representations about environments in order to drive the organization's strategic behavior, namely attention focus and

environment strategy causal logics describing those institutional factors managers pay attention to and therefore considered in the strategic decision making process.

Using both the ecological and institutional perspectives, Daft (2007) demonstrates how the strategic behaviors are reflected in the basic configurations used by organizations to support their value creation processes. This is through the administrative support function that is responsible for the smooth operation and upkeep of the organization, including its physical and human elements. This includes human resource activities such as recruiting and hiring, establishing compensation and benefits and employee training and development as well as maintenance activities such as leasing of buildings and service and repair of machines. Thus the consideration of the institutional context influences decisions regarding the basic infrastructure adopted by an organization in response to the institutional pressures. Hoffman (2001) described the importance of organization's functional structure and culture in explaining heterogeneous responses to institutional pressures and noted that the form of organizational responses is significantly influenced by the institutional pressures that emerge from outside the organization. Daft (2007) presents the phenomenon of establishing interorganizational networks supported by HRD factors as a suitable base for building collaborations with other institutions as part of an organization's strategic behavior.

1.1.5 Collaboration

Inter-organizational networks are discussed along the strategic considerations for Inter-organization collaboration (Mintzberg, Lambel & Quinn, 2003). Collaboration is a recursive process where two or more people or organizations work together toward an intersection of common goals. Structured methods of collaboration encourage introspection of behavior and communication. These methods specifically aim to increase the success of teams as they engage in collaborative problem solving. In the post-industrial era, this collaboration is considered as a condition of learning in the work place in which workers learn how to think, learn and apply information to a task. Workers need to engage in activities that allow them to approach problems from different vantage points, testing out assumptions, and redefining meanings. Workers need to engage in the social, collaborative exchange of ideas to pose hypothetical problems, general hypotheses, conduct experiments and reflect on outcomes. By facilitating collaborative methods

of learning, organizations could help workers acquire individually and collectively the rapidly, changing knowledge required in the high-tech workplace.

The collaboration across organizations is considered as part of the mechanisms for attaining a fit between internal and external conditions. The justification for these pursuits towards interorganizational networks has received varying explanations. Beer (1980) offered an explanation that leaned more towards the need for an internal alignment aimed at establishing congruence between internal resources and the external environment. He indicated that an organization's capacity to achieve its goals and fulfill its members' needs is a function of the extent to which there exists congruence between its people, processes and structures and its environment. Beer's approach used the contingency perspective of management to indicate that an organization needs to build congruence or fit between its social structures and processes with the individuals being recruited and the environment being served and identified four components that must be congruent as: people through their abilities, needs, values and expectations; process through the behaviors, attitudes, and interactions within the organization at the individual, group and intergroup levels; structures through the formal mechanisms and systems of the organization that are designed to channel behavior toward organizational goals and fulfill member needs; and the Environment through the external conditions with which the organization must deal including its markets, customers, technology, stakeholders, government regulations and the social culture and values in which it operates.

Other perspectives to collaboration are based on the views held by organizational theorists on organizations as social inventions and those that rely on resource dependence by organizations. The social invention view of organizations considers organizations as entities that are designed to achieve economic or other purposes while at the same time fulfilling member needs and to this extent agree with that of Beer (Hicks & Gullet, 1975; Jones, 2004). Hicks and Gullet (1975) used a stakeholder perspective to indicate that the survival of an organization is based on satisfaction of stakeholder needs. Those leaning towards resource dependence perspectives to the pursuit of interorganizational collaboration raise the need for access to and control of economic resources as the basis for pursuing interorganizational collaboration as a driving consideration for relevant strategic choices (Jones, 2004).

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These diverse perspectives towards interorganizational collaboration and inter-organization relationships point at the potential opportunities that exist for the development of human resources of an organization. There are inherent learning opportunities, intensive use of human intellect, knowledge transfer and constant updating, management development and career development. Through these, organizations are able to adapt aggressively to changing external conditions and particularly to innovations that obsolesce their earlier skills. Den Berg, Meijers and Spengers (2006) advocate for strategic knowledge development, investment in education, retraining and professional development as part of their HRD practices as a prerequisite for surviving in the knowledge economy. These combined with the needs for survival are expected to provide the motivating factors for an HRD based inter-organization network.

1.1.6 University-Industry Collaboration and Human Resource Development

The strategic approach to HRD embraces a stakeholder perspective to employee development in which several aspects are identified for both individual and organizational development. The stakeholder approach has received support from a broad spectrum of literature (Watson, 2007; Jones, 2004; Jackson & Schuler, 2000, Hicks & Gullet, 1975). The driving factor for this stakeholder approach appears to be the aspect of learning grounded in the learning paradigm of HRD. Van Der Sluis (2007) approach to HRD considers the development of human resources and the increase of human capital of organizations a perspective that depicts HRD as a development process for employees related to better performance and personal growth at the individual level. The scope of activities necessary to support this learning will extend beyond the boundaries of an organization and thus inviting a stakeholder based approach to HRD. Thus Hawley and Taylor (2006) and Weigl et.al (2008) have proposed the adoption of an HRD based approach to the establishment of interorganizational networks. Jackson and Schuler (2000) had similar propositions in their call for the formation of partnerships with educational institutions to develop employees or to help ensure the future supply of well prepared employees. In the case of national systems for human capital development, these inter-organizational networks are established through the collaboration between institutions of higher learning and the Industry through the phenomenon of University-Industry Collaboration.

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In view of the emerging challenges faced by institutions of higher learning, HRD is deemed relevant for these organizations in managing change in order to enhance their performance. Beardwell and Holden (1997) thus proposed a stakeholder based approach in applying HRD to build Nationwide VET programs by national human capital development institutions. Chang, Yang & Chen (2006) consider entrepreneurship as the main component around which University-Industry (U-I) collaboration revolves. Entrepreneurship is responsible as a key drive for socio-economic growth and development for providing millions of job opportunities, offer a variety of customer goods and services and generally increase prosperity and competitiveness (Zahran, 1999). Entrepreneurs accelerate the generation, dissemination and application of innovative ideas. Entrepreneurship however exists under conditions of uncertainty and risk where innovation oriented opportunities are being developed and exploited. Internal entrepreneurship is important for organizational renewal, the creation of new business and improved performance. Learning lies at the heart of the strategic renewal process that enables a firm to adapt and respond to challenges in their markets and so pointing at the critical role of HRD (Zahra, Nelsen & Bogner, 1999).

The entrepreneurial perspective considers the role of Science as an alternative engine for economic growth. Higher education institutions are considered as the knowledge foundation of science and technology. They are therefore no longer simply considered as the location of education and research. Under the development of a knowledge based economy the academia especially those research universities are being asked to be responsible actors for regional economic development and employment creation. Chang et.al (2006) therefore advocate for the adoption of a market model to analyze academic institutions which regards academic institutions as one of the major actors in the process of economic development. Under this analysis, the functions of the university have shifted from scholar training and theoretical endless knowledge frontier to the application relevant to wealth creation and Knowledge seeking activities. Universities are therefore transitioning to educating individuals to shape organizations. McNeill (2004) suggests that the university should seek to embrace faculty mentoring, establishment of U-I partnership goals, encouragement of the industry to stay current with cutting edge research by exploring, developing and backing business ideas and establish an intellectual mission of research aimed at creating knowledge and therefore embrace customer service.

The U-I Collaboration analyzed from the strategic perspective of interorganizational networks is likely to influence the relationship between the HRD Infrastructure adopted by an organization and its overall performance. The collaboration provides opportunities for the learning of organizational members as well as embracing a stakeholder orientation that promotes a market orientation to management (Kohli & Jaworski, 1990; Mavondo, Chimhanzi & Stewart, 2005; Hafer & Gresham, 2008). These are anchored on an organizational culture that orients employees towards customer focus, relationship management, long-term orientation and a higher degree of proactivity in response to environmental change. At the three levels of analysis, the effect may be experienced through the aspects of management of human intellect, development of human capital through education and training, development of national human resource development policies, and knowledge transfer to the industry (Quinn, Anderson & Finkelstein,1996; Xiao & Tsang, 2004; Scully-Russ, 2005) which are likely to influence performance through public rating, level of funding, quality of publications, knowledge creation and transfer to the industry while at the national level it will contribute to national and regional competitiveness (Porter, 1985). This University-Industry collaboration has been cited as a major contributor to the performance of systems at the University and National levels through competitiveness and transition of economies from labor intensive to knowledge based economies (Wu, 2005; Tamada et.al, 2004; Rapinoja & Soininen, 2005; Nelson, 1993).

1.1.7 Universities in Kenya

The University Education System in Kenya started way back in the colonial period with a significant influence at the initial stages from the colonial history. Initially, there was only one state university chartered in 1970, but over time the system has expanded with a rise in the number of both public and private universities. Currently, there are 7 Public Universities, 13 Public University Constituent Colleges, 13 Chartered Private Universities and 9 Private Universities operating with a Letter of Interim Authority (Commission for Higher Education, 2011). The historical experience of the development of the university system in Kenya bears resemblance to the situations faced in most developing countries with regard to the basic orientation reflecting the influence of the colonial forces (Mwiria & Njuguna, 2007; Oanda et.al, 2007; Wesonga et.al, 2007). Chituis (1999), Eshiwani (1999) and Sohn (2005) pointed that universities were established under such settings as part of education systems on the premise of

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supplying manpower to maintain existing industrial facilities developed during the colonial period and therefore play the significant role of contributing to the expansion of the nations' science and technical human resources, an aspect that concurs with Rao (1995)'s indication that universities in most parts of the world are established to ensure achievement of HRD goals. In line with this, the Institutions of Higher Learning are therefore expected to serve as innovation actors (Motohashi, 2004; Rapinoja & Soininen, 2005; Fontana, Guena & Matt, 2003; Lapina, 2005; Mulholland & Shakespeare, 2005) that should embed themselves in their respective regions' economic bases (Sohn, 2005) by developing Human Capital suitable to ensure national competitiveness (Xiao & Tsang, 2004).

It has however been indicated that this background gives a relatively weak HRD philosophy that renders the universities incapable of sustaining national or regional competitiveness in a rapidly changing environment (Eshiwani, 1999; Chituis, 1999). Most developing countries adopted HRD systems under the influence of colonial inclinations (Paprock, 2006). Thus, AIHEPS (2005) points out that Universities in developing countries need to perceive their expanded role in economic development as going beyond the formation of human manpower to aim at strengthening their national firms' competitiveness as a way to authenticate their contribution to their national economies. Al-Dosary, Rahman and Aina, (2006) point that higher education is expected to support a country's national development strategies. From the Viewpoint of enhancing vocational education and training (VET), Den Berg et.al (2006) observe that VET is considered a strategic policy in the eyes of many countries and is a central element in a strategy to enhance the competitiveness of the economy. Higher education plays this strategic role by building the base of engineering and scientific skills needed to make the country's products and services competitive; providing researchers to generate, adapt and apply new knowledge and technologies; and producing manpower for higher and medium skill industries and services. However, this remains a major challenge in Kenya given the different set of numerous laws regulating the Public universities and the private ones and the lack of decision making authority among the public funded institutions in the country.

There are significant changes in the developing countries that tend towards embracing the culture of learning societies (Pillay, Maasen & Cloete, 2005; Scully-Russ, 2005; Garavan et.al, 2004; Beardwell & Holden, 1997; Stead & Lee, 1996). Advocates of learning societies call for the establishment and expansion of public policies, educational programs and work place based learning initiatives, a development which may require a change in the underlying expectations on the roles of different players in the learning institutions and members of the industry as well (Scully-Russ 2005). Pillay et.al (2005) further indicate that the move towards a learning society brings with itself the emergence of a knowledge and information society that exerts pressure on higher education. This pressure arises from the need for flexible and versatile workers, constant learning and updating of skills on a lifelong basis and retraining. The Kenyan society has particularly been categorized as a fast changing one and emerging as a formidable knowledge based, a fact that has resulted in increased enrolment rate in universities (Mwiria & Njuguna, 2007). Looking at these developments in the last twenty years, Albatch and Davis (1999), Juma (undated) and Kiamba (2005) agree that HE has been going through crisis with increasing enrolment levels that have continued to exert pressure on several fronts. Included among the factors accounting for increased enrolment are adult students returning to colleges and universities to enhance their qualifications. Morgan (1988) explains that this phenomenon is brought about by the realization by many organizations that they have to develop the knowledge, creative potential and become increasingly skilled in placing quality people in key places and developing their full potential.

Thus HE Institutions have to meet the changing demands of the industry (Summerville, 2005). Segen, Raveh and Forjoun, (1999) pointed that these industry demands place greater emphasis on human factors as well as challenging the ways in which managers have been traditionally developed and educated. This is further complicated by the findings of Merriam and Caffarella's (1991) research that found that job related reasons were the most cited for engaging in education training. Summerville (2005) further advises that post-secondary education should be generally available to all those who desire it, as higher education symbolizes and embodies the aspirations of modern times by igniting imaginations and grounding individual and collective goals. Mwiria and Njuguna (2007) identify some concerns that are affecting this sector in Kenya to revolve around concerns for quality and relevance, need for expansion and integration, access and equity,

financial management, community service and engagement. Concerns have therefore been raised with regard to the relevance of the curriculum, access and delivery models being used.

Several scholars conclude that most Universities' products are at dissonance with the expectations of the general society (Ruben, 2006; Hatala & Gumm, 2006; Eshiwani, 1999). Segen et.al (1999) for example, report that studies on the state of management education in the U.S had indicated that the M.B.A programs on offer were not consistent with the new management paradigm and therefore required a major rethinking and redesign. Other research by Pfeffer and Fong (2002) supported this position. Juma (undated) reports of a 1999 survey that found that corporations in Kenya are generally dissatisfied with local providers of training. The survey indicated that even though the private sector has huge needs for training their staff, they cite poor quality of trainers as the cause of their dissatisfaction. The Sessional Paper Number One (2005) agrees that there is a mismatch between the skills acquired by university graduates and the demands of the industry in Kenya. Further, it notes that Research and Development in Kenya has been delinked from development. Ruben (2006) further concludes that the experienced dissonance emanates from the tension between the traditional values of the academy and the values of the market place that calls for a thoughtful review of the purposes and the aspirations of higher education.

Some areas have therefore been identified for reforms in the HE sector to ensure survival in the face of adversity and respond to pressure from stakeholders targeting Strategic Planning, Human Resource Management and Income Generating activities (Mwiria & Njuguna, 2007). Individual Universities have also embarked on a number of programs to enhance their relevance in a more market driven manner. Some have initiated performance based management systems, quality management systems for ISO 9000 Standard series certification, review of curriculum and creation of boundary spanning administrative positions for facilitating information flow to and from the universities. These responses have implications on the existing organizational cultures among the universities and thus, Turnbull and Edwards (2006) suggest a cultural change in the HE Institutions to enable them compete in an increasingly unpredictable sector and increase their effectiveness. Lapina and Slaidin (2005) propose a development towards cooperation between the universities and the industry anchored on their key role of developing human capital. Other scholars and policy makers have called for Universities in developing countries to adopt a

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strategic re-orientation embracing an HRD approach to Organizational Development to achieve a transformation that will promote university-based entrepreneurialism (Torraco, 2005; Summerville, 2005; Kiamba, 2005; Chang et.al. 2006; Kibas, 2009).

1.2 Statement of the Problem

HRD Infrastructures are expected to influence the performance of universities within the contexts in which they support national initiatives for development. The influence may arise from the nature of HRD that leads to the establishment of interorganizational networks in the form of University-Industry Collaboration. Both the design of the HRD Infrastructure and pursuit of University-Industry Collaborations may be constrained by the existing national cultural contexts in which the universities operate. It is in this reasoning that the situational positioning of HRD and its influence on the strategic behavior of organizations in the HE sector through University Industry Collaboration in Kenya requires empirical attention. Eshiwani (1999) noted that few universities in Africa have taken initiatives to intensify links with the private sector. Chelte (2001) also reports that research has shown that limited work has been done across institutions on collaboration involving stakeholders in higher education. Here in Kenya the need for this collaboration has often been cited in several Government Publications (Government of Kenya Development Plan 1994-1998; Report of the National Conference on Education, 2004; KESSP, 2005; Sessional Paper No.1 2005; Kenya Vision 2030, 2007). There are also growing concerns from the corporate sector for Universities in Kenya to lead the way in identifying and building synergies between HE Institutions and the Industry (Ciano, 2009).

The design of HRD Infrastructures in organizations remains largely unexplored. The set of studies focusing on HRD within organizations indicate that there are clear gaps with regard to the linkage between the HRD Infrastructures and organizational strategies. Even though the SHRD literature is clear that the linkage between HRD Infrastructures and the strategies is attained through Organizational Development (OD) activities for managing strategic change (Garavan,1991; Joy-Matthews et.al, 2004; Balderson, 2005; Garavan, 2007), the basic components of this infrastructure and their linkage with the OD concerns arising from the strategies is yet to be demonstrated. This position is supported by empirical studies focusing on processes for doing OD and change in organizations that do not show the situational positioning

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of SHRD and the corresponding components for managing strategic change (McLean, 2005; Toracco & Hoover, 2005; Turnbull & Edwards, 2005; Tey & Furu, 2008). The study by Menger (2001) focusing on the role of firm HRM Infrastructure in firm innovation and strategic competitiveness pointed at the need for further research to show the linkage between the firm's HRD Infrastructure and the OD needs implied by the strategies pursued by organizations.

The empirical studies focusing on HRD and interorganizational networks also point at possible gaps with regard to the relationship between the HRD Infrastructure and U-I Collaboration. The SHRD approach advocates a stakeholder orientation as the basis for U-I Collaboration programs, an aspect yet to be integrated in HRD Research. The study by Hawley and Taylor (2006) focusing on how business associations use interorganizational networks to achieve workforce development goals did not consider the relationship between interorganizational networks and the HRD Infrastructure. The study done by Worasinchai, Ribiere and Arntzen, (2008) did not explain the relationship between HRD and U-I Collaboration. The study by Martin (2000) which is considered the most comprehensive in the U-I series used qualitative statistical approaches and did not show the relationship between U-I and HRD infrastructure. Pelagidis (2008) study focusing on HRD within Greek Science and technology parks spinoffs also relied on qualitative approaches and did not show the relationship between the spinoff phenomenon and the state of HRD. The study done by Chang et.al (2006) on factors affecting academic entrepreneurship did not show the role of U-I Collaboration in influencing organizational performance. The findings of these studies point at the need to demonstrate clearly the process through which U-I-C influences organizational performance as well as the need for the application of a relatively higher level of statistical rigor to enhance the generalizability of findings on this area.

The relationship between the HRD Infrastructure and organizational performance is yet to be fully explained in empirical research. The study by Kontoghiorghes et.al (2005) examined the relationship between learning organization characteristics and adaptation to change, innovation and organizational performance. It grouped performance into two categories, bottom line and organizational readiness for change but did not identify the types of organizational learning dimensions affecting performance. The study by Song, Joo and Chermack (2009) seeking to validate the learning organization questionnaire in the Korean context did not relate the perceptions of the learning culture to some of the performance indicators proposed by

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Kontoghiorghes. The specific performance measures for the outcomes of the work of HE Institutions reflecting the defining nature of HRD have also been largely ignored by most studies due to their focus on performance indicators drawn from the industrial and commercial sectors that may not be entirely applicable in the case of universities (Pelagidis, 2008; Nakamura & Ueda, 2006; Koka & Prescott, 2008).

The influence of the context of HRD practice on the relationship between HRD Infrastructures and the organizational behaviors affecting performance has not been fully explained. Even though some evidence shows that this influence is experienced through the managerial cognitions of the context, extant research is yet to incorporate them in HRD. The study done by Delmas and Offel (2008) on organizational response to environmental demands did not show the impact of the managerial cognitions of the context on the strategic behavior of organizations. Meyer (2009)'s study that used an RBV approach to the management of knowledge in foreign entry strategies did not account for the moderating effects of the local contexts. Scant attention has also been paid to the situational factors of culture and its effect on organizational behavior as well as in HRD research (Erez & Early, 1993). Jorgensen and Keller (2008) confirm this position in their observation that there has been lack of theoretical rigor and research related to the impact of cultural issues in the field of HRD. Sydhagen and Cunningham (2007) point to the existence of a rich cultural content in the Sub-Saharan African region suitable to constitute an African management philosophy yet to be responded to through a country specific research reflecting the uniqueness of each country and thus indicating that HRD Initiatives in many developing countries have scarcely been documented. Some evidence from Paprock (2006) indicates that so far, there could be only one publication that has brought together the experiences of some developing countries and their attempts to National Human Resource Development (NHRD). Even though the HRD Initiatives in Kenya have been argued to be relatively advanced compared to initiatives elsewhere in Africa (Walumbwa, et.al 2005), her experiences miss in this publication (Lynham et.al. 2004).

In view of the foregoing analysis, this research sought to answer the question "What is the influence of the Institutional Context of Universities and University-Industry Collaboration on the relationship between HRD Infrastructure and the Performance of Universities in Kenya?"

1.3 Research Objectives

The main objective of this study was to determine the influence of the Institutional Context and University-Industry Collaboration on the relationship between University HRD Infrastructure and the Performance of Universities in Kenya. The specific objectives for the study were:

i   To determine the relationship among the various components that constitute the HRD Infrastructure for universities in Kenya.

ii.   To determine the relationship between the HRD Infrastructure and University-Industry Collaboration.

iii. To determine the influence of University-Industry Collaboration on the strength of the relationship between University HRD Infrastructure and University Performance.

iv.   To determine the influence of the Universities' responsiveness to institutional contexts on the strength of the relationship between University HRD Infrastructure and University Industry Collaboration.

v.   To determine the influence of the Universities' responsiveness to institutional contexts on the strength of the relationship between University Industry Collaboration and University Performance.

1.4 Research Hypotheses

The Research sought to answer several hypotheses in line with the identified objectives:-

Hypothesis 1_a:
There is a relationship between the Organizational Development Needs identified by Universities and their Organizational Learning Orientation, HRD Practices and Values.

Hypothesis 1_b:
There is a relationship between the prevailing Organizational Learning Orientation adopted by Universities and the HRD values they have embraced.

Hypothesis 1_c:
There is a relationship between the HRD Values and the HRD Practices adopted by the Universities.

Hypothesis 1_d:
There is a relationship between the Universities' Organizational Learning Orientation and their HRD Practices.

Hypothesis 2:
There is a positive relationship between University HRD infrastructure and University-Industry Collaboration.

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Hypothesis 3:
University-Industry Collaboration mediates the relationship between University HRD Infrastructure and University Performance.

Hypothesis 4:
The University's responsiveness to the Institutional Context moderates the relationship between the University HRD infrastructure and the University-Industry Collaboration.

Hypothesis 5:
The University's responsiveness to the Institutional context moderates the relationship between the University-Industry Collaboration and University performance.

1.5 Justification of the Study

Relevant studies that have shaped the focus of this study tend to share similar circumstances with those prevailing in Kenya. The Kenyan situation is currently depicted to be in a transitioning state in pursuit of the attainment of the goals stated in Vision 2030. Vision 2030 is Kenya's new development strategy blue print covering the period 2008 to 2030 which aims to transform Kenya into a newly industrializing, middle-income country providing a high quality life to all its citizens. As Kenya undertakes the journey towards Vision 2030, a series of activities have been put in motion that have triggered system change that is descriptive of social change. Under such a setting, HRD is expected to play a leading role in shaping major decisions that will result in national competitiveness accounted for by the competitiveness of her national organizations (Porter, 1985) and is anchored on people factors as strategic resources. The quality of education as supported by HE institutions is critical in this process for sustaining human resource based competitiveness of national firms at home and abroad. A study on the orientation towards HRD of the locally based organizations was considered appropriate to highlight the state of the art of HRD and the appropriate corrective mechanisms required for enhanced national competitiveness. This study connected with Porter's work to highlight the Kenyan national situation on her path to enhancing national competitiveness in order to attain the status of a middle income economy through industrialization.

The HRD situation in most developing countries remains undocumented. The development of HRD has been influenced by developments in the U.S that have witnessed its extension to other parts of the world (Brewster, 2004). This research paradigm however faces the problem of generalization. Stead and Lee (1996) warned that HRD should not be imposed on any nation

from outside but must evolve from the needs and the values of a nation. The sustainability of HRD is associated with the sense of ownership that results from its relevance to national needs and values. Paprock (2006) indicated that most developing countries may have adopted HRD systems under the influence of colonial inclinations. The HRD situation in developing countries thus needs an exploration to demonstrate how it is currently designed and how this design reflects the influence of the attendant competing institutional forces. This study has contributed towards bridging the gap by studying the Kenyan national institutional context that influences and shapes HRD decisions at the HE level.

The experiences of interorganizational networks on the direction of U-I collaboration largely remain undocumented in most developing countries, a situation which is also applicable in Kenya. The existing research done on the area of University-Industry collaboration has mostly been done in Asia, Europe and America. Only one case reflects one university in an African country (Martin, 2000). This study has contributed to this concern by extending the already existing HRD knowledge into the area of interorganizational networks. HRD scholars are interested in understanding the exact role played by HRD in these settings as well as the HRD related outcomes arising from the networks. The findings of this study therefore provide knowledge that is crucial in advancing the stream of scholarship supporting the adoption of both SHRM and SHRD in organizations in which a major concern is justification of investments in HRD and the real links to both tangible and intangible performance of organizations. Within the HE institutions the study contributes towards helping managers' understanding of the real indicators and levers to sustained performance that need to be included in the performance contracts at various levels of the analysis of these institutions.

Previous scholarship on related research confirms that a multidisciplinary approach is required for the area of interorganizational networks. This research was based on an integrated multidisciplinary conceptual framework upon which several hypotheses were stated and tested. Scholarship in management therefore stands to gain from the findings of the study. Multiple variables and their interrelationships emerge for study from the complex settings of organizations in a strategic setting explaining the strategic behavior of firms that calls for a multidisciplinary approach. The specific variables that emerge and their relationships raise interest to management scholars. A number of hypotheses drawn from an integrated theoretical framework were tested in

this study and thus the findings go along way to illustrate how this multidisciplinary literature contributes to understanding of the strategic behavior of organizations in the HE sector.

1.6 Organization of the Thesis

The thesis has been organized into six chapters. The first chapter has presented both the background of the study and the research problem together with the accompanying research questions. The chapter has put together several subtopics: background, the organization infrastructure for HRD, Organizational Performance, HRD and organizational performance, Institutional contexts and HRD, Collaboration, U-I C and HRD, Universities in Kenya, statement of the problem, Research objectives, research hypotheses and justification for the study.

The second chapter presents the review of the relevant literature for answering the research questions implied in chapter one. The chapter first reviews the theoretical literature followed by the empirical one that leads to the identification of research gaps that this research responds to. The chapter ends with a discussion on the conceptual framework that provides the conceptual model guiding the research hypotheses. The contents of the chapter are organized as: Introduction, human resource development Infrastructure, HRD Paradigms, the learning orientation to HRD, learning and organizational performance, components of HRD Infrastructure, emerging issues in the design of HRD Infrastructure, the supporting theories, the organizational HRD Infrastructure, organizational performance, university performance, interorganizational collaboration the institutional context, state of HRD research in Kenya and the conceptual framework.

The third chapter discusses the methodology of the study. The chapter begins with an introduction then presents the epistemological orientation the study subscribes to, the research design, population, sampling, data collection, measurement of variables, reliability and validity, data analysis, controlling for multicollinearity and autocorrelation and controlling for type I and type II errors. Chapter four presents the findings of the research through descriptive analysis of the field data based on measures of central tendency and dispersion. The chapter presents the contents as: introduction, biodata for respondent universities, organizational responses to institutional contexts, responses on the HRD Infrastructure, responses on University-Industry Collaboration, and responses on university performance.

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Chapter five of the report presents the research findings on the test of hypotheses. The chapter first provides a general introduction and presents the contents as: test of hypothesis 1,2,3,4 and 5 and the chapter summary. The last chapter, six presents the discussion, summary, conclusions and recommendations of the study. The chapter first presents an introduction then breaks the contents into the following sequence: summary of findings on objectives 1-5; conclusions and recommendations. The reference section is presented after chapter six followed by the appendix section.

1.7 Chapter Summary

This first chapter of the study has explored the background of the research and the problem under investigation. The background has considered the phenomenon under investigation involving the relationships among the variables in the study. The theoretical roots underlying the phenomenon have been extensively analyzed so as to highlight the state of the art in the relevant theory. The research problem being investigated has been approached from a comparison of the described phenomenon with emerging trends in the context of higher education in Kenya. The various research gaps were identified through a comparative analysis of the theoretical phenomenon described and the findings of relevant empirical work preceding the current study. Five gaps were identified and thus the chapter presented five objectives and hypotheses. To justify the undertaking of this research, several points have been cited using contributions drawn from calls in relevant theoretical literature as well as those arising from previous empirical work. The chapter ends by indicating how the contents of the thesis are organized and presented.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter explores the related theoretical and empirical literature suitable to answer the research questions for this study. The chapter begins by providing a theoretical background to the main theories the study relies on to build the framework for the research. The background discusses the concept of HRD Infrastructure and its accompanying consequences to organizational behavior exhibited by Universities in pursuing University-Industry Collaborations. The relevant paradigms are discussed to highlight the defining nature of HRD and how this informs the HRD Infrastructure for positioning an organization for success in the context of a turbulent environment. The supporting theories to establishing a framework for survival in the context are then presented. The chapter next discusses the specific literature for the study with a focus on the main variables whose relationships are being investigated. The main components proposed for a suitable University HRD Infrastructure are discussed and the respective variables that are likely to explain the emerging strategic behavior of the Universities in their contexts. An attempt is made to consider both theoretical perspectives and appropriate empirical review so as to generate the existing knowledge gaps the study proposes to fill.

2.2 Human Resource Development Infrastructure

This study uses the aspect of Human Resource Development Infrastructure to understand the strategic behavior of organizations. The term Human Resource Development Infrastructure has been used in the HRD literature in the context of strategic aspects of HRD that seek to link HRD programs in organizations with the strategic intents of the organizations. Scholars are pointing at the unique role played by HRD in managing strategic change and creating an agile organizational environment that facilitates flexibility for change and adaptability to changing environmental conditions. The organization HRD Infrastructure has thus been presented in terms of its philosophical orientation, focus and constituent elements that contribute to this strategic role (Bratton & Gold, 2001; Rothwell & Sullivan, 2005, Swanson & Holton III, 2009). What appears from the literature is a clear indication that it is based on the defining philosophy of HRD that seeks to create a learning environment as the basis for sustaining change and building sustainable competitive advantage.

Menger (2001) used the term HRM Infrastructure to refer to the organizational system for managing human resources with regard to operating policies and procedures, HRM Practices and compensation strategy and the attitudes of its leaders. The study found that a firm's infrastructure plays a critical role in determining whether or not innovation will occur in firms and thereby contribute to organizational competitiveness. The aspect of innovation is at the core of the organizational learning literature and it is indicated to be an outcome that accounts for the extent to which the HR component contributes to sustained competitive advantage in the market. The organization HRD Infrastructure has thus been presented in the context of organizational development and change to refer to the set of processes and organizational practices that derive from the identified organizational development needs on the development of workforce to create a flexible organization capable of coping with the forces of environmental change. It therefore underscores the role of learning that supports continuous innovation and thus puts the learning orientation at the centre of the HRD Philosophy upon which the infrastructure is established.

The HRD philosophy is part of the organization's HRM philosophy contributing to SHRM expectations of an organization (Schuler & Jackson, 1987; Torrington, et.al, 2005; Dessler, 2003). The HRD Philosophy contributes to the achievement of SHRM goals of organizations (Torrington, et.al, 2005; Schuler & Jackson, 1987; Dessler, 2003). Thus, an appropriate HRM philosophy is necessary during times of organizational change to sustain any change program. Some scholars bring out several aspects that must constitute that philosophy as: focus on human resources as the most important contributor to the organization's resource based competitive advantage, a distinct approach to people management based on strategic HRM, immitability of human resources, employee development, linkage of HRM with business strategy, the need for collaboration between line and staff managers, team building, a partnership perspective to the management of human resources, clear vision and core values, culture of mutuality, openness and trust, direct relationship between human resource practices and customer satisfaction, improvement of business performance through organization cultures that foster innovation and flexibility (Prasad,1996; Jackson & Schuler, 2000; Tomkinson, 2005; Wilson, 2005; Balderson, 2005; Torrington, et.al, 2005; Ardichvili & Dirani, 2005).

Wheelock and Callahan (2006) provide the picture of the relevant HRD philosophy espoused by many HRD Scholars and practitioners with the key underlying assumptions and beliefs held by the scholars and practitioners as well as the common ground among the various paradigms of HRD. They identify five aspects of this philosophy as: a strong belief in learning and development as avenues to individual growth; a belief that organizations can be improved through learning and development activities; a commitment to people and human potential; a deep desire to see people grow as individuals and; a passion for learning. Gillay et.al (2002) add their claim that indicates that HRD is about the development of people within organizations, and that this development generally takes place through learning activities. On this basis HRD is distinguished by focus on three areas of people, learning and organizations as is evident through the HRD literature. This aspect of learning forms a major component of the main paradigms that shape HRD decisions.

2.2.1 Human Resource Development Paradigms

In line with the espoused HRD Philosophy, three paradigms have been suggested in the study of HRD (Bates & Chen, 2004, 2005). They were first identified in the process of studying HRD related values among managers and aimed to describe the role and functions of HRD in work systems (Bates & Chen, 2004, 2005). The paradigms are the learning paradigm, the performance paradigm and the meaning of work paradigm. The learning paradigm emphasizes change through learning that should contribute to individual development and considers learning as a critical part of organizational culture. It uses the levels of analysis approach to consider HRD as a field of study and practice responsible for fostering long-term, work related learning capacity at the individual, group and organizational levels in organizations. The paradigm has two dimensions. The first argues that the real value of learning lies in its ability to contribute to individual development. Individual development in turn is framed to include not simply the accumulation of knowledge or skills but the development of cognitive schemes and ways of thinking that can enlighten and transform personal experience.

The second dimension recognizes the need to move to a broader, more transformative definition of workplace learning that allows learning to be a critical part of organizational culture. It is linked to interest in learning organization strategies and specifically those strategies for developing learning systems in organizations facilitating an organization's ability to

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continuously expand the capacity to create a future and change in response to new realities. HRD's role is thus to weave a continuous and enhanced capacity to learn, adapt, and change into individual experience and organizational culture. An appropriate understanding of this learning relied upon in HRD borrows from Ribeaux and Poppleton (1978). They describe learning as a process within the organism, which results in the capacity for changed performance which can be related to experience rather than maturation. From this definition, they identify several features of learning suitable to HRD practice in organizations that depict learning as a cognitive process involving assimilation of information; affective involving emotions and attitudes; involves physical process of muscles and nerves; leads to change whether positive or negative for the learner and; involves an experience after which an individual is qualitatively changed the way he/she conceived something.

The performance paradigm advances its arguments through the role HRD should play in work systems where it is being applied. It posits that the purpose of HRD is to advance the mission of the performance system that sponsors the HRD efforts by improving the capabilities of individuals working in the system and improving the system in which they perform their work. Advocates of this paradigm focus on HRD's efforts on achieving the core performance outcomes that organizations wish to achieve by facilitating individual and system performance improvement. Proponents of this paradigm point that HRD goals and activities have value only to the extent that they contribute directly to the mission and goals of the sponsoring organization. The meaning of work paradigm is developmental in nature. It takes a holistic approach to human development and the development of an organization and is reflected in two dimensions. The first dimension focuses on the development of the whole person so that they can realize their full potential meaningfully. The second dimension is of the view that work transcends individual and organizational boundaries. HRD then should have responsibility beyond issues of work objectives, task structure, productivity and performance to exercise concern for the health and humanness of organizations, society and the world as a whole.

An evaluation of these paradigms against the work of some scholars within the relevant HRD supporting literature displays some outstanding aspects (Argyris, 1982; Huczynski & Buchanan, 2001; Pedler et.al. 1996; Poell, 2005; Robbins & Judge, 2007; Senge, 1990; Wilson & Cattel, 2005). The main areas of focus of the paradigms display an interwoven nature of the paradigms

in that there are linkages among the paradigms themselves. The learning orientation brings out strong indications of the role of learning, learning and knowledge creation through creativity and innovation and that of supportive learning organizational systems. The performance paradigm relies on the learning paradigm to deliver organizational results and that learning can only be judged to have taken place if and when there is a change in behavior. It is this behavior that affects tangible organizational performance results. This study therefore leans towards the learning paradigm on the premise that learning is at the center of HRD initiatives at the various levels of analysis.

2.2.2 The Learning Orientation to Human Resource Development

The theoretical perspective on HRD and learning is based on the connection between learning, development and competitive advantage. The organizational studies involving both OB and O.T have focused on learning as an aspect of change. HRD Scholars borrow from this change perspective to advance a case for the adoption of a learning orientation in order to respond to environmental dynamics. Morgan (1988) underscored the role of this learning in developing employee full potential at the various levels of organizational analysis. Kanter (1992) linked this learning of organizational members to the survival and effectiveness of an organization in a competitive organizational environment characterized by rapidly changing technology, in which the organization needs flexibility to add to or delete products, open or close facilities. Learning plays a developmental role and serves as a key lever in HRM that enables assure that people are employable, i.e. sought out for new jobs here and elsewhere.

HRD scholars have cited this learning as a source of competitive advantage in the context of change. Learning in an environment of change positions people as a source of distinctive competence and makes them become the only source of differentiation and sustainable competitive advantage (Kontoghiorghes et.al, 2005; Storberg-Walker & Gubbins, 2007; Collin, 2007), a position that is also supported by proponents of the resource based view and has identified the contributing factors (Jackson & Schuler, 2000; Golding, 2007; Lopez et.al, 2005). Reese and Overton (1970)'s and Watson (2007)'s approach connected the learning with organizational development at individual and organizational levels. In this context, Watson (2007) observed that "there is no development without learning". Bolton (1995) indicates that development occurs when a gain in experience is effectively combined with the conceptual

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understanding that can illuminate it giving increased confidence both to act and to perceive how such action results to its context. Thus, development indicates movement to an improved situation that for the individual means advancing towards the physical and mental potential. Reese and Overton (1970) viewed development as the process of becoming increasingly complex, more elaborate and differentiated, by virtue of learning and maturation. In an organism, greater complexity, differentiation among the parts leads to changes in the structure of the whole and to the way in which the whole functions. Their view has a strong insight into the link between learning and organization development. They point that in the individual this greater complexity opens up the potential for new ways of acting and responding to the environment, leads to opportunity for even further learning and contributes to development.

Scholars cite several aspects of learning that are relevant to the development and growth of HRD. Van Der Sluis (2007) connects HRD with an organization's human capital development initiatives and depicts HRD as a development process of employees that relates to better performance and personal growth at the individual level which in turn relates to organizational development at the organizational level of analysis. It is this personal and organizational development that raises the need for learning in organizations in view of developments in globalization, changing economic conditions, technological change, emerging education and disciplines that impose pressure on organizations to adapt. This Learning in the HRD process is used to acquire new skills, knowledge, world views and behaviors as employees are exposed to learning situations through interactions on the level of the individual, projects or teams on the organizational level and even on the broader level of stakeholders like clients, suppliers, and trade unions.

The HRD approach to learning has thus considered learning at various levels of the organization, namely individual, collective and organizational. The organizational learning level considers organizations as continuous learning systems. Marsick (1994) viewed the concept as a process of coordinated systems of change, with mechanisms built in for individuals and groups to access, build and use organizational memory, structure, and culture to develop long-term organizational capacity. Hodge, Wiliams and Gales (1996) consider it as an attempt to create an organization that is able to monitor continually the environment and adapt to changing conditions. Garavan and McCarthy (2008)'s approach has conceptualized learning as an iterative process that

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involves action, reflection, change and the creation of new knowledge. They view organizational learning as the process of enhancing actions of organizations through better knowledge and understanding. Slotte, Tynjala and Hytonen (2004)'s view indicates that learning at the organizational level embraces the activities of an organization that is continuously expanding its capacity to create its future. This capacity is grounded on the ability of employees and organizations (as a collective of individuals) to change and become more effective and on the fact that change requires not only open communication and the empowerment of members of the work community but also a culture of collaboration

At the collective learning level, scholars are of the view that the capacity for organizations to learn is grounded in the collective learning of individuals. Garavan and McCarthy (2008) note that Collective learning processes have emerged at a theoretical level out of the recognition that the sum of individual learning does not equate with the collective level of analysis. Collectives are viewed as open, learning systems that continually interact with their environments. These systems exist to do work but as they work they learn. Organizational survival arising from adaptive, generative and transformational learning requires collective learning. Storberg-Walker and Gubbins (2007) build their argument for collective learning based on organizational survival which is dependent on collective learning which occurs first at the individual level and extends to the group level. They observe that knowledge of the group is greater than the sum of the individual members' knowledge. Collective learning processes are more adaptive, generative and transformative depending on the characteristics of the external environment and the internal readiness for change. Practitioners are expected to use more novel interventions in order to enable organizations cope in many learning situations.

These aspects give rise to the notion of the learning organization. Garavan and McCarthy's (2008) approach traces the origin of the term learning organization to the strategic aspects of learning. They distinguish two interpretations to the concept of strategic organizational learning. The first is the Strategic aspect that deals with organizational learning as a retrospective sense making and social learning process. The second is the proactive, intentional, targeted process emphasizing retrieval of real time, specific knowledge from ongoing strategic initiatives. The strategic organizational learning may be considered part of organizational learning but with some distinctive nature that fosters continuous radical innovation, intra-organizational, ecological

processes, integrating various levels of learning in organizations and including processes of both strategic knowledge creation and strategic knowledge distillation. Organizations that are more facilitating of learning are better able to respond to the challenges of the external environment. Their characteristics are open communication, communication and dialogue, team working, empowerment, participation in decision making, visionary and idealized notions of organizations. Thus Learning organizations exist because of the existence of shared learning and collective mental models. Hearrty and Morley (2008) consider the learning organization as one based on the system of shared values and beliefs that shape how organizational members think, feel and behave.

A central theme of the learning organization literature is that learning is intentional and that the organization, through its structures, culture and systems is designed to learn. This expression compares favorably with those of early writers on the concept of the learning organization. Senge (1990) described it as an organization that is continuously expanding to create its future. Wick and Lean (1995) defined it as one that continually improves by rapidly creating and refining the capabilities required for future success. Pedler, Burgoyne and Boydell (1989) viewed it as an organization that facilitates the learning of all its members and continually transforms itself. Hence Learning organizations have to be able to adapt to their context and develop their people to match the context. Garvin (1993) considered it as an organization that is skilled at meeting, acquiring, and transferring knowledge and at modifying its behavior to reflect new knowledge and insights. Accordingly they do five things as: systematic problem solving; experimentation; learning from past experience; learning from others through benchmarking; transferring knowledge quickly and efficiently throughout the organization by seconding people with new expertise or by educating and training programs, as long as the latter are linked explicitly with implementation. HRD is thus a key component of the learning organization concept that contributes to its performance.

2.2.3 Learning and Organizational Performance

Learning has been recognized as a key contributor to organizational performance. The literature has focused on the area of knowledge as the point of connection which points at two aspects of this performance, namely objective performance and organizational readiness for change (Kontoghiorghes et.al, 2005). Knowledge is at the center of these two dimensions of performance. In the objective aspect, the focus is on tangible performance reflected through new products, competitiveness and corporate reputation. Knowledge becomes the source from which these indicators of objective performance result. The organizational readiness for change arises from the kind of environments and climates required in organizations to support continual knowledge generation, dissemination and its conversion into useful products and or services.

Slotte et. al's (2004) approach to stages of organizational learning directly points at the link between learning and knowledge. The last stage of improvement is closely connected with the ability to manage knowledge. Heraty and Morley (2008)'s view of knowledge indicates that organization knowledge is understood as the conflux of three essential elements, namely skills, cognitions and systems. Skills represent the technical, professional, and social expertise of organizational members which constitutes the know-how or explicit knowledge of the organization. The cognitions comprise of information, ideas, attitudes, norms, and values shared by organization members including the know-why or tacit knowledge of the organization. The system aspect refers to the structures, procedures and policies related to performing tasks, coordinating resources and managing external resources. Knowledge is thus regarded as a cultural construction within communities of practice and hence essentially pragmatic, partial, tentative and always open to revision. In this context then, it highlights the significance of organizational culture, meaning making, narrative, context and system thinking.

Knowledge is a key factor in competition in organizations today and is a major currency for competitive success (Egan,Yang & Bartlett, 2004). HRD therefore needs to understand the factors that contribute to organizational learning and the transfer of knowledge to the workplace environment. Garavan and McCarthy (2008) note that knowledge is expressed in information and know-how. They describe collective knowledge to be concerned with knowledge that is constituted by the collective ways of thinking and or acting and not with knowledge that is possessed by an individual. The collective learning process regulates how individuals cooperate

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in a collective. Both collective memory and collective mind emphasize interdependence, shared memory and the reconstruction among a group of individuals. Collective memory is defined as being concerned with the distribution of stored knowledge across group members and the interactions among group members in the acquisition, storage and retrieval of memory. Collective mind focuses on the collective interdependence between individuals. Organizations are therefore fast becoming knowledge communities where knowledge is created, shared and stored, thus compelling organizations to build continuous learning into their operating systems.

The contribution of knowledge towards an organization's competitiveness arises from the organization's ability to learn faster than rivals, create and disseminate knowledge throughout the organization (Heraty & Morley, 2008). This ability requires an organization led learning which seeks to establish some specification on how to understand, facilitate and perhaps manage learning in the organization's operating environment. Organization led learning gives expression of the range of the collective, networked and collaborative learning that form the conceptual building blocks. An architecture metaphor has been used as a mechanism for understanding the theoretical underpinnings and design constructs of effective collective learning workplaces. When applied to collective organization led learning, this architecture represents the consciously constructed systems and practices that are put in place to facilitate learning at work. Organizational learning leads to innovation which is considered a key drive in productivity improvement as well as being crucial in developing new products and services (Van Der Sluis, 2007).

Innovation is a result of a creative, learning and development processes, which means an HRD process as it results from a creative process. Creativity, learning and performance are all influenced positively by diversity of teams, the vitality of team members, and professionalism of a project team. The prominent process behind innovation is learning. HRD is therefore called upon to focus on learning processes in relation to innovation. Organizational innovativeness is based on the creativity and drive for renewal of employees. Line managers and HRD managers could stimulate and develop these aspects of the workforce in line with the organization's goals which presents several challenges to organizations. Poell (2005) indicated that innovation related learning requires the development of systems to capture and share individual learning before organizations can learn which is a key feature of a system of knowledge creation companies.

This agrees with the view of Jackson and Schuler (2000) in their list of steps to developing organizational readiness for change that underscores the role of building the architecture to support a change initiative which is accomplished through developing a means for recording lessons learned from change efforts and ensuring that these lessons are used to guide future change efforts.

Learning related to innovation has implications for a number of HRD related activities. In this kind of learning, people develop their own expertise by broadening and deepening their current skills and knowledge, new areas of application, or new disciplines. Learning that leads to innovation also has several characteristics such as: being integrative, experiential, self-awareness, reflective, developmental, interactive, collaborative, transferable to new situations, expansiveness and purposeful. It therefore encompasses such skills as communication, analytical abilities, problem solving, decision-making, social interaction, global perspectives, citizenship and aesthetic responsiveness and requires response to environmental changes and calls organizations to become more flexible, innovative, quality conscious, customer oriented and constantly improve their performance to remain competitive (Collin, 2007). The environmental response mechanisms have brought about new tasks, new ways of working, new roles, relationships and skills so that lifelong learning and human resources development are now central to the effectiveness of the organization. It is the contention of this study that this learning forms an integral part of the components for establishing the organization's HRD Infrastructure.

2.2.4 Components of the Organization Human Resource Development Infrastructure

Developing a suitable organization infrastructure for HRD requires an understanding of the complex nature of organizations. The Organizational studies approach to organizational behavior encompasses the study of organizations from multiple viewpoints, methods, and levels of analysis. One traditional approach uses the micro, macro and meso level perspectives. The micro organizational behavior refers to individual and group dynamics in an organizational setting, the macro organizational theory studies whole organizations, how they adapt, and the strategies and structures that guide them. The meso is primarily interested in power, culture, and the networks of individuals and units in organizations and field level analysis which study how whole populations of organizations interact (Hatch, 2006). Jackson and Morgan (1982)'s approach uses the micro and macro perspectives to indicate that the micro focuses on the individual and

associated small group phenomena and considers human beings as the point of study and concerns itself with each individual's psychological make up and with other individual group variables that determine how a person is likely to react in a given situation. The major point of focus in this approach is the contribution towards value creation activities in organizations as accounted for by the human resource component.

The realization of the value creation concerns by organizations depends on how the organization uses its human resources and technology to transform inputs into outputs (Jones, 2004). The way the organization uses the resources determines how much value is created as human resources are the key distinguishing factor on the amount of value created as reflected by the quality of human skills that include ability to learn from and respond to the environment. An organization that continues to satisfy people's needs will be able to create more and more value as it adds to its stock of its skills and capabilities. This points to the need for the creation of an organizational setting that supports innovation on a continuous basis, an aspect considered a critical factor in the survival of an organization. Menger (2001) argued that even though innovation is perceived to be externally imposed by the environment rather than being internally generated, the firm Infrastructure is a potential barrier to innovation based on the traditional compensation systems, interdepartmental cooperation, market definitions and product standards, firm processes that may penalize unsuccessful innovation efforts, management practices and organization's culture. The firm infrastructure was operationalized in their study to consider operating policies and procedures, HRM practices, compensation strategy as supported by the firm's leadership on the firm's ability to encourage and support an atmosphere of entrepreneurship and innovation.

HRD as a facilitating factor for this innovation is set against a background of turbulence and change in organizational life which arise from changes in business environments, work processes and organizational cultures, and drive a need for successful change management strategies (Joy-Matthews et.al, 2004). HRM has been associated with change management initiatives in organizations. Some scholars are of the view that change programs in organizations largely depend on an organization's human resources (Prasad, 1996; Jackson & Schuler, 2000). Prasad (1996) has indeed postulated Organizational Development and change as part of an organization's HRM system and so HRM is currently practiced as a strategic partner in many organizations for facilitating change (Dessler, 2003; Jackson & Schuler, 2000; Joy-Matthews

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et.al, 2004). The change requires organizational preparedness and readiness among organizational members and HRD practices serve a facilitating role through the aspect of learning. Some scholars have reported some experiences by organizations implementing change that develop a strong case for healthy HRD practice in organizations when implementing change. For example: Gilley et.al (2008) report that the rate of failure in delivering sustainable change reaches 80%-90% at times, a situation which is so because of an organization's inability to remain flexible and adaptive to a business environment due to failure to incorporate some highly valued HRD concerns such as leadership. Thus the HRD perspective employed in any given setting needs to position the organizations HRM to function as a change agent, an aspect that should inform the HRD philosophy.

Based on these arguments, a number of areas have been suggested by various scholars on what should constitute the organization HRD Infrastructure (Bratton & Gold, 2001; Rothwell & Sullivan, 2005; Swanson & Holton III, 2009). They derive from the nature taken by HRD after the transition from focus on training to the strategic orientation embraced in HRD aimed at supporting organizational systems for the management of strategic change and the focus on HRD as a strategic partner in the organizations strategic behavior. The main areas suggested have focused on: training and development as pivotal points; investment in skills for change; taking a long-term view; learning as part of the strategic orientation and a strategy to cope with change; HRM practices such as recruitment, rewarding; full individual development; consideration of the organization as a total learning system; finding core competences that reveal collective knowledge management and development of intellectual capital; potential of learning between organizations; information sharing; creating a leaning company; keeping with change; innovation and creativity; learning and innovation as the key to the organizations survival and success; building sustainable competitive advantage; developing employee expertise at all levels of the organization; linkage of strategy to HRD and a consideration on how HRD can help the organization fulfill its mission; adoption of organization employee-oriented values.

These components present a picture of a concept that derives from the core of the nature of HRD in which it functions as an intervention that shapes an organization's strategic behavior. HRD as an intervention provides the climate within which individual and organizational learning is supported for the maintenance of an organization's human resources. Thus, HRD encompasses activities and processes which are intended to have impact on individual and organizational learning which is achieved through appropriate interventions. Some relevant interventions used in HRD have included education, training and development, performance management, learning, and career development. These interventions have some common characteristics in that they are strategic, organizational, long-term, cultural, organic and involve change and are thus intended to change organizational behavior in which case, HRD is implied to be a deliberate purpose of changing behavior of organizations or improving the capability of organizations to change. Thus the defining nature of HRD is the extent to which interventions in the learning process are intended to bring about organizational change. Out of this observation, some scholars indicate that a multidisciplinary based approach will be required to demonstrate the relationships among the various components and how they explain the organizations strategic behavior (Stewart & McGoldrick, 1996; Paprock, 2006; Lincoln, 2004; Nafukho et.al, 2004). A number of issues however have to be considered.

2.2.5 Emerging Issues in the Design of HRD Infrastructure

A keen look at the relevant literature on the HRD Infrastructure highlights a number of issues that HRD scholarship needs to take up. First, it is emerging that the areas that comprise the Organization HRD Infrastructure need integration to indicate the nature of their relationship in both real life and empirical situations. Of great concern is the linkage between HRD activities in organizations and organizational strategies. An emerging stream of scholarship is of the view that the integration is achieved through organizational development and change activities for managing strategic change. A multidisciplinary approach will be required to model the espoused relationships among variables that are considered elements of the HRD Infrastructure (Galagan, 1986; Nafukho et.al, 2004; Lincoln, 2004; Tomkinson, 2005; Paprock, 2006).

Second, there is the emerging concern on how to manage and sustain innovation since innovation requires leadership. Learning that leads to innovation involves change which takes the nature of continuous and transformational change (Gilley et.al, 2008). Change and innovation have been

associated with some dimensions of organizational success such as market share leadership. This kind of change is anchored by the leadership system in the organization. Leadership is required in this context because of the type of learning required to support innovation. HRD scholars suggest double loop learning that is considered transformational, as opposed to single loop learning. Double loop learning involves change efforts that reject current paradigms or question fundamental assumptions while single loop learning is regarded as change that is incremental working within a current organizational paradigm. Innovation necessitates disruptive change, i.e changing to the extent of clearly differentiating itself in the market. Successful execution of transformational change has been identified as a factor leading to innovation and subsequently to increased competitiveness. Leadership has been cited as a major determinant of the ability of the organization to change by reducing resistance to change and influencing employee behavior that promotes the emergence of novel ideas through creativity. Some scholars have demonstrated very clear links between leadership skills and abilities and effectiveness at implementing change and driving innovation.

Thirdly, the innovation suggested requires a systems approach to the management of an organization. Innovation has a direct linkage with creativity (Watson, 2007). Creativity is increasingly understood as a social phenomenon especially in organizational contexts. Creativity as a social as well as an individual and intrapsychic phenomenon requires a systems approach to allow for feedback cycles among persons and situations. It is also regarded as an issue of attribution (Amabile, 1995). This thus identifies the role of groups within organizations and the organizations themselves as sites of engagement in the process of creativity. Watson (2007) considers the learning organization as a systematic approach of seeing everything as interconnected rather than simple cause and effect. A strand of this theory that is relevant to stakeholder theory was pioneered by Ackoff and Churchman and their ideas were applied to organizational systems in the early 1970's (Ackoff 1970, 1974) and still continue to be applied in organizations (Huse, 1980; Hodge et.al, 1996; Jaffee, 2001; Robbins, 1990). Systems theory emphasizes the external links that are part of every organization. Thus, organizations described as 'open systems' are part of a much larger network rather being independent self-standing entities.

Fourth, the organization needs a strategic orientation that drives the core values it embraces for its workforce. The need to adopt an SHRD approach has been occasioned by changes that have been shifts in focus from Training to learning and from HRD to SHRD (Watson 2007). Balderson (2005) is of the view that a link should exist between the Training and Development that an organization undertakes and its business strategy. An alignment between strategy and HRD is therefore needed. SHRM and SHRD should be activities of management rather than of functional specialists and should be aligned to the business strategies of organizations. Joy-Matthews et.al (2004) are of the view that in the context of environmental turbulence, there is need for explicit links between business strategy and any management priority including the development of people. Human resources are finite and need to be managed and valued in the context of organizational strategies and policies. Such integration is necessary to develop strategic capability, i.e achieve alignments of tangible and intangible assets and appropriate resource usage, determine competitive position and maintain stakeholder commitment. Pfeffer (1994) pointed that there is a correlation between how workers are managed on the one hand and sustained organizational performance on the other. According to Garavan (2007), HRD is best achieved through a strategic approach, a position that is consistent with the resource based and human capital theories. Golding (2007) supports this SHRD approach on the basis of the need for increased flexibility or "agility" in organizational structures and relationships in attempts to identify organizational forms that foster creativity but avoid chaos.

Fifth, the SHRD approach invites a stakeholder orientation to workforce development. The need for the adoption of the stakeholder approach in HRD has been connected with the same changes that have occasioned the adoption of SHRD, notably shifts from training to learning and from HRD to SHRD (Watson, 2007). The shifts have brought about an increased role of stakeholders in the process. The stakeholders are characterized by their varying degrees of power and influence, roles, different values, use of different tactics to achieve their aims, engagement in different learning experiences, different aims, objectives and structures in different contexts and cultures with different expectations. Dowling (2001) identified four types of stakeholders as: normative groups, functional groups, diffuse groups, customers. A cross section of both the HRM and HRD Literatures point at a growing concern for the stakeholder approach in theory and practice (Hall & Goodale, 1986; Armstrong, 2006; Jackson & Schuler, 2000; Clark & Beardwell, 2007; Watson, 2007; Garavan, 2007).

Lastly, the stakeholder orientation in HRD leads organizations to consider establishment of interorganizational networks for enhancing workforce development. The learning orientation and its implications for HRD paves the way for organizations to pursue HRD based interfirm networks. Inter-organizational networks have previously been considered essential elements of Strategic HRM models especially among multinational organizations (Dowling et.al. 2008). The case for these inter firm networks can be established along considerations that arise from several observations connected with the changed perspective to competition embracing collaboration, the need to build social networks and capital, the transition to a learning society, the need to establish competence based HRD Practices and consideration of the environment in building competencies (Mintzberg et.al. 2003; Park & Kwon, 2004; Ardichvili & Dirani, 2005; Ozcelik & Ferman, 2006; Porter, 1990; Pearce & Robinson, 1997; Kotler, 1997; Cullen & Parboteeah, 2008).

These issues raised advance a strong case for a strategic approach to HRD in organizations. Bratton and Gold (2001) however identified an important consideration that managers need to be oriented to. They indicated that the extent to which HRD becomes a feature of strategy depends on the ability of senior managers to sense important environmental trends and signals in HRD terms. In essence since HRD is built on learning, external forces of the environment are critical to identifying the factors that trigger and drive the process for employee development. The role of the environment in this process needs to be established. Scholarship is therefore invited to suggest the relevant theoretical considerations that should form the basis for a framework for responding to the strategic orientation that positions HRD in organizations as a key determinant of its strategic behavior.

2.3 The Supporting Theories

Emerging from the above discourse is the fact that in turbulent environments where HRD is expected to support organizational change, there is the need to link HRD with the strategic intents of organizations because of its orientation to learning. The organization theory literature identifies key functions in organizations played by different subsystems of an organization through which HRD can be integrated. Daft (2007) thus uses the concept of organizational configuration to indicate that various parts of an organization are designed to perform the key subsystem functions of technical core, administrative support, technical support, and management.

The Technical core includes people who do the basic work of the organizations and performs the production subsystem function and actually produces the product and service outputs of the organization. It is this function that helps the organization to adapt to the environment as technical support employees such as engineers and researchers scan the environment for problems, opportunities and technological developments and so is responsible for creating innovations in technical core, helping the organization to change and adapt. The administrative support function is responsible for the smooth operation and upkeep of the organization, including its physical and human elements and includes human resource activities such as recruiting and hiring, establishing compensation and benefits and employee training and development as well as maintenance activities such as leasing of buildings and service and repair of machines. The Management function is a distinct subsystem, responsible for directing and coordinating other parts of the organization through the efforts of top management that provides direction, strategy, goals and policies for the entire organization of major divisions (Daft, 2007).

An integrated framework is required to demonstrate how an organization may configure its basic HRD Infrastructure in view of the unique setting of its environment. Such a framework will enable scholars and managers to identify the relevant variables and relationships among the components of an organizational HRD Infrastructure and how they explain the organization's strategic behavior. HRD scholarship has advocated a multidisciplinary based approach for theory and empirical work. The current study proposes the adoption of the contributions of six theories namely the Resource Based View (RBV), The Resource Dependence Theory (RDT), The Institutional Theory, The Culture Representation Theory, The Strategic Human Resource

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Development (SHRD) Framework and the Organic Theory to HRD (Golding, 2007; Jackson & Schuler, 2000; Newbert, 2008; Jaffee, 2001; Crook et.al. 2008; Lee & Stead, 1996; Garavan, 2007; Erez & Early, 1993; Freeman & McVea, 2001; Daft, 2007; Pfeffer & Salancik 1978; Powell & DiMaggio,1991).

2.3.1 The Resource Based View of the Firm

The Resource-Based View (RBV) is an economic tool used to determine the strategic resources available to a firm. It attempts to explain how organizations build sustainable levels of competitive advantage and is based on the fundamental principle that the basis for a competitive advantage of a firm lies primarily in the application of the bundle of valuable resources at the firm's disposal (Wernerfelt, 1984; Rumelt, 1984). It explains a firm's ability to reach sustainable competitive advantage when different resources are employed and these resources can not be imitated by competitors which ultimately creates a competitive barrier (Mahoney & Pandian, 1992; Smith & Rupp, 2002). RBV argues that a firm's sustainable competitive advantage is reached by virtue of unique characteristics which these resources have of being rare, valuable, inimitable, non-tradable, non-substitutable as well as firm specific (Barney, 2001; Makadok, 2001). Varying performance between firms is a result of heterogeneity of assets (Helfat & Peteref, 2003) and the factors that cause these differences to prevail (Grant 1991; Mahoney & Pandian 1992; Amit & Schoemaker, 1993).

This theory is of the view that short run competitive advantage needs to be transformed into a sustained competitive advantage. To do this the strategic resources need to be heterogeneous in nature and not perfectly mobile (Barney, 1991; Peteraf, 1993). Effectively, this translates into valuable resources that are neither perfectly imitable nor substitutable without great effort (Hoopes, 2003; Barney, 1991). If these conditions hold, the firm's bundle of resources can assist the firm in sustaining above average returns. Thus, using this basic understanding of the RBV, the theory seeks to help strategic decision makers by addressing four key concerns: What constitutes a resource? What constitutes competitive advantage? What are the barriers to imitation of resources? How do we develop resources for the future?

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2.3.2 The Resource Dependence Theory

The Resource Dependence Theory (RDT) is based on the notion that environments are the source of scarce resources and organizations are dependent on these finite resources for survival (Pfeffer & Salancik 1978). A lack of control over these resources thus acts to create uncertainty for firms operating in that environment. Organizations must develop ways to exploit these resources, which are also being sought by other firms, in order to ensure their own survival. Thus the procurement of external resources is an important tenet of both the strategic and tactical management of any company.

RDT rests on some five assumptions, that organizations are assumed to be comprised of internal and external coalitions which emerge from social exchanges that are formed to influence and control behavior; the environment is assumed to contain scarce and valued resources essential to organizational survival and as such, the environment poses the problem of organizations facing uncertainty in resource acquisition; organizations are assumed to work toward two related objectives: acquiring control over resources that minimize their dependence on other organizations and control over resources that maximize the dependence of other organizations on themselves (Jones, 2004). Attaining either objective is thought to affect the exchange between organizations, thereby affecting an organization's power; although RDT was originally formulated to discuss relationships between organizations, it is applicable to relationships among units within organizations; RDT is consistent with ecological and institutional theories of organizations where organizations are seen as persistent structures of order under constant reinterpretation and negotiation, interacting with an indeterminate environment of turbulence and a multitude of competing interests (Daft, 2007)

2.3.3 The Institutional Theory

The Institutional Perspective describes how organizations survive and succeed through congruence between an organization and the expectations from its environment. The institutional environment is composed of norms and values from stakeholders (customers, investors, associations, government, collaborating organizations). The institutional view argues that organizations need legitimacy from their stakeholders. Legitimacy is defined as the general perspective that an organization's actions are desirable, proper and appropriate within the environment's system of norms, values and beliefs. Companies perform well when they are perceived by the larger environment to have a legitimate right to exist. Organizations therefore

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have to invest in areas that increase both the perceived and actual legitimacy they command in their respective micro and macro environments.

Thus the institutional view believes that the organizations adopt structures and processes to please outsiders and these activities come to take on rule-like status in organizations. The institutional environment reflects what the greater society views as correct ways of organizing and behaving. Organizations are highly interconnected. Institutional theory focuses on the deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemas, rules, norms, and routines, become established as authoritative guidelines for social behavior. Different components of institutional theory explain how these elements are created, diffused, adopted, and adapted over space and time; and how they fall into decline and disuse (Jaffee, 2001; Jones, 2004; Daft, 2007; Powell & DiMaggio, 1991).

2.3.4 The Culture Representation Theory
The Culture Representation Theory developed out of the need for a theory of work behavior in organizations that utilizes a cultural perspective on work behavior premised on a person's psychological experience of self identified as a fundamental building block (Erez & Early, 1993). It focuses on the individual as the unit of analysis with the major focus being on the self. The main argument is that the self is a product of the social system, shaped by the shared understanding of members of a particular culture of what it is to be human and so the role of interpersonal relations in shaping self identity and transmitted across generations through socialization. This proposition further argues that the focus on the self bridges the gap between the micro level behavior and macro level contextual factors through focus on the organizational level of analysis as a midpoint on the macro-micro continuum. It is in this reasoning that Metacognitive models of self regulation provide the conceptual framework for understanding the relationship between culture and work motivation. Adaptation to changes in these complex environments requires an analysis of the cognitive mechanisms of information processing to explain how employees interpret and evaluate the situation and how their work motivation and work behavior is affected by these processes.

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There is therefore the need for cognitive models of information processing to explain how information from the external environment is selectively recognized, evaluated and interpreted in terms of its meaning to the individual and how it affects behavior. The source of the influence on the self regulatory processes is the "self". The self processes information interprets it in line with internalized criteria and activates the response patterns accordingly. The proponents support the above call through the concept of motivation and its role in the work context through the area of needs. They indicate that there is a relationship among needs, values and culture. The link between needs and values occurs at the level of cognitive representation in which Values are considered as the cognitive representations and transformations of needs. The functions of values are to give expression to human needs and to guide action. The cultural self representation theory consists of four variables: cultural values and norms as the criteria used to evaluate managerial techniques; managerial and motivational techniques; the self as an information processor and interpreter of organizational stimuli in line with cultural values; and consequent work behavior (Erez & Early, 1993).

2.3.5 The Organic Theory

The Organic Theory to HRD was developed through an analysis of intercultural perspectives on HRD with an historical framework of analysis that took the position that events of different eras generate new ideas of the time whose impact is the development of human resources at a national, organizational and individual level and the emergence of new needs (Lee & Stead, 1996). The cyclical nature of one era, needs and means of satisfying the needs of each era leads to the need to evolve, adapt and transform to develop and survive. Recognition of this rather than reacting to change gave birth to the idea of organizational transformation and growing interest in the learning company concept. Transformation is defined as the shift from one stage of existence to another which is entirely different, is particularly in dealing with the era. This should embrace an integrated perspective to make sense of the world around an organization. When the concept of integration is combined with that of transformation into the vision of the learning company, this produces a strategy for sustainable development. Thus they provide two perspectives of learning, integration and continuous learning.

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Continuous learning takes two faces: survival / adaptive learning and generative learning that enhance the capacity to create (Gilley & Gilley, 2002). These are applied to motivation and learning at various levels of analysis. The proponents concluded that HRD is an overarching concept which recognizes national trends, global influences, social values and shifting needs. They presented HRD as a holistic concept that focuses by necessity on the interplay of global, national, organizational and individual needs. In this reasoning, HRD can only be developed if it shifts to accommodate new world views and thus is by nature cyclical and dynamic. To remain relevant it must evolve. Value systems which recognize motivational needs lay the foundation for the growth or hindrance of HRD, and thus HRD is organic and can only grow and evolve if certain principles are in place and that it may not be imposed but must evolve from the needs and values of a nation.

2.3.6 The Strategic Human Resource Development Framework

The Strategic Human Resource Development (SHRD) Framework is based on the work of Garavan (2007) who has built the SHRD Framework on the premise that HRD is best achieved through a strategic approach, a position that is consistent with the resource based and human capital theories. Thus SHRD contributes to the creation of firm specific knowledge and skill when it is aligned with the strategic goals of the organization. SHRD as a multilevel concept contributes to the organization in enhancing its performance in the long term. Garavan's approach makes reference to the resource based theory of the firm and the human capital theory. The resource based theory postulates that internal knowledge and skill represent important sources of competitive advantage. The human capital theory argues that firms should protect core competences through investment in training and development.

Thus the value of employees to the firm is related to their uniqueness and value of the capabilities and skills that are unique, difficult to replicate and imitate by competitors. Jackson and Schuler's (2000) HRM based approach to gaining competitive advantage suggests that a firm has competitive advantage when all or part of the market prefers the firm's products and services. Because competition is the name of the game, companies seek ways to compete that can last a long time and cannot easily be imitated by competitors. This sends an implication to both practitioners and scholars that an alignment between strategy and HRD is needed. SHRM and SHRD should be activities of management rather than of functional specialists and should be

aligned to the business strategies of organizations. Such integration is necessary to develop strategic capability, i.e. achieve alignments of tangible and intangible assets and appropriate resource usage, determine competitive position and maintain stakeholder commitment (Joy-Matthews et.al, 2004).

The six theories relied on in the study provide several lessons for scholarship in the area of interorganizational networks for human capital development organizations. They also underscore the manner in which these networks are associated with the strategic resources in the category of human resources and the likely influence on the performance of organizations. Thus the contributions of the theories depict a phenomenon in which several variables are at play. The summary of each of the theories, and areas in which they are applied in building the conceptual framework are used in this study is shown in table 2.1 Using the contributions of these theories, this study proposes four variables that emerge for consideration in the context of Universities, namely the University HRD Infrastructure, University Performance, University-Industry Collaboration and Responsiveness to Institutional Contexts. The study considers each of these variables in the light of the supporting theoretical and empirical literatures. The ensuing sections of this chapter highlight the theoretical and empirical state of each as well as the identification of the existing knowledge gaps.

2.4 The University Human Resource Development Infrastructure

Universities by their very nature of origin and design are human capital development institutions. Within the context of organizational learning, Leiponen (2008) has classified them in the category of knowledge intensive business service organizations. These are organizations that are knowledge intensive as their operations rely on professional knowledge and either generate new knowledge themselves or act as knowledge intermediaries for their clients. In their research, they found that on average, 33% of employees in the firms in this category have higher education degrees and that firms service development investments average 3% of sales revenue. They will therefore be expected to cultivate organizational learning cultures through which knowledge is continuously generated and disseminated (Watkins, 2005) by the largely predominant knowledge workers forming a significant part of their workforce, and develop appropriate

systems for best managing human resources bearing the defining characteristics of the knowledge worker (Awad & Ghaziri, 2004).

Table 2.1: Summary on the Contributions of the Theories

Theory	Postulates	Areas of Complimentarity	Application in the Conceptual Framework
Resource Based View of the Firm	-Characteristics of strategic resources -The VRION Framework	-The design of HRD Infrastructure -Relationship between HRD Infrastructure and university performance	-The Design HRD Infrastructure Organizational Performance
The SHRM Framework	-Strategic approach to HRD -Alignment of firm's strategies and HRD	-The HRD Infrastructure -Relationship with performance based on strategic resources	-The HRD Infrastructure -Link between HRD Infrastructure and Performance
The Resource Dependence Theory	-The environment as the source of rare and scarce resources -Need for strategies to access the resources -Adoption of interorganizational strategies to access resources	-Relationship between HRD Infrastructure and University Performance	-Interorganizational Networks -U-I Collaboration
Institutional Theory	-Survival through congruence between organizations and expectations of the environment -The role of legitimacy		-HRD Infrastructure -Interorganizational networks through U-IC
The Culture Representation Theory	-Adoption of a cultural perspective on work behavior (OB) -The role of the self Integration of cognitive models in information processing and managerial perception of the environment	-Managerial Perception of the institutional context	-Responsiveness to the institutional context
The Organic Theory	-The use of an intercultural perspective on HRD -The organic nature on the development of HRD -Growth of HRD in relevance to national needs		

Source: Author, 2012

Due to the changing nature of the operating environment for these institutions, a suggestion has been made for these institutions to adopt HRD based approaches to respond to these changes. The study is of the view that the HRD based approach will require each university to establish an HRD Infrastructure suitable to provide a strategic posture for attaining HR based distinctive competence, in which HRD should significantly contribute to. To create this posture, the study

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postulates that the universities will need to address their organizational development needs, adopt an appropriate organizational learning orientation, embrace values that promote HRD and implement relevant HRD practices that enhance these considerations of the infrastructure (Barney, 1991; Rumelt, 1984; Pedler, et.al, 1996; Prahalad & Hamel, 1990; Fey & Furu, 2008).

2.4.1 Organization Developmental Needs

Organization Development (OD) is the process through which an organization develops the internal capacity to most efficiently and effectively provide its mission work and to sustain itself over the long term. Beckhard (1969) considered it in the light of planned organization-wide effort, managed from the top, to increase organization effectiveness and health, through interventions in the organization's processes, using behavioral science knowledge. Bennis (1969) considered it as a complex strategy intended to change the beliefs, attitudes, values, and structure of organizations so that they can better adapt to new technologies, markets, and challenges. Burke (1982) emphasized the inherent change process designed to bring about a particular kind of end result attained through organizational reflection, system improvement, planning, and self-analysis.

These expressions of organization development bring out a set of needs that OD programs are initiated to satisfy such as organizational effectiveness, employee development, increased professionalism and human resource based competitive advantage. Several scholars identify the respective areas along which the required competencies can be established and sustained and are considered major points of concern to constitute organizational developmental needs. This study summarizes these OD needs under the headings of sustainable competitive advantage, building managerial ability, building core competencies, building a knowledge based learning company, and attaining organizational effectiveness (Beardwell & Holden,1997; Pedler et.al,1996; Prahalad & Hamel, 1990; Balderson, 2005; Beardwell et.al, 2004; Carnall, 2007; Garavan,1991; Garavan, 2007; Cummings & Worley, 2008; Jackson et.al, 2009; Joy-Matthews et.al, 2004).

Within the realms of the value creation process, SHRM seeks to achieve an HR based competitive advantage an aspect considered to be at the center of the resource based view of the firm (Golding, 2007; Jackson & Schuler, 2000). Jones (2004) considers competitive advantage as the ability of one company to outperform another because its managers are able to create more

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value from the resources at their disposal. Competitive advantage springs from core competencies i.e. managers' skills and abilities in value creation activities and is attained if a current strategy is value-creating, and not currently being implemented by present or possible future competitors (Barney, 1991). When the imitative actions have come to an end without disrupting the firm's competitive advantage, the firm's strategy can be called sustainable. Unique value creating resources will generate a sustainable competitive advantage to the extent no competitor has the ability to use the same type of resources either through acquisition or imitation. Greve (2009) notes that resources give sustainable competitive advantage if they are difficult to transfer or require prior investment to utilize. Major technological innovations fulfill these conditions because they tend to spread slowly and to be adopted more rapidly by firms with high technological capabilities.

The management of the universities is key to establishing this sustainable competitive advantage and so the need for managerial ability as a major OD need. Managerial ability is defined as the knowledge, skills and experience which are often tacit, residing with and utilized by managers. The managerial ability exists in several forms: firm specific which is least mobile and unique to a context; industry specific which is somewhat transferable because of its relevance to the firms in the industry; general components referring to knowledge, skills, experience that produce value for any firm that makes use of them and has the greatest mobility and is less unique to a given context. The managerial ability derives from two sources: domain expertise and resource expertise.

Domain expertise refers to the managers' understanding of the industry context and the firm's strategies, products, markets, task environments and routines and captures the breadth of knowledge that managers accumulate through formal education in a particular field and through learning by doing. Even though managers bring explicit knowledge derived through formal education into their firms, they build specific (tacit) knowledge about the firm and industry domain through their experiences and rely on this experience when making decisions about the appropriateness and sequence of actions. As managers acquire domain expertise, they develop proficiencies and become more effective at aligning firm strategies with the industry context in ways that enhance organizational performance, because they understand better the opportunities to pursue and the threats that require response. The more specific the ability is embedded in

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…nagers, the more likely it is to be imperfectly transferable to other firms and particularly difficult for rivals to imitate making it a potential source of superior performance. The Resource expertise manifests through experience with resource management processes. Specifically it represents the ability of managers to select and configure a firm's resource portfolio, bundle resources into distinctive combinations and deploy them to exploit opportunities in specific contexts (Holcomb et.al, 2009).

The key tenets of the managerial ability constitute the core competence of a firm. Prahalad and Hamel (1990) introduced this concept as a point of concern for organizations and used several cases of the performance of major corporations to show how it accounts for growth. They suggested that corporations need to identify, cultivate and develop their core competencies for the expected long-term sustainability and stability of a business. Core competencies are described as the collective learning in the organization especially those that regard how to coordinate diverse production skills and integrate multiple streams of technology. Prahalad and Hamel's approach indicates that competencies unlike physical assets do not deteriorate as they are applied and shared and instead they grow; they are about harmonizing streams of technology and the organization of work and delivery of value; entail the shared understanding of customers needs and of the technological possibilities that is shared among technologists, engineers and marketers; and that these dimensions are of concern to both services and manufacturing organizations.

The key defining characteristics of core competencies are that they involve communication, involvement and a deep commitment to working across organizational boundaries; they do not diminish with use as is the case with physical assets and instead are enhanced as they are applied and shared; they require to be nurtured and protected because knowledge fades if it is not used; they serve as the glue that binds existing businesses as well as the engine that drives new business development; core competencies should be difficult for competitors to imitate. This will be so if it is a complex harmonization of individual technologies of production skills. Rivals that may acquire some of the technologies that comprise the core competence will find it more difficult to duplicate the more or less comprehensive pattern of internal coordination and learning.

The set of core competencies are developed through a knowledge based orientation towards learning. Thus the concept of a learning and creation of a knowledge based company constitute a major theme for a wide range of organizations. Fey and Furu (2008) cite this development as a major source of competitive advantage as the focus has moved from the capacity to produce efficiently to the utilization and leverage of organizational knowledge and intellectual capital. In the emerging era, Govindarajan and Gupta (2001) observed that every industry and every business must be considered a global industry and every business a knowledge business. Thus in strategic management a widespread notion is to perceive the firm as a bundle of knowledge. In this view knowledge is the key source of competitive advantage. It is thus critical that different parts of the organization share knowledge with each other to experience maximum performance.

The knowledge based approach requires a learning orientation and thus creating a learning organization is a major concern for universities. Pedler et.al (1996) offer several stages to the establishment of a learning company that paint the picture of the vision of the learning organization as an efficient adaptive unit taking advantage of environmental change. They proposed a three stage process of the evolution of the learning company as surviving, adapting and sustaining. The third stage of sustaining depicts a state in which companies create their contexts as much as they are created by them, who achieve a sustainable, through adaptive position in a symbiotic relationship with the environment displaying the characteristics of a company capable of changing, developing, and transforming themselves in response to the needs and aspirations of people inside and outside the company and that enrich and sustain the wider world of which they are a part. The breakthrough to this stage is part of the emergent evolution of work organizations where the principal concern for all stakeholders becomes the production of meaning. Thus it embraces a stakeholder orientation and has its defining characteristics as a learning approach to strategy, participative policy making, informating, formative accounting and control, internal exchange, reward flexibility, enabling structures, boundary workers as environmental scanners, inter-company learning, a learning climate, and self development opportunities for all.

The essence of initiating the organizational development interventions satisfying these needs is to increase organizational health that ultimately improves the organizational performance and effectiveness. Effectiveness is a broad term referring to the degree to which an organization

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achieves its goals. To be effective organizations need clear, focused goals and appropriate strategies for achieving them. Achieving effectiveness is not easy because of diverse stakeholder demands. Managers therefore need a stakeholder approach to balance the needs and interests of stakeholders in setting goals and striving for effectiveness. The stakeholder approach integrates diverse organizational activities by looking at various organizational stakeholders and what they want from the organization. The satisfaction of each group can be assessed as an indication of the organization's performance and effectiveness (Daft, 2007; Jones, 2004)

2.4.2 Organizational Learning Culture

Universities by virtue of their work orientation are expected to embrace a learning culture. The organizational learning literature considers organizations as continuous learning systems. Marsick (1994) viewed the concept as a process of coordinated systems of change, with mechanisms built in for individuals and groups to access, build and use organizational memory, structure, and culture to develop long-term organizational capacity. Hodge et.al (1996) consider it as an attempt to create an organization that is able to monitor continually the environment and adapt to changing conditions. Garavan and McCarthy (2008)'s approach has conceptualized learning as an iterative process that involves action, reflection, change and the creation of new knowledge. They view organizational learning as the process of enhancing actions of organizations through better knowledge and understanding. Slotte et.al (2004)'s view indicates that learning at the organizational level embraces the activities of an organization that is continuously expanding its capacity to create its future. This capacity is grounded on the ability of employees and organizations (as a collective of individuals) to change and become more effective and on the fact that change requires not only open communication and the empowerment of members of the work community but also a culture of collaboration.

Learning organizations are expected to create conducive environments for employees to learn (Beardwell & Holden, 1997; Clarke, 2005) as it is the learning of employees that seems to sustain individual and organizational learning. Slotte et.al (2004) indicate that this organizational learning places demands on organizations continuous efforts to provide employees with learning opportunities. In view of a competitive world characterized by globalization, rapidly changing technology, Kanter (1992) noted that it is only through the continuous learning of an individual employee that the organization is able to achieve effectiveness and ultimate survival. Jones

(2004) notes that to be effective, an organization needs a structure and culture that foster adaptability and quick response to changing conditions in the environment The organization needs to be flexible so that it can speed up decision making and rapidly create products and services

2.4.3 Human Resource Development Values

Some aspects of learning are social in nature. The stakeholder approach embraced in both HRM and strategic management emphasizes investment in relationships based on a set of core principles or values (Freeman & McVea, 2001). The values indicate what the organization stands for (Schendel & Hofer, 1979) and therefore an integral part of the strategy formulation and implementation process (Freeman, 1984). Values have been studied from both the organizational behavior and theory disciplines. Jones (2004) approach to the study of values connects them with an organization's culture and thus defines values as general criteria, standards or guiding principles that people use to determine which types of behaviors, events, situations and outcomes are desirable or undesirable. Organizational values are divided into two: terminal and instrumental. Terminal values represent desired end states or outcomes that people seek to achieve (e.g. excellence, responsibility, reliability, profitability, innovativeness, economy, morality, quality) while instrumental values represent a desired mode or pattern of behavior (e.g. working hard, respecting traditions and authority, being conservative and cautious, being creative and courageous, being honest, taking risks, maintaining high standards)

The terminal values are reflected in the organization mission statements and official goals which tell organizations members and other stakeholders that the company values excellence and has high ethical standards. An organization develops specific norms, rules and standard operating procedures that embrace instrumental values so that members understand the modes of behavior that they are expected to follow as they pursue desired end states. Joy-Matthews et.al (2004) consider values as part of an organizations mission expressed through its vision and core values that assist in the formulation of focused strategy and specific goals. Strategic goals need to be translated into plans and objectives at operational level with specific actions and feedback pathways that allow assessments of the contribution of development and should therefore capture innovation, empowerment, and employment security.

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The values are relevant to the development of HRD. Lee and Stead (1996) use the concept of the emergence of needs at the individual, organizational and national levels based on motivation as the basis for the transformation that leads to the emergence and development of HRD. Erez and Early (1993) relate the concept of values to needs at the cognitive levels of the individual. They indicate that at the cognitive level, values become the cognitive representation of needs at the individual, societal and cultural demands. Further, they indicate that differences in cultural values reflect differences in motivation. Value orientations have therefore been studied with a view to understanding their influence on HRD decision-making. Bates and Chen (2004) are of the view that since the HRD profession is a goal oriented field dedicated to helping diverse work systems solve problems and improve, defining and measuring HRD value orientations is important because the orientations help to determine how HRD professionals perceive and make decisions about HRD activities and outcomes. From a corporate level of analysis, Collins and Porras (1996) argue that companies that enjoy enduring success have core values and a core purpose that remain fixed while their business strategies and practices endlessly adapt to a changing world.

Joy-Matthews et.al (2004) note that in the context of environmental turbulence, there is need for explicit links between business strategy and any management priority including the development of people. Pfeffer, (1994) concluded that there is a correlation between how workers are managed on the one hand and sustained organizational performance on the other. From the behavioral science perspective, the values are described as the variables that lay the understanding of employee behavior and so determine ones attitudes and behavior (Robbins, 2005; Robbins & Judge, 2007). It is expected that the values that managers in universities attach to the development of employees as well as their strategic role will play a significant role in shaping the strategic behavior of each university

2.4.4 Human Resource Development Practices

Joy-Matthews et.al (2004) indicate that HRD is closely allied with organizational strategy and the management of change. Ericson (2006) notes that HRD plays an important role in organizational solutions to strategic issues through developing human expertise, employee training, work design and structure. In strategic HRD the manager becomes a strategic actor, managing change in a planned way using rational calculations Swanson (1995) noted that the

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business environment requires that HRD not only supports the business strategies or organizations but that it assumes a pivotal role in the shaping of business strategy. As a primary means of sustaining an organization's competitive edge, HRD serves a strategic role by assuring the competence of employees to meet the organization's present performance needs. Along with this, HRD also serves a vital role in shaping strategy and enabling organizations to take full advantage of emergent business strategy.

The relevant HRD areas in each organization have been argued to be connected with the strategy formulation orientation employed in each organization. Golding (2007) agreed with the position of Quinn (1978) who observed that in practice, a strategy formation tends to be fragmented, evolutionary and largely intuitive. Mintzberg (1987)'s approach recognizes that planned strategies are not always realized strategies and that strategies can often emerge and evolve. The logical instrumentalist view acknowledges the value of the rational analytical approach and identifies the need to take account of the psychological political and behavioral relationships which influence and contribute to strategy. It considers organizations as sticky, messy phenomena from which strategies emerge with much confusion and in small steps. The foundations of the school are the cognitive limits of human actions recognizing that human beings are influenced by bounded rationality. Thus most scholars have suggested that organizations need to adopt a learning open systems perspective and provide a list of areas of practice that seem to agree with this and suggest organizational learning, individual learning and development, blended learning, training, management development, knowledge management, learning organization, coaching, mentoring, total quality management, performance management and project management (Armstrong, 2006; Beardwell & Claydon, 2007; Joy-Matthews et.al, 2004).

Using the learning orientation, Barbuto et.al (2003) present innovating thinking as part of extra role behavior that requires suitable leadership that leans towards the transformational style. They identify several leadership behaviors consisting of: laisez faire; contingent reward; individualized consideration; idealized influence; inspirational motivation; intellectual stimulation. These last four are called as the 4Is of transformational leadership that have been shown to be most effective and essential for leaders to learn and practice to achieve desired outcomes. They argue that intellectual stimulation is the most challenging to learn and develop. It is the process of

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challenging workers and colleagues to solve old problems in new ways and to think outside the box when developing strategic and operational plans. Participants in an organization or group practicing intellectual stimulation will be strongly encouraged to use creativity and innovative thinking to optimize options and strategic scope. Creativity in strategic planning maximizes idea generation and creates thoughtful energy.

Menger (2001) thus concludes that to sustain innovation, firms must develop and implement HR practices that encourage innovation and entrepreneurial behavior. Firm's leadership must develop and implement an infrastructure that actively encourages and supports innovation. Gillav et.al (2008) identify six factors that positively influence the organizational success rate and therefore incorporated as elements into numerous change models: ability to coach, reward, communicate, motivate, involve and support others and promote teamwork and collaboration. Fey and Furu (2008) advocate the development of incentive structures that promote knowledge sharing and creation at the organizational and sub-organizational level. They content that knowledge is the most important source of competitive advantage and sustained superior performance.

Teece (2000) contends that the essence of the firm is its ability to create, transfer, assemble, integrate, protect and exploit knowledge assets. By intensifying and expanding new knowledge creation and shaping not only can a company develop new tangible product and services that improve its market position, but it can also form the basis for organizational change and reward. From a strategic point of view, therefore, the focus is creating inimitable knowledge and sharing it within the corporation. In line with this, some incentives proposed are: financial incentives; feedback on performance; straightforward procedures for creating solutions; demanding performance standards; difficult goals; task interdependence; incentives and compensation systems based on collective performance, enhancing knowledge creation and sharing shared vision (common vision), social interaction, trust in facilitating knowledge sharing and supporting the creation of social networks that engage in knowledge sharing

2.4.5 Empirical Studies on the Human Resource Development Infrastructure

A number of studies have been done on different aspects of this HRD infrastructure and there appears to be no clear indication on how the various components of this infrastructure may be integrated to form part of organizational systems for value creation. Those so far done have included studies by Pelagidis (2008), Hawley and Taylor (2006), Fey and Furu (2008), and Menger (2001). Pelagidis (2008) conducted his study within Greek Science and Technology Parks. The focus of this study was HRD within Greek Science and Technology Parks Spin-offs. The study found a relatively weak HRM situation among the spinoffs. The recommendations were not possible to validate given that the study only used descriptive statistics. Hawley and Taylor (2006)'s study focused on understanding how business associations use interorganizational networks to achieve workforce development goals and their implications for HRD. Its findings touched on the nature of alliances and the challenges faced by the networks and led to the conclusion that engagement in networks produces better outcomes for individuals. The study did not however explain how this outcome is attained as well as the paths that would lead to organizational performance.

Attempts to explain how the HRD philosophy is integrated into work systems seems not to have been comprehensively explained. Extant research has incorporated the influence of the diverse paradigms through the value orientations of HRD practitioners. Bates and Chen, (2004, 2005)'s study is the only one that has focused on HRD Value orientations. It studied the value priorities of HRD professionals across various HRD occupational specialties but failed to include line managers who are crucial in providing the appropriate climate within which HRD succeeds as well as in the implementation of the major HRD Programs under the partnership approach suggested by HR scholars (Jackson & Schuler, 2000).

In spite of these attempts, there seems to be a complete lack of empirical effort to show linkages between the learning orientation and the aspect of organizational development. The theory so far developed has attempted to demonstrate the possible links between learning and development at both individual and organizational levels. There seems to be lack of empirical efforts to extend this identified theoretical link into the level of development at the organizational level. OD scholars have cited this link also in their call for a human centered approach to OD and change. It is however clear from empirical work that research is yet to demonstrate the clear linkages of

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Individual learning and organizational development. Katou (2009)'s research attempted to identify the paths leading HRD to organizational performance. Even though this study attempted to explain the mediating factors between resourcing and organizational performance, the role of the learning process in the relationship was not explained and thus the theoretical conclusion on the relationship between individual learning and OD remains unconvincing.

Within the concept of learning itself, there are several dimensions facilitating learning at the organizational level that need explanation touching on collective learning. Along this stream, scholars have missed to point out that the collective learning concept grows out of the characteristics of the learning organization concept in which learning organizations exist because of the existence of shared learning and collective mental models. Thus collective learning is an integral element of the learning organization culture providing the needed infrastructure for open communication, communication and dialogue, team working, empowerment, participation in decision making, visionary and idealized notions of organizations. This culture is sustained by HRD practices that are consistent with the learning organization concept where knowledge sharing is a key ingredient. Jackson and Schuler (2000) allude to this in their identification of necessary HRM activities for sustaining organizational change. Little research has been done on these activities that sustain organizational change and facilitate knowledge sharing.

One recent attempt by Fey and Furu (2008) identifies one of these ingredients as top management compensation. The study focused on the relationship between top management incentive compensation and knowledge sharing in MNCs and sought to identify those organizational policies that lead to knowledge sharing between MNE units and so the link between compensation mechanisms and knowledge sharing. The study found that compensation based on knowledge influences knowledge transfer and supported the hypothesis that indicated that national culture will have an influence in knowledge sharing. Even though these findings confirm some theoretical propositions on some of the supporting HRM Practices for successful change management (Jackson & Schuler, 2000) there is a possibility that other factors may also enhance knowledge sharing especially based on Herzberg's motivation theory. Thus, more factors affecting the extent of knowledge sharing need to be identified.

Overall, scant attention has been given to the understanding of the HRD infrastructure in organizations. Menger (2001)'s study stands out on its adoption of an HRM perspective to investigate the role of firm HRM infrastructure in the relationship between small firm innovation and strategic competitiveness. The findings of the study pointed at the relationship between organizational infrastructure for HRM and innovation. The study did not provide the set of the espoused contents of the HRM infrastructure as influenced by an appropriate HRM philosophy suitable to contribute to HRD designs in organizations since it paid more attention to contextual factors. This infrastructure should also reflect the influence of the context in which HRD is practiced, a position reinforced by the study of Joy and Kolb (2009) that has established that the dimensions of culture impact learning styles in organizations.

2.5 Organizational Performance

HRD analyzed from the perspective of organizational studies is considered an independent variable in empirical studies (Luthans, 1992; Organ & Bateman, 1991; Robbins, 2005). The OB model recognizes three levels of analysis, namely individual, group and organizational for the application of the various independent variables. The individual level considers biographical characteristics, ability, values, attitudes, perception, learning, individual decision-making, motivation, experience, personality, and intelligence while the group level considers communication, group structure, leadership, power and politics and group decision-making. The organizational level considers HR policies and practices, cultural systems, work stress and organization structure. OB is concerned with the performance outcomes of individuals since individual performance contributes to group performance, which in turn contributes to organizational performance. It is this performance that results in the effectiveness of an organization. Managers focus on this effectiveness at the three levels with performance outcomes being reflected through job satisfaction, psychological growth, physical health, economic benefits, security, efficiency, innovation, profitability, productivity, quality of life, contribution to culture and adaptation to change.

Learning has also been associated with organizational development. Watson (2007) links the development of the individual to the development of the company as a whole and notes that "there is no development without learning". He emphasizes the importance of organizational profitability, responsiveness, adaptability and conscious approach to change and underlines the

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importance of breaking down outmoded ideas, attitudes and practices before building new skills, structures and values. According to Wilson (2005) development programs usually include elements of planned study and experience and are frequently supported by a coaching or counseling facility. Bolton (1995) indicates that development occurs when a gain in experience is effectively combined with the conceptual understanding that can illuminate it giving increased confidence both to act and to perceive how such action results to its context.

Thus, it is clear that development indicates movement to an improved situation that for the individual means advancing towards the physical and mental potential. Reese and Overton (1970) viewed development as the process of becoming increasingly complex, more elaborate and differentiated, by virtue of learning and maturation. In an organism, greater complexity, differentiation among the parts leads to changes in the structure of the whole and to the way in which the whole functions. Their view has a very strong insight into the link between learning and organization development. They point that in the individual this greater complexity opens up the potential for new ways of acting and responding to the environment, leads to opportunity for even further learning and contributes to development

Scholars cite several aspects of learning that are relevant to the development and growth of HRD. Van Der Sluis (2007) connects HRD with an organization's human capital development initiatives and depicts HRD as a development process of employees that relates to better performance and personal growth at the individual level which in turn relates to organizational development at the organizational level of analysis. It is this personal and organizational development that raises the need for learning in organizations in view of developments in globalization, changing economic conditions, technological change, emerging education and disciplines that impose pressure on organizations to adapt This Learning in the HRD process is used to acquire new skills, knowledge, world views and behaviors as employees are exposed to learning situations through interactions on the level of the individual, projects or teams or on the organizational level and even on the broader level of shareholders like clients, suppliers, trade unions and stakeholders.

Learning that is development oriented has been considered part of HRD (London & Sessa, 2007). HRD scholars propose adaptive, generative and transformative learning (London & Sessa

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2007; Lee & Stead, 1996). Adaptive learning happens when a group fine tunes existing behavior patterns through trial and error. Adaptability enhances long-term performance in light of rapidly changing external conditions. Generative learning arises when groups seek and discover information proactively, acquire new knowledge and skills and then apply the information, knowledge and skills. The group gathers information, seeks alternatives, reflects on the work processes, tests assumptions, obtains different opinions and adopts new routines. Transformative learning recreates the group, altering its purpose, goals and/or structure. Transformational learning occurs when people within groups critically examine core values, assumptions and or beliefs based on that critical analysis. It transforms the way group members perceive their roles, responsibilities and relationships. Organizations are therefore called upon to invest in continuous learning.

Continuous learning is needed by both the individual and the organizations to do their jobs well and to increase their chances of advancement and professional development under changing conditions, while at the organizational is needed to master uncertain and unambiguous environments and to sustain competitive advantage. Both individuals and organizations have an active role to play in this context of continuous learning. The organizations undertake to invest in learning while employees take control of their own learning. HRD in view of this advises organizations to facilitate the learning of organizational members within a learning culture and develop a learning organization. This should also extend to create a learning society in which there is a life long learning in order to provide the skills required for competitiveness in a global economy. This learning and development takes place in a complex environment where many different factors interact with each other. This raises a challenge to HRD scholars and practitioners on how to use various resources to improve the learning. HRD advises that if organizations want to invest in the development of their employees, they should start stimulating or building social networks among employees. Such networks are based on the recognition of the qualities of each member of the social network which becomes the starting point of the individual and organizational learning and development.

2.6 University Performance

The University Performance is assessed within the context of the nature of human capital development institutions. Kontoghioghes et.al (2005)'s study categorizes the performance of the institutions into two perspectives namely objective performance and HR related subjective performance. Jackson and Schuler (2000) considered the same in the context of organizational development and change and referred to those subjective indicators as relating to organizational readiness for change. The objective measures of performance reflect financial aspects of revenue, student enrolment levels, number of academic programs and the amounts of research grants won. The subjective performance indicators reflecting the work of human capital development institutions are innovation, knowledge creation, adaptation to change, market and public rating, corporate reputation and quality. From an organizational point of analysis, HRM addresses these areas of concern for performance of universities in order to make them effective, productive, efficient and competitive. In view of emerging developments facing organizations, the kind of performance expected is one that creates sustainable levels of competitive advantage.

Diverse streams of scholarship support this position of a link between HRM and organizational performance. Pfeffer (1994) indicated that there is a correlation between how workers are managed on the one hand and sustained organizational performance on the other. Bosse, Robert and Harrison (2009) have identified performance as a dependent variable in organizational studies. Joy-Matthews et.al (2004) presented performance as one of the areas in the approaches to HRD and identified three levels of performance: implementing, improving and innovating. Greve (2009) notes that organizational performance and survival results from competitive advantage and call for the identification of competitive advantage through its consequences for performance. Lilly et.al (2008) concluded that the way employees are treated directly impacts organizational performance. Notable among the work of scholars and the various studies linking HRD to performance is the inclusion of non objective traditional measures of performance that are qualitative in nature. Included are the dimensions that are associated with the HRD learning orientation that facilitates change. These studies are of the view that readiness to change indicators are suitable measures for organizational preparedness to interact with and respond to turbulent environments. The strategic management literature supports this in its call for organizations to create flexible / agile systems for facilitating ease of response to environmental

change. Included in this category are studies done by Kontoghiorghes et.al (2005), Lopez et.al (2005), Davis and Daley (2008), and Song et.al (2009).

The study by Kontoghiorghes et.al (2005) examined the relationship between learning organization characteristics and change adaptation and organizational performance. The study findings grouped performance into two broad categories, namely quantitative bottom line performance and qualitative aspects of organizational readiness for change. The findings were however limited by the fact that the research included only a subset of possible data. Lopez et.al (2005)'s study had some departures from that of Kontoghiorghes et.al. Its focus was the relationship between high performance HR practices, organizational learning and business performance and hypothesized that organizational learning would mediate the relationship between high performance HR systems and business performance. It found that organizational learning mediates the relationship between high performance HR systems and performance systems. Its findings however are not generalizable to other cultures due to the non random sample selected and also a limitation arising from the cross sectional data.

Davis and Daley (2008)'s study was similar to that of Lopez et.al on its focus on learning organizations. They studied the learning organization and its dimensions as key factors in firms' performance. It found that behaviors measured by the learning organization score are positively and statistically significantly related to certain performance measures. The question of which of the organizational learning dimensions had the most effect on the various performance variables could not be answered. The findings implied that other performance measures suitable for other sectors such as public institutions and educational institutions need to be further researched on. Song et.al (2009)'s study is to a great extent similar to that of Davis and Daley. This study sought to validate the Dimensions of Learning Organization Questionnaire (DLOQ) in the Korean context. The study found that the tool is relevant to measure learning organization culture in the Korean context and concluded that this finding enables the theory of the learning organization to be applied in HRD practices. It suggested the need to link the perceptions of the learning culture to some of the dependent variables as performance, change, satisfaction, productivity and effectiveness.

Overall, it is clear from these empirical attempts that further research is needed specifically to: identify performance measures suitable to a diversity of sectors in non manufacturing activities and particularly in human capital development undertakings such as those of the institutions of higher learning; account for the learning dimensions that affect performance as well as the influence of the context of practice, the relationship between the learning culture to some of the dependent variables as performance, change, satisfaction, productivity and effectiveness; demonstrate the clear linkages between HRD and the stakeholder outcomes of interorganizational networks; and reflect the qualitative performance dimensions of HRD that take the nature of organizational readiness for change and knowledge management.

2.7 Interorganizational Collaboration

Inter-organizational networks are discussed along the strategic considerations for Inter-organization collaboration (Mintzberg et.al. 2003). Using the resource dependence perspective, organizations adopt strategies for interorganizational collaboration to either access or control externally controlled valuable resources required for the firm's survival. The supply of the resources however is dependent on the complexity, dynamism and richness of the environment. The goal of the organization is to minimize its dependence on other organizations for the supply of scarce resources in its environment and to find ways of influencing them to make resources available. The choice of Interorganizational strategies for managing resource dependencies is dependent on the environmental conditions. Resource dependence theory points that the flow of resources among organizations is uncertain and problematic. To reduce uncertainty, an organization needs to devise inter-organizational strategies to manage the resource interdependencies in its specific and general environment. Managing these interdependencies allows an organization to protect and enlarge its domain. In the specific environment, an organization needs to manage its relationships with forces such as suppliers, unions and consumer interest groups.

The institutional theory proposes a legitimacy building mechanism for organizations to increase their ability to grow and survive in a competitive environment in the eyes of their stakeholders (Jaffee, 2001). New organizations suffer from the liability of newness and may die because they do not develop the competences they need to attract customers and obtain scarce resources. To increase their survival chances as they grow, organizations must gain acceptability and

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legitimacy from their stakeholders by satisfying the latter's needs. The theory argues that it is important to study how organizations develop skills that increase their technical efficiency. It also argues that to increase their chances of survival, new organizations adopt many of the rules and codes of conduct found in the institutional environment surrounding them. The institutional environment is the set of values and norms that govern the behavior of a population of organizations. Weigl et.al (2008)'s approach focused on identifying the dimensions along which level of interorganizational networks may be understood and offered five dimensions of inter-organizational structures, formalization, standardization, frequency, intensity and reciprocity which are associated with the flexibility and ease of information exchange.

2.7.1 University-Industry Collaboration

HRD plays a central role in interorganizational networks that focus on University-Industry (U-I) Collaboration. Through its orientation towards change, creativity and innovation, HRD is considered a core aspect of the business of University Systems. Universities and the entire HE have been placed at the center of technological change. This technological change has its source in science. Scholars agree that science is one of the factors that bring about technological change alongside other factors such as the input of labor and capital. Universities host the academia whose impact on the development of science is significant. Carrin et.al (2003) using experiences gained from biotechnology show how the academia can contribute to technological change that will have profound effects on industrial development. Using case studies on biotechnology in Swiss firms and universities, they connect the academia with the concept of innovation and demonstrate that such innovation can lead to university spin-offs that result from collaboration between scientists in universities and managers in the industry. The collaboration bringing the two parties together mobilizes fundamental knowledge created in universities to transform it into commercially useful techniques and products. This calls for the establishment of a systematic way of facilitating formal relationships between universities and the industry and thus the need for University-Industry Collaboration

Sohn (2005) is of the opinion that the role of universities stems from the need to develop hi-tech industries. Hi-tech industries development depends on the quality and quantity of accessible knowledge and information. This implies that the quality of the universities is expected to be a good indicator of whether a region is innovative. The importance of the universities is seen

through: factors contributing to the genesis and evolution of innovative regions such as prestigious universities, skilled labor, entrepreneurial culture, venture capitals and rapid diffusion of technology transfer; the role of universities in the development of hi-tech clusters by attracting the types of technological talent that can generate economically viable knowledge and; the obstacle to the localized knowledge spillovers from universities such as historical factors accounting for U-I cooperation and incentive structures that influence knowledge spillovers. Dasher (2004) identifies the role of the university in U-I collaboration in the innovation system-logical flow comprising of demands for innovation and implementation of new ideas through commercialization.

2.7.2 Strategies for University-Industry Collaboration

Sustainable U-I collaboration programs require a strategic response by the collaborating institutions. Two alternative approaches have emerged from the relevant literature on this strategic response as cluster building and strategic alliance building approaches. Carrin et.al (2003) identified factors arising from the role of the government in clustering. Even though clusters are business driven and begin to grow naturally, governments are however able to create the necessary conditions which encourage the formation and growth of clusters through policies that include national and non sectoral policies and programs that support innovation and competitiveness. Porter (1990) defines clusters as geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries and associated institutions (for example universities, standards agencies and trade associations) in particular fields that compete but also cooperate. He observed that governments can effectively play a role in reinforcing clusters through investments to create specialized factors such as University technical institutes, training centers, data banks and specialized infrastructure.

The clusters are seen as part of innovation systems approaches and should therefore reflect the systemic character of modern innovation and interactive innovation processes. The interactions among the various actors in the value chain are based on trade linkages, innovation linkages, knowledge flows or the sharing of a common knowledge or factor conditions (OECD, 1999). It is in this reasoning that AIHEPS (2005) identified several factors that determine the U-I Collaboration as existing along the barriers to U-I collaboration such as weakly defined property rights, lack of incentives, bureaucratic structures operating in both firms and universities and the

national climate consisting of sufficient mechanisms to encourage U-I collaboration and structural arrangements that allow sophisticated forms of U-I technological transference to take place. This national climate may be determined by local conditions such as level of economic development, historic conditions and the ethos of a region. These combine with other elements such as the responses of the local HE systems to policy reforms, the characteristics of individual academic institutions such as mission, funding sources or the ability to balance research and teaching activities.

The stream of scholarship advocating a strategic alliance approach identifies several points of consideration (Carrin et.al, 2003) which revolve around: the challenge faced by major players involved in the creation, diffusion and commercialization of R&D activities in financing the transformation, organization and performance of innovations (Jankowski, 2001); the several risks associated with conducting scientific research and commercializing its results arising from the increased speed and multidisciplinary nature of technological developments in which case strategic alliances between institutions offer an important tool in achieving sustainable competitive advantage allowing partners to share R&D costs, pool risks and benefit from firm-specific know-how and commercialization of resources (Hagedoorn, Link & Vornotas, 2000; Vornotas, 1997) and; changes in policy and market trends in all advanced economies bringing about national and global economies that are increasingly dependent on knowledge based competition and networking and so the need for collaborative research. Strategic alliances are therefore proposed as a viable option for U-I collaboration.

Gulati (1998) defines strategic alliance as "voluntary arrangements between firms involving exchange, sharing, or co-development of products, technologies or services. They can occur as a result of a wide range of motives and goals, take a variety of forms and occur across vertical and horizontal boundaries. Singh (2002) and Cullen and Parboteeah (2008) identify two types of alliances: equity based alliances which include minority stock investments, joint ventures and at the extreme end majority investments and non-equity based alliances which tend to be governed mainly by a contractual arrangement that specifies the responsibilities of each party, the mode of operation of the alliance and considerations involved in expansion or termination. Even though the Alliances involve huge investments, there are convincing arguments in their favor in view of the high costs involved and high degrees of failure (Gulati & Singh, 1998; Contractor &

Lorange, 1988; Hadgedoorn, 1993) that cut across sharing costs and risks, access to financial resources, sharing complimentary technology, reducing the time span of innovation, joint development of new technology, access to new markets, access to new products and sharing production technologies. Alliances also facilitate the emergence of innovation clusters which is considered key in knowledge based economies. Innovation through the creation, diffusion and use of knowledge presents a key driver of economic growth, the reason as to why interactions are increasingly being realized at the local, national and world levels among individuals, firms and other knowledge institutions and aim at enhancing the growth of knowledge economics along which the innovation clusters form.

Some stream of scholarship in the U-I area has focused on explaining what motivates universities to develop collaborative ties with the productive sector. AHIEPS (2005) has identified some of these motivating factors to include the limitation experienced in lack of public framework/infrastructure through limited funding and failure by policy makers to embrace a market oriented approach and a combination of locally determined factors such as level of economic development in a region, cultural and historical characteristics, internal mechanisms (e.g. institutional mission, form of governance, sources of funding etc.). These have been accompanied by the implementation of internal long-term strategic planning strategies, flexible management practices and evaluation mechanisms.

This broad literature on U-I Collaboration has already identified the concepts at play in U-I collaboration and the various types of influences both from within and the external contexts of firms. What still remains unexplained is how the U-I Collaboration accounts for the performance of organizations. Even though it may be implied that this would be the major point of focus, the literature has not directly mentioned this as a focal point of concern judging from the scholarship on the motivating factors for U-I Collaboration. The empirical attempts as well have repeated the same and have not accounted for differences in collaboration patterns and how they may explain variations in performance outcomes of organizations in the alliance partnerships. In addition the researches fail to account for the influence of both the internal and external contexts of the collaborating organizations on the variables at play as well as their interrelationships. Researches that have been done on the area of the influence of the external context on the patterns and designs of interorganizational networks have underscored the role of the internal systems in

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...ponding to environmental contingencies (AIHEPS, 2005; Harris & Williams, 2001; Carrin et.al, 2003; Sohn, 2005; Koka & Prescot, 2008; Meyer, 2009).

The AIHEPS study sought to answer the question: "what motivates U-I collaboration?" The study found that U-I Collaboration is the result of locally determined factors, public policies and universities own initiatives. The exact influence of each was however not ascertained. Harris and Williams (2001) study in contrast was specific to a program for collaboration and sought to gain understanding of critical factors influencing university collaborations on joint doctoral programs. The study established that the set of factors affecting U-I Collaboration are university missions, university cultures, faculty interest and collaborations and university resources. The statistical approaches used and the findings raise the need for a more rigorous statistical analysis so as to account for the empirical contribution of the identified components to the strategic posture and validate the claims and conclusions arrived at.

Carrin et.al (2003)'s study was an exploratory research to assess the state of innovation and production systems of Swiss biotechnology firms and sought to study whether how R&D activities are organized in the industry are interrelated among the firms themselves. Its findings underscored the role of uncertainty in alliance building and identified firm and industry level factors that drive firms to enter alliances. Sohn (2005)'s study focused on U-I linkage and hi-tech development of Seoul. Its findings underscored the role of the institutional context through the government, innovation policy, research environment, and identified besides external environmental factors, internal HR related obstacles to localized knowledge spillovers through the of internal the incentive structure. The findings of the studies indicated that the empirical influence of the context needs to be ascertained.

Koka and Prescott (2008) focused on collaboration formation in technology intensive firms. The research sought to study the impact of competitive intensity on a firm's collaboration incidence and how industry technology intensity moderates this relationship. The study found an inverted U-shaped relationship between collaboration and competitive intensity and has led to the development of a strong case for the contingency approach. The conditions under which the structure of network position are likely to enhance or detract firm performance as well as how they explain the relationship between collaboration and growth needs investigation. Meyer et.al

(2009) sought to explain how foreign firms adapt entry strategies when entering emerging economies. The study found complimentarity between the RBV and the institutional theory and established that strong explanatory and predictive power of the institution is enhanced when it is integrated with the RBV and provided a strong case for the integration of the Institutional and RBV theories in alliance research.

The outcome of these arguments demonstrates clear calls for linkages between the organizational strategies and HRD programs. The HRD literature misses an essential component in its proposition for an HRD based Interorganization network, namely the strategic orientation. Interorganizational networks are strategic choices an organization must consider. Thus, critical questions emerge: Under what conditions is the learning orientation utilized to enhance interfirm linkages for strategic purposes? How may the stakeholder approach embraced in both strategic management and HRM be applied in enhancing inter-firm linkages? These concerns invite a multidisciplinary response to address the empirical challenges implied as has been suggested in the related empirical research. While the efforts already made advocate for this approach, yet they demonstrate the clear absence of the existence of an integrated framework to guide research in this area as prescribed by the empirical calls.

Fontana et.al (2003)'s attempt studied the role of firm size and openness in driving U-I Collaboration and examined two issues: the contribution made by Public Research Organizations (PROs) to the innovative process and the extent of cooperative R & D projects between firms and PROs. The findings were: reliance on publications for acquiring knowledge affects the probability of entering into collaboration with a PRO but not the level of collaboration developed; U-I relationships are characterized by heterogeneity; firms that patent have a higher probability of collaboration and higher level of collaboration. The study may be credited as the only one in the U-I research that has attempted to take an orientation towards organization theory imperative of size and thus an indication that this OT theory is relevant in the U-I Research. Philbin (2008)'s approach underscored the role of knowledge in U-I collaboration and proposed a model for U-I Research. The findings confirmed the lack of an integrative framework for the management of research collaborations and proposed a model suitable for U-I research. Even though the model underscored the role of knowledge in U-I collaboration, it did not delineate clear lines of relationships and influence. Worasinchai et.al (2008)'s study focused on presenting

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a general framework for fostering collaboration and knowledge transfer between university and industry in Thailand. The proposed framework considered two levels: individual level in which emphasis is on HR activities of learning and motivation; organizational level whose emphasis is on organization culture, leadership, training and knowledge management.

While these attempts have strong connotations about the role of HRD in interorganizational networks, they fail to demonstrate how its multidisciplinary nature may be applied in empirical analysis of the relationships among the emerging variables. Even where OI imperatives have been directly implied, no attempt seems to have been made to indicate the specific aspects of the OT Literature that are applicable and how they may be applied. However it is the contention of this study that scholarship needs to show how an HRD approach may be adopted in universities since there are indications that the market for the universities will be best served through such an approach providing the bedrock for U-I Collaboration.

2.7.3 Human Resource Development Based University-Industry Collaboration

Dasher (2004) in support of the approach for the adoption of an HRD perspective for universities observed that the society for universities has new needs which require better innovation systems at the early stages which create room for HRD to occupy a significant place at the societal level of analysis. The demand for better innovation systems arises out of several reasons: prerequisite for advanced economy; dawn of a new era of revolutionary technology, technology and sudden markets; severe economic conditions; shifts from production based to knowledge based competitiveness; enduring protection of inefficient industries; rising government deficits and; the population getting older. The nature of demands for better innovation system requires: shift of focus to earlier stages of innovation and quicker, more flexible, more responsive, more practical output, better knowledge, better knowledge acquisition identification and development of new business ideas. Lapina and Slaidins (2004) identify the challenge in fast developing technology fields as inability to harmonize the university study programs to respond to the rapidly changing requirements of the labor market. Thus Universities as instruments for human capital development require the input of HRD in their core business undertakings. From the Resource Based View of the firm, the ability of the universities to adequately respond to their expected societal and national goals depends on their ability to create human capital whose characteristics

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position the institutions and the industries they work for on a human resource based competitiveness.

Universities have therefore been advised to initiate change so as to address the challenge faced by Higher Education (HE) (Chelte, 2001; Chelte & Hess, 2001; Kiamba, 2005). This change should be undertaken in terms of the purpose and relevance of the university to societal needs (Torraco, 2005). The change is to ensure organizational development that is HRD rooted in its focus on issues such as transformation, building competencies and human capital and ensuring workforce competence, competitiveness of firms and nations through vocational education and training (Ozcelik & Ferman, 2006; Watkins, 2005). Several scholars (Sohn, 2005; Wu, 2005; Beardwell & Holden, 1997) establish that HRD is relevant to the University in this setting for accomplishing these VET Goals through: establishment of National Human Resource Development (NHRD) Policies; adoption of innovation in universities; transformation of the economy into the knowledge based economy status; facilitation of projects that ensure change in organizations and communities.

Paprock (2006) through analysis of early definitions of HRD notes that HRD has been placed as a major component of national development and competitiveness. Ayres (1995) considers development as concerned with creation of the conditions for the realization of human personality and the true fulfillment of human potential. A UNDP approach to development relied upon by HRD scholars (Paprock, 2006) indicates that the basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives. Quinn et.al (1996), Xiao and Tsang (2004) and Scully-Russ (2005) identify the several aspects of HRD that contribute to national competitiveness: management of human intellect; development of human capital through education and training; development of National Human Resource Development (NHRD) Policies; and knowledge transfer to industry.

Empirical attempts from several scholars provide evidence that seems to support these conclusions. Lapina and Slaidins (2005) focused on innovation oriented U-I Collaboration models in Electronics Engineering as a case study of the Electronics field in Latvia and was done in the background of developments towards a knowledge society. The study found that the curriculum satisfied industrial companies, underscored the role of creativity and innovativeness,

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the need to sustain environments for organizational learning through project management, team work, research and innovation and proposed an integrated U-I Collaboration for Latvia. Chang et al (2006)'s research studied factors affecting academic entrepreneurship in Taiwan. The study found that: six factors from the internal process and the external entrepreneurial environment have an impact on the external environment of the academic entrepreneurs, and three of which are important in influencing the internal entrepreneurial process of academic entrepreneurship.

Dooley and Kirk (2007)'s study focused on identifying the requisite attributes and organizations to be displayed by a research university in order to engage successfully in collaborative research with industry partners. The study found that the development of key enabling capabilities by the university, allied with routines for academic industry researches interface are essential elements of the partnering design. Its conclusion underscored the two key measures of innovative development that drive knowledge exchange between university research centers and industry: the rate of knowledge development and the speed of knowledge transfer and exploitation. It suggested the role of research reputation, the need for organizational designs tailored for each alliance and production of tangible benefits to all parties. The study did not however explain the organizational factors that account for the knowledge based U-I linkage among institutions. Walton and Guarisco (2008)'s study focused on the collaboration between H.E Institutions in Britain and Russia. The findings underscored the role of the climate suitable for collaboration characterized by trust, partnering skills and power relationships. It proposed a model for knowledge migration.

Arend (2009)'s study focused on determining the factors that can increase cooperation in alliance in strategy and organizational research. It specifically sought to understand the role of reputation in interfirm relationships. The study found that reputation data influences cooperation and that critical levels of reputation are needed to induce cooperation. This conclusion is considered important in view of some arguments by HRD theorists that have considered reputation as a central HRD issue (McGuire, et.al, 2007; Clardy, 2005; Jones, 2004). The study however failed to incorporate the cognitive processes involved in the relevant decision making leading to the cooperation such as information processing.

The Institutional Context

The existence and survival of organizations has been associated with the needs of the society that require satisfaction through products and services (Penrose, 1959; Hicks & Gullet, 1975; Jones, 2004; Daft, 2007). Jones (2004) connects the emergence of organizations in this context with entrepreneurship activities that create value for delivery to the organization's stakeholders. The creation and delivery of this value requires the recognition of opportunities to satisfy needs and then gather and use resources to meet those needs. Thus the value creation process requires resources, an observation that is consistent with Penrose (1959)'s definition of firms as well as that adopted by the Resource Based Theory (RBT) which looks at firms as the collections of productive resources. Crook et.al (2008) define the resources as the inputs into an organizational process. Within the sphere of the RBT, strategic resources are the focus for the value creation process Resources included in this category are patents, unique knowledge and reputation. Key stakeholders compete to capture the economic value created by the strategic resources which explain performance only to the extent that organizations capture the economic value that they create

Forces in the environment however cause uncertainty and make it more difficult for organizations to control the flow of resources they need to protect and enlarge their organizational domains (Jones, 2004; Daft, 2007). The concerns for survival require that the organizations continuously adapt to their environments in order to find and obtain needed resources, interpret and act on environmental changes, dispose of outputs and coordinate internal activities in the face of environmental disturbances and uncertainty. It is therefore argued that universities being keen on survival will take initiatives to identify and understand the relevant components of their environments and the demands they place on them. In view of the respective nature of the industry for this research, the consideration of the above arguments requires attention to four institutional factors that are considered relevant in shaping the organizational infrastructure and climate for HRD Practice in the academic institutions (Erez & Early, 1993; Stead & Lee, 1996; Jones, 2001; Dirani, 2006), namely the prevailing national culture, national human capital needs, the HRD value base and the characteristic of the institutional context

2.8.1 The Prevailing National Culture

Some scholars advise that an examination to understand the emergence of HRD in any context should inquire into the historical and present contexts of a country's political, economic, educational, labor resources and employment factors (Ke et.al, 2006; Paprock et.al, 2006; Cox et al. 2006). Stead and Lee (1996) have used a cultural perspective in their model to trace the emergence of HRD within a national context. Paprock (2006) has also used an intercultural perspective to define HRD in a way that points at its contribution in helping people lead fuller and richer lives that are less bound by tradition and thus unlocking the door for people to modernization. Culture according to Hofstede (1985) represents the collective programming of the mind which distinguishes one human group from another. Mugambi (1996)'s definition of culture considers it as both an individual and collective affair and observes that culture is the visible achievement of human beings in their endeavor to improve their past experience. His approach further indicates that the activities associated with culture involve the modification of the natural and social environment. A value system is a set of conceptions of the desirable or preferable ends shared by a group of people. A belief system consists of those conceptions that have been viewed as true representation of reality. A social norm is a habit or behavior of individuals or groups explicitly existing in their daily lives. At the national or country levels, a value system is something socially preferred or desired. The value system is critical in guiding action and in regulating human beings learning process.

The cultural Values are relevant to the development of HRD. Lee and Stead (1996)'s model uses the concept of the emergence of needs at the individual, organizational and national levels based on the content perspective to motivation theories as the basis for the transformation that leads to the emergence and development of HRD. Frez and Early (1993) relate the concept of values to needs at the cognitive levels of the individual and indicate that at the cognitive level, values become the cognitive representation of needs at the individual, societal and cultural demands. In addition, they note that differences in cultural values reflect differences in motivation. Hoecklin (1996) uses this concept of values at the various layers of culture of corporate, professional and national cultures to indicate that across all the three levels, culture has been shown to comprise of values that lead to the existence of corporate practices, professional ethics, religious beliefs and basic descriptions. Thus, Culture within a national setting seems to provide a worldview through which people in that culture look at issues which is relevant to the development of

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HRD. Craig et.al (2006) observe that HRD decisions and actions are made on the basis of a philosophy whose foundations are beliefs. It is this philosophy that gives a worldview by which one looks through HRD related issues. Ruona and Lynham (2004) state that this worldview shapes and directs how one thinks about the world, acts in the world and consequently sees the world. This world view has been used to demonstrate how HRD related activities such as learning have been variously understood in different parts of the world. Some more recent studies support this position.

Tey and Furu (2008) identify the role of national culture in knowledge sharing using the case of China to demonstrate the relationship between the prevailing national culture and information sharing. They quote the work of House et.al (2004) who in their recent GLOBE project have identified nine cultural dimensions which differentiate countries. One notable dimension is that of "in-group collectivism" which is defined by Jarridan and House (2001) as the extent to which members of a society take pride in membership in small groups such as their family and circle of friends and the organizations in which they are employed. China scored the fifth highest and on this basis it was argued that the Chinese will be more willing to share knowledge with other parts of the company (ingroup) as they tend to feel fiercely loyal to their companies because of their high in-group collectivism. The hypothesis that the Chinese would be more willing to share knowledge with other parts of the company than their counterparts in Europe was supported in this study.

2.8.2 The Value Base for Human Resource Development
Paprock (2006) proposed the adoption of an HRD perspective that adapts HRD programs to the specific country contexts in order to ensure its effective development. This organic approach to HRD is based on the needs and values of the respective nation. Cox et.al, (2005) pointed that the study of HRD within national contexts has been approached from a comparative practices and national policy perspectives. McLean and McLean's (2001) approach to HRD based on these two perspectives proposed two dimensions in which national definitions of HRD seem to vary: the scope of activities and the perceived beneficiaries of activities. The scope of activities range from solely focusing on training to the inclusion of activities such as career development, organization development, process improvement, social development and manpower planning

The perceived beneficiaries of activities include the individual, group/team, work process, organization, community and nation.

The Value Base is thus based on needs and depicts a nation's value base for HRD as touching on activities that are strategic in nature, in that they address the felt needs for the future of a respective nation. It is in this connection that a nation's HRD value base will provide the general atmosphere within which HRD policies are developed. Erez and Early (1993) indicate that the values provide a sense of purpose, direction and clarity concerning performance expectations. Kuhl (1992) used McClelland's theory of motivation to link the concept of values with motivation through the cognitive representation of needs. Erez and Early (1993) used the motivation sequence that starts with needs and ends with their satisfaction to show that these needs may not be translated into goals unless they have a cognitive representation in the form of values. Using Maslow's hierarchy of needs approach, they posit that the emergence of needs at the individual, organizational and national levels is the basis for the emergence of HRD. They cite the most prominent need as that connected with transformation from one era to another, a phenomenon that recognizes the need to develop and survive. They state that in view of a changing environment, HRD should recognize national trends, global influences, social values and shifting needs.

From a National Human resource Development (NHRD) perspective, it appears that central to this National Chosen Value Base for HRD is the role of education. Beardwell and Holden (1997) and Al-Dosary et.al (2006) are of the view that a national strategy of HRD has the objective of building the skills and knowledge required for economic, social, cultural and political growth through Vocational Education and Training (VET) Policies and systems that facilitate their development. They further point that these strategies focus on the achievement of national competitiveness, national wealth creation which ultimately become important aspects of the context of individual learning and organizational HRD. Given that Higher Education (HE) institutions are an integral part of this Strategy through VET, Sporn (1999) notes that University systems and Institutions need to think global and act local in order to enhance internationalization while taking regional needs and differences in consideration. From the global standpoint, Altbatch and Davis (1999) identify some themes that are central to the current developments in HE revolving around linking education with work, continuing professional

development beyond the bachelors degree, influence of technology, international mobility of students and the need to internationalize the curriculum.

Pillay et.al (2003) further indicate that a common trend in HE is that of changing objectives to shift from the traditional focus on social and cultural concerns to address economic issues such as employability of graduates and accommodation of the private sector. In the case of Kenya, Eshiwani (2009) observed that the country seems to have a poorly developed national philosophy for education. In view of the prevailing situation, such a philosophy that forms the basis for the chosen value base for HRD in Kenya is found to be scattered across several documents essential to the policy framework for HE that provide the picture of the nature of an HRD Chosen Value Base for HRD for the 2000's for Kenya (KEISS, 2005; Report of the National Conference on Education and Training, 2003; Sessional Paper No.1, 2005). These documents capture several aspects that provide the espoused national philosophy of education that underscores the role HRD is expected to play for the development of the country.

2.8.3 National Human Capital Needs

It has been indicated by several scholars that Universities by their very nature and origin are instruments for human capital development (Rao, 1995; Wu, 2005; Beardwell, 1997; Rapinoja & Soininen, 2005). They are therefore an integral part of the nation's system for attaining national human capital needs. Human capital has been described as the knowledge, skill, competencies and other attributes embodied in individuals that are relevant to economic activity (Paprock, 2006). The duration of schooling and levels of qualification are the standard measures of such attributes. Paprock (2006) points that some early definitions of HRD proposed by Rothwell and Sredl (1992) and Swanson and Holton (2001) have been expounded to define HRD in economic and socio-cultural terms. The economic perspective has considered HRD as the accumulation of human capital and its effective investment in the development of the economy. From the social and cultural point of view, HRD has been associated with helping people to lead fuller and richer lives less bound by tradition and thus unlocking the door to modernization.

Nafukho et.al (2004) have reviewed and summarized the main tenets of the Human Capital Theory. They indicate that the Human capital theory is build on the fundamental principle of the belief that peoples' learning capacities are of comparable value to other resources involved in the

production of goods and services. The theory seeks to explain the gains of education and training as a form of investment in human resources. The main proposition is that people are considered as a form of capital development. On the basis of this, education and schooling are seen as deliberate investments that prepare the labor force and increase productivity of individuals and organizations as well as encouraging growth and development at the international level. A link has been identified between human capital and HRD through the definitions of HRD that emphasize the role of HRD in national productivity and performance. This link extends to the way human capital development theory has been defined over the years to bring out knowledge and skills, education and training, human capabilities and performance

Some developments have taken place that help to define the human capital needs in most parts of the world. Pillay et.al. (2003) cite the evolving nature of the society that leans towards knowledge society by becoming knowledge based entities. They indicate that an important assumption that economic productivity and wealth is increasingly dependent on the production and application of new knowledge by highly trained knowledge workers and thus a nation's economic development is its capability to apply new knowledge to existing knowledge. This raises new pressures to HE and points at the need for flexible and versatile workforce, constant learning and updating of skills, retraining and updating on a lifelong basis. Weifang (1999) basing arguments on this emerging knowledge society trend advised that if knowledge and information are the electricity of the new world economy, then universities are the power sources on which the development process of the 21st century has to rely. He thus pointed at the need to formulate systematic policies and strategies to assist universities in playing a more significant role in the development process of the new world economy of the 21st.century amidst the concern whether universities have realized their role in the current national and international contexts.

Albatch and Davis (1999) reinforce the concern and are of the view that academic institutions have an international orientation, even though they may function in a national environment, as the nature of challenges they face places them on a global scale. Some literature captures some set of human capital needs specific for Kenya in addition to those associated with international concerns. The Report of the National Conference on Education and Training (2003) cites the need for Providing opportunities for all Kenyans to productively participate in national growth. Kiamba (2005) cites the need for Curbing emigration of human capital (brain drain). KESSP

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(2005) identifies factors associated with the context of H.E in Kenya such as constant change, increasing challenges and pursuit of the Millennium Development Goals, while Vision 2030 (2007) identifies industrialization and economic growth.

3.8.4 The Institutional Characteristics

The characteristics of the environment of each organization affect the flow of resources to the organization through uncertainty. Jones (2004) points that an organization likes to have a steady and abundant supply of resources so that it can easily manage its domain and satisfy its stakeholders. All the environmental forces however cause uncertainty for organizations and make it more difficult for managers to control the flow of resources they need to protect and enlarge their organizational domains. The organization domain is the chosen environmental field of action. It is the territory an organization stakes out for itself with respect to products, services and markets served. Domain defines the organization's niche and defines those external sectors with which the organization will interact to accomplish goals (Jones, 2004; Daft, 2007). The resource dependence theory indicates that organizations are dependent on their environments for the resources they need to survive and grow. The supply of these resources is however dependent on the complexity, dynamism and richness of the environment. The goal of an organization is to minimize its dependence on other organizations for the supply of scarce resources in its environment and to find ways of influencing them to make resources available.

Environmental uncertainty pertains to primarily those sectors that an organization deals with on a regular day to day basis. Although sectors of the general environment can create uncertainty for organizations, determining an organization's external uncertainty generally means focusing on sector of the task environment. To assess uncertainty, each sector of the organization's task environment can be analyzed along dimensions such as stability and degree of complexity. The total amount of uncertainty felt by an organization is the uncertainty accumulated across environmental sectors. Uncertainty means that decision makers do not have sufficient information about environmental factors and they have a difficult time predicting external changes. Uncertainty increases the risk of failure for organizational responses and makes it difficult to compute costs and probabilities associated with decision alternatives (Daft, 2007).

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Based on these observations, it is expected that HE institutions will configure their systems in order to position themselves in the complex context of their operation. Thus the context is expected to influence the HRD design and its relationship with the outcomes of this infrastructure of alliances and performance. The influence is expected through the managerial cognitions of the components of the context. The cognitions are key to organizational management as has been underscored in multiple streams of literature (Nadkarni & Barr, 2008; Delmas & Offel, 2008; Zigarmi, et.al. 2009). The literature supports the position that the cognitions influence strategic behavior of organizations through the choices that managers make. At the HRD level however, this connection has been omitted from extant research as the role of the cognitions is yet to be incorporated in HRD studies and especially on their influence on the design of SHRD systems. Delmas and Offel (2008)'s study used the institutional perspective in an attempt to answer the question "why do organizations facing common institutional pressures adopt different management practices?" The study's findings underscored the role of individual managers' characteristics that explain corporate responses to environmental pressures.

Nadkarni and Barr (2008)'s study was designed from the premise that industry cognition variables are crucial in developing explanations of strategic actions. This research studied the role of managerial cognitions in driving strategic action and sought to answer two questions: does industry context affect managerial cognition? Does managerial cognition mediate the relationship between industry context and strategic responses to environmental changes? The study found the mediating role of management cognition based on quantitative data and concluded that industry and cognition variables are crucial in developing explanations to strategic actions. The findings of the study raised implications on the understanding of the development of top managers' beliefs, the relationship between beliefs and actions and the nature of the complex relationship between industry context, managerial cognition and strategic action. This outcome is however yet to be incorporated in HRD research that focuses on HRD within organizational contexts.

2.9 State of Human Resource Development Research in Kenya

The HRD situation in Kenya like in many other developing countries is largely unexplored. Most of what has been done has reflected a disintegrated theoretical description of the HRD situation. McLean and Kamau (1999) focused on HRD and Vocational and technical Education at a micro level paying attention to the situation of Kenyatta University and reviewed the state of VET in view of changing African values. Lutta-Mukhebi (2004) looked at the HRD Policy in Kenya and paid attention to the macro conditions that shape the HRD framework. Angote (2009) analyzed the HRD needs situation in the country and identified the relevant HRD activities that have been used in the country. The paper paid attention to policy issues and the various levels at which the analysis is done. Overall, all these attempts lack an empirical attempt to validate the conclusions that have been arrived at. Even though their conclusions agree with those findings from studies done elsewhere, it is evident that they have not clearly indicated how HRD is currently situated in the country and have also adopted an HRD orientation that has leaned more towards the traditional personnel management perspective and ignored the strategic aspects of HRD. Only one empirical study seems to have been done on an HRD related topic by Walumbwa et.al (2005).

The research carried out a comparative study of Kenyan and U.S financial firms with a focus on the relationship between leadership, organizational commitment and job satisfaction. The study relied on a sample of seven foreign and local banks in Kenya and five in the U.S. The participants were bank tellers and clerks and done as a survey. The study found some significant levels of transformational leadership practice as well as differences in these levels based on cultural differences. The study did not however measure the cultural orientations likely to influence the HRD situation in the country. In addition, the study used data from only a single industry and relatively very junior levels of staff as respondents. From the findings, it is clear that a significant percentage of the elements influencing HRD are yet to be studied such as managerial factors, organizational strategies, institutional contexts and national cultural systems.

An overall assessment of the state of the art of the theoretical and empirical position of the literature review points at several knowledge gaps. The studies on HRD and its context have not demonstrated the impact of the context on the design of HRD in organizations and have not included the micro level of analysis. Those done on HRD in the organizational setting do not

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demonstrate the linkage of HRD with organizations strategy while those on HRD and performance do not use performance indicators reflecting the situations suitable for human capital development institutions. Those done on HRD and interorganizational networks have not shown the empirical relationship between HRD and the networks as well as organizational performance while those on U-I Collaboration suffer from lack of statistical rigor and none has attempted to link U-I with HRD in spite of the clear indication that it is an integral part of the phenomenon. They have not focused on U-I as an area of academic concern whose research needs to benefit from and be guided by the contribution of the relevant multidisciplinary theoretical literature. Studies on the influence of the context indicate that managerial cognitions have just begun to be incorporated in this research stream and are producing contradictory results to those obtained from the influence of the institutional context factors on strategic choices. Overall, there is lack of a multidisciplinary focus which leads to a persistent lack of an integrated framework for guiding research in this area. These gaps are summarized in Table 2.1

Table 2.2: Summary of Empirical Studies and Knowledge Gaps

STUDY	FOCUS/ OBJECTIVES	MAIN FINDINGS	LIMITATIONS	GAP	CURRENT STUDY ATTEMPT
HRD AND ITS CONTEXT					
Ke et al. 2006; Cunningham et al. 2006. Paprock et al. 2006	The national situational positioning of HRD in transitioning societies	The role of the historical context through the macro factors of political, economic and sociocultural in the development of HRD	The Nature of institutional influence on HRD not ascertained, The methodologies lack statistical rigor for generalization of the findings. Focused only on the macro level of analysis and ignored the micro setting. Did not show the design of HRD at the organizational level	The relationship between HRD infrastructures in organizations and their institutional contexts. The design of HRD at the macro level of organizations	Influence of the managerial cognitions of context on the relationship between HRD Infrastructure and O B outcomes-H4, H5. Components of the HRD infrastructure and relationship with O D Needs-H1
HRD IN THE ORGANIZATIONAL SETTING					
2001	The role of firm HRM infrastructure in the relationship between small firm innovation and strategic competitiveness	There is a relationship between the characteristics of a firm's HRM infrastructure and innovation	Qualitative methods used limit the generalizability of findings. Did not explain how the external environment influences innovation	The relationship between external context and HRD and that between HRD and organizational strategy	The relationship between O D needs and the HRD Infrastructure-H1A
Bates & Chen, 2004, 2005	Value priorities of HRD professionals across various HRD occupational specialties	HRD professionals operate from a structured set of values. The relative importance of the values varies according to the settings and challenges faced in practice	Did not consider the value orientations of line managers as well as account for cross cultural differences in HRD values and value orientations.	The value orientations of line managers and professionals outside the HRD profession	HRD Values of line managers-H1B
McLean, 2005. Ruben, 2005. Torraco & Hoover, 2005; Turnbull & Edwards, 2005	The process of doing O D in Organizations. Identification of the key prerequisites for change programs in universities, the role of leadership development in organizational change	A relationship between organizational climate and HRD practice in organizations. Proposed a model for learning and change in organizations and underscored the role of learning in organizational improvement, leadership philosophy and institutional structure, quality management, needs assessment and preparation prior to O D	Did not show the role of the human component in O D process. Sampling not representative and methodology lacked statistical rigor. Did not provide the empirical evidence of the relationship between the culture and HRD areas	The role of the human component in the O D process. The relationship between HRD and organizational strategies and cultural aspects	Relationship between O D and HRM Practices-H1A. The relationship between O D needs and the components of the HRD Infrastructure-H1
& Furu	The relationship between top	Compensation based on knowledge influences	Used economic rewards only, did	The relationship between	The relationship between

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	management incentive compensation and knowledge sharing in MNCs	knowledge transfer National cultural has an influence on knowledge sharing	not account for other types of intrinsic rewards	comprehensive compensation and knowledge sharing	organizational learning culture and HRD Practices-H10

HRD AND PERFORMANCE

Kontoghiorghes et al. 2005	The relationship between learning organization characteristics and change adaptation and organizational performance	Grouped performance into bottom line and organizational readiness for change. Identified the learning organization characteristics with the strongest prediction as open communication, information sharing, risk taking and new idea promotion and information, facts, time and resource availability	Relied on self reported data such that no strict causal conclusions can be inferred. Did not account for the learning dimensions that affect performance as well as applicability in other sectors and environments	The types of organizational learning dimensions affecting performance	The relationship between HRD Infrastructure and University Performance-H4
Lopez et al 2006; Davis & Daley, 2008	The relationship between high performance HR practices, organizational learning and business performance	Organizational learning mediates the relationship between high performance HR systems and performance systems. Behaviors measured by the learning organization score are positively and statistically significantly related to certain performance measures	Did not show how the effects vary across different professional groups as well as generalizability across cultures	The impact of national cultures on the relationship between learning organization and performance	The influence of Institutional Contexts on the relationship between HRD Infrastructure and University Performance-H4
Song et al. 2009	The validity and reliability of the measurement scores of the learning organization culture, Organizational learning and business performance	The DLOQ Tool is relevant to measure learning organization culture in the Korean context which enables the theory of the learning organization to be applied in HRD practices	Did not identify measures that are suitable for other sectors such as public and educational institutions and link the perceptions of the learning culture to some of the dependent variables of performance and change	The specific types of performance measures for other sectors involved in human capital development. The relationship between perceptions of the learning culture and organizational performance	The relationship between HRD Infrastructure and the University Performance-H4

Ramey & Taylor, 2006	Understanding how business associations use interorganizational networks to achieve workforce development goals and their implications for HRD	Engagement in networks produces better outcomes for individuals, the role of a multidisciplinary input towards research in interorganizational networks and indication of variables at play	The study did not explain how the individual outcomes are attained, failed to propose the multidisciplinary framework for related research and findings difficult to validate due to lack of inferential statistics	The relationship between HRD outcomes and interorganizational networks and performance; An integrated framework for research in interorganizational networks	HRD Based model for interorganizational networks
Schmidt, 2008	The effectiveness of spin-offs human resource organization quality and capacity	A poor state of human resources within the spin-offs.	Did not account for the relationship between HRD activities and strategic decisions for the spin offs study lacked statistical rigor	The relationship between the spin-off phenomenon and the state of HRD.	The relationship between HRD Infrastructure and U-I Collaboration-H3
Arend, 2009, Zhang et al. 2009	Determining the factors that can increase cooperation in alliance in strategy and organizational research and role of reputation in interfirm relationships	Reputation data influences cooperation, critical levels of reputation are needed to induce cooperation. Interorganizational communities are interdependent which has a significant impact on community growth	Did not incorporate the cognitive processes involved in the relevant decision making leading to the cooperation. Did not provide for cross country comparisons to evaluate variations in national economies	Influence of managerial cognitions on strategic decision making for cooperation. Influence of national cultural systems on the performance outcomes of interorganizational networks	The influence of the institutional context on the relationship between HRD Infrastructure and U-I Collaboration and Performance H4, H5

THE INFLUENCE OF U-I COLLABORATION

Martin, 2000	Empirical evidence on innovative mechanisms through which universities worldwide manage their relations with industry from 12 different countries	Institutional factors affect U-I Collaboration, internal climate established on O D and HRD influences the process of U-I, O T theory is relevant in the U-I Research	Did not account for the impact of institutional factors on U-I; Methodology lacked statistical rigor, Did not show the relationship between U-I and performance Did not account for the relationship between U-I C and organizational HRD infrastructures	The relationship between institutional contexts and strategic decisions for U-I Collaboration The relationship between HRD and the U-I Collaboration.	The influence of the institutional context on the relationship between HRD Infrastructure and U-I Collaboration and Performance-H4, H5
Harris & Williams, 2010	Factors influencing university collaborations on joint doctoral	Role of institutional strategy in the development of U-I	Did not account for the relationship between the	The relationship between U-I C and University	The influence of U-I Collaboration on the relationship between

	programs	Programs The internal components within the university that provide the strategic posture for U-I Collaboration	Internal organizational systems and U-I C	performance The relationship between organizational systems and U-I C	HRD Infrastructure and University Performance-H4
Santoro et al 2001	The contribution made by Public Research Organizations (PROs) to the innovative process and the extent of cooperative R&D projects between firms and PROs	Reliance on publications for acquiring knowledge affects probability of entering into collaboration with a PRO but not the level of collaboration	Did not account for the relationship between U-I and performance. Did not show how the O.T theory implied may be applied in U-I Research	A suitable framework using the O.T literature to explain the relationship between U-I and performance	The HRD Based model for interorganizational networks H1-H5
Soh, 2005	A micro and macro perspective to the relationship between new technology and industrial corporations' competitiveness through projects for transitioning the economy from labor intensive to knowledge economy	Role of uncertainty in alliance building; identified firm and industry level factors that drive firms to enter alliances	Did not explain how U-I alliance influences the relationship between organizational systems and their performance	The role of U-I in the relationship between organizational systems and performance	The influence of U-I Collaboration on the relationship between HRD Infrastructure and University Performance-H4
Chang et al 2006 Dooley & Kirk 2007	Factors affecting academic entrepreneurship in Taiwan	Internal systems for HRD account for entrepreneurship	Did not relate HRD with performance No role of U-I on the performance	The influence of the context on U-I C and the relationship between organizational systems and U-IC	The influence of U-I Collaboration on the relationship between HRD Infrastructure and University Performance-H4
Walton & Guarisco 2006, Philbin 2008	The requisite attributes and organizations displayed by universities for successful collaborative research with the Industry International collaborative ventures between H E Institutions in Britain and Russia	The two key measures of innovative development that drive knowledge exchange between university research centers and industry the rate of knowledge development and the speed of knowledge transfer and exploitation, the role of research reputation, the need for organizational designs tailored for each alliance and production of tangible benefits to all parties.	Did not explain the relationship between the type of alliance and Performance;Used qualitative statistical tools, did not relate HRD and collaboration;The model did not delineate clear lines of relationships among variables	The role of U-I C in the relationship between HRD and Performance	
Worsanchai et al, 2008	Presentation of a general framework for fostering collaboration and knowledge transfer between university and industry in Thailand	The role of the climate suitable for collaboration characterized by trust, partnering skills and power relationships Proposed a model for knowledge migration	Did not explain the relationship between HRD and U-I C: Did not explain the relationship between organizational	The relationship between HRD and collaborations at H E level	The relationship between HRD infrastructure and U-I C-H3

INFLUENCE OF THE HRD CONTEXT

Sanjaa & Ollel, 2008	"Why do organizations facing common institutional pressures adopt different management practices?"	Companies respond to perceived institutional pressures in different ways depending on which constituent is exerting pressure	Did not account for the factors that may influence or alter organizations perceptions of institutional pressures. Did not explain how the collaboration relates to firm growth	The impact of organizational cognitions on strategic decisions	The influence of Institutional Contexts on the relationship between HRD Infrastructure and University Performance-H4, 5
Kotha & Prescot, 2008	Impact of competitive intensity on a firm's collaboration incidence and how industry technology intensity moderates this relationship	Inverted U-shaped relationship between collaboration and competitive intensity	Did not incorporate the use of a contingency perspective to the choice of strategic alliance	Influence of contingency factors on the relationship between U-IC and performance	
Nadkarni & Barr, 2008, Chio & Wang 2009, Harrison et al. 2009, Meyer et al. 2009, Joy & Kolb, 2009	The complex relationship between industry context, managerial cognition and strategic action; Effect of stakeholder relations on the persistence of a firm's superior financial performance	Management Cognition has a mediating influence on the relationship between industry context and strategic responses. Industry and cognition variables are crucial in developing explanations to strategic actions. Stakeholder perspective more critical in helping a poor performing firm recover than in a superior firms sustaining their performance advantage	Study done using large firms and generalizability of findings limited by its focus on equity based firms; Did not account for the impact arising from knowledge sources	The influence of the management cognitions and strategic response across diverse industrial sectors. The role of human resources in sustaining competitive advantage	The influence of Institutional Contexts on the relationship between HRD Infrastructure and University Performance-H4, 5
Chio & Wang, 2009, Harrison et al. 2009, Meyer et al. 2009, Joy & Kolb, 2009	Relationship between a particular type of stakeholder treatment and competitive advantage, adaptation to institutional contexts and role of culture in learning	Proposed a model for stakeholder link with competitive advantage through the value creation process The local environment moderates strategic choice. The dimensions of culture impact learning styles	Did not incorporate the human resource component. Did not account for the moderating effects from local contexts of the institutional frameworks. Did not include samples from other countries and particularly Africa	Influence of the institutional environment on the relationship between stakeholder type and performance The impact of individual cognitions on organizational learning, impact of developing country cultures on learning styles	The influence of the Kenyan Institutional Contexts on the relationship between HRD Infrastructure and University Performance-H4,5

| Gwanbwa et al.2005 | The relationship between transformational leadership, organizational commitment and job satisfaction | Significant levels of transformational leadership. Differences in the levels resulting from cultural differences across the countries | Data was collected from a single industry, the banking sector; Did not account for the key factors influencing HRD such as organizational strategies, managerial factors, and national cultural factors | HRD situational positioning in Kenya in view of the prevailing national institutional context | The design of HRD infrastructure in a Kenyan context-H1

Influence of the context on the relationship between the HRD infrastructure and U-I Collaboration and Performance-H4, H5 |

<div align="right">Source: Author, 2011</div>

2.10 The Conceptual Framework

An integrated framework is required to respond to the identified gaps in this study. Using the contributions of the six analytical frameworks discussed in section 2.3, an integrative framework that responds to the knowledge gaps identified in the literature review in this study is proposed. It is referred to as the HRD-Based Model for Inter-Organizational Networks. It constitutes the Conceptual Framework for the study. It consists of four main components: The University HRD Infrastructure; The Institutional Context likely to shape the design of University processes for HRD Practice through managerial cognitions, University-Industry Collaboration; and The Performance Outcomes for each University. These four components constitute the major variables whose relationships will be studied.

The University HRD Infrastructure is the independent variable. It comprises of four dimensions: the Organizational Development Needs, Organizational Learning Orientation, HRD Values and Practices Performance of the Universities is the dependent variable. The study uses both objective performance indicators and HRM related indicators of readiness for change. The University-Industry collaboration is the mediating variable, and is studied on the basis of three aspects, motivation for, the type and the level of collaboration. The Institutional Context is the moderating variable. The dimensions of this variable are the responsiveness to the national culture, national human capital needs, HRD value base and the institutional characteristics. The Model appears as shown in Figure 1.

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FIGURE 1: The HRD-Based Model for Inter-Organizational Networks
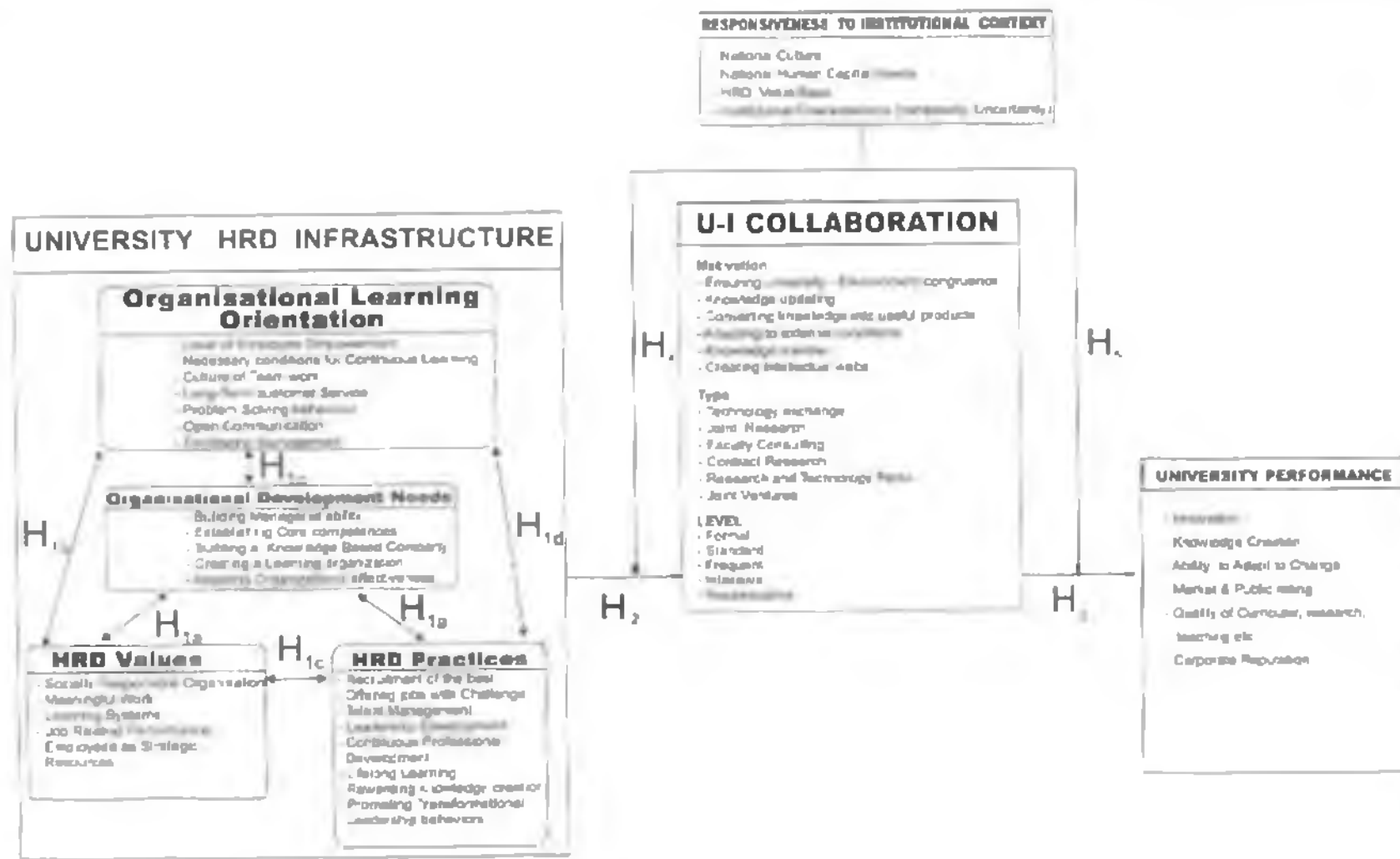
Using the contributions of several scholars in the multidisciplinary literature related to HRD, the University HRD Infrastructure is build on the central pillar of the organizational development needs faced by universities as they seek to confront the future in the context of a turbulent environment. In an HRD setting, the optimal climate suitable to pursue the achievement of these needs is established on the basis of elements conceived to support value creation activities in the Universities. Innovation is key to the process and an environment of learning is required to continually offer support for the required degree of innovation. The learning has been connected with organizational development at both individual and organizational levels and leads to the performance of systems that support HRD in organizations. Thus it is expected that the University HRD Infrastructure will influence the University Performance.

The HRD Infrastructure is based on the strategic nature of HRD which embraces a stakeholder orientation to ensure congruence between organizational systems and the external environmental conditions. In the case of universities, the stakeholder orientation will lead to the phenomenon of University-Industry Collaboration and is likely to influence the relationship between the HRD Infrastructure and the corresponding University Performance. The whole process is moderated by the context of HRD practice, in this case the context of Universities in Kenya. Using the cognitive approach, managerial cognitions of the context of practice are likely to influence the emergent strategic organizational behavior of the Universities.

2.11 Chapter Summary

The second chapter of the thesis has presented a lengthy discussion on both theoretical and empirical literatures explaining the phenomenon involving the variables of the study. The theoretical roots underpinning the phenomenon being investigated in this study have been explored to highlight the nature of HRD Infrastructure and how it is likely to influence the strategic behavior of organizations. Six theories underlying the variables have been presented and a summary of their postulates, their relationships and how they have been utilized in conceptualizing the theoretical model of the study presented. The chapter considered the theoretical perspective on each variable and the empirical state on the level of research so far done. The emerging research gaps that form the basis of the lines of hypotheses were presented and a summary of all the gaps presented. The contents of the chapter lay the ground for an understanding of the state of the art and the direction required in empirical research.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter has extensively presented discussions on the state of the art in the relevant area this study focuses on. According to the deductive approach to research, scientific research is about moving from a more generally known state to reach a logically certain conclusion (Aquil Burney & Mohamood, 2006). The transition to this conclusion will involve appropriate methodological approaches for investigating a phenomenon and report on findings. This chapter presents a discussion on the methodology used in this research to be able to answer the research questions. The research methodology chapter has considered the epistemological approach the research subscribed to, the research design, population and sampling, data collection and analysis. The contents of the chapter connect the contents of the previous chapters with the statistical approaches that move the state of empirical research forward.

3.2 Epistemological Orientation

There are three basic paradigms that guide scientific research, namely positivism, interpretism and the critical theory (Guba & Lincoln, 1994). The positivism paradigm is of the view that knowledge can be described in a systematic way and consists of verified hypotheses that can be regarded as facts or law, is probabilistic, accurate and certain. According to this paradigm, the role of theory is to present models and general propositions explaining causal relationships between variables. The researcher therefore postulates theories that can be tested in order to confirm or reject. The paradigm uses survey studies, verification of hypotheses, statistical analysis and quantitative descriptive studies.

The interpretism paradigm on the other hand is of the view that knowledge is based not only on observable phenomenon but also on subjective beliefs, values, reasons and understandings. Accordingly, theories are revisable and are built from multiple realities and are shaped by social and cultural phenomenon to grasp the meaning of phenomenon. Research based on this paradigm uses unstructured observations, open interviewing and discourse analysis to capture insider knowledge and executed as field research conducted in natural settings in order to collect substantial situational information. The critical theory paradigm is based on the belief that knowledge is dispersed and distributed and that theories are constructed in the act of critique in a

...tical process or deconstructing and reconstructing the world and from analyzing power ...ships. The role of the researcher is to promote critical consciousness and to address social ...ces. The researcher adopts the role of a facilitator and uses participatory action research and dialogical methods.

This research adopted the positivist paradigm which considers the cumulative nature of science and is closely related to the reductionism view that considers social processes as reducible relationships between individual actions (Collin, 2007). Huczynski and Buchanan (2001) describe the positivism approach as a broad social scientific perspective which assumes that the social world and its properties can be studied using objective methods and not through the use of subjective inference; the organization in this perspective possesses an objective reality or truth that exists independently of any one's attitudes towards or interpretations of it. The positivism orientation was considered relevant for this study for a number of reasons.

Collin (2007) underscores the importance of understanding the complex context of HRM in any setting at three levels namely, the organization, the environment, the historical, national and global so as to obtain the language to understand it and meanings. HRM is embedded in the context and any attempt to understand it may not meaningfully examine it in isolation and separately. The positivist's view in this case considers the context of HRD practice and fragments the relevant factors in order to establish the relationships among them through several hypotheses. Conceptualizing and representing the HRM context requires conceptual tools that examine HRM's interconnectedness and interdependence with other known phenomena in the context. This is facilitated by incorporation of both the concrete world and the world of abstract ideas by which we generate the language to be used in conceptualizing the practice of HRM.

3.3 Research Design

A positivist research relies on taking large samples. The study used a descriptive design as the basic design which was a cross sectional survey in nature. A survey research studies large and small populations by selecting and studying samples chosen from the population to discover the relative incidence, distribution and interrelations of sociological and psychological variables (Kerlinger & Lee, 2000). A survey type of design relies on a structured questionnaire given to a sample of population and designed to elicit specific information from respondents (Malhotra, 1996). The study relied on data gathered from a population sample of organizational units in Public and Private Universities in Kenya through the use of a predetermined questionnaire.

3.4 Population

The population of the study comprised all Public and Private Universities operating in Kenya. Currently there are 26 Universities in Kenya: 7 Public Universities, 13 Chartered Private Universities and 9 Universities operating with a Letter of Interim Authority. The status of the various universities is shown in Appendix 4 (Commission for Higher Education, 2011). The study selected universities that had operated in Kenya at least five years before the date of this study. This criterion provided 19 universities for study as shown in appendix 5. This was considered necessary to come up with a list of universities that had well established administrative structures and HR Systems suitable to support strategic pursuits for U-I Collaboration. Similar studies have suggested the need for consistency in sectors of a particular industry selected for research in interorganizational networks (Menger, 2001). The study followed this guideline to identify 7 Public and 12 Private universities from which data was collected.

3.5 Sampling

The primary data for the research was obtained from representatives of administrative units at several levels in each university. To identify the respective respondents from each university, a multi stage sampling technique was applied in this research to select the respondents from whom primary data was collected. This sampling approach involved using a combination of several probability sampling techniques at several steps (Zikmund, 2003). Joy and Kolb (2009) used a similar approach in their study on cultural differences in learning styles. The Multi stage technique was applied in this study at three stages.

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The first stage involved the selection of the respective Universities from which respondents were drawn based on the criteria shown under section 3.4. The second stage involved selection of units within each university selected. The respondent units for the study were selected from the various levels of the performance of the universities, specifically, the academic and administrative. The academic level was used to select the various schools or faculties on the basis of areas of specialization. The administrative level focused on administrative support sections in universities responsible for liaison with external stakeholders and those responsible for university wide policy decisions. Using these levels, an estimated number of 300 respondents were identified as shown in appendix 6. This approach provided respondents that share a similarity with other studies in this series as well as compliance with the strategic management theory on establishment of interorganizational networks indicating the role of functional departments in the initiation and sustenance of collaborations (Rosenkopf et.al, 2001; Daft, 2007; Biglan, 1973; Kolb, 1984; Ismail & Rasdi, 2007; Joy & Kolb, 2009).

The third stage involved use of stratified sampling to obtain at least 60% of the respondents from the universities. The various strata were identified from the areas of academic specialization of schools/faculties and the basic orientation for decision making by the administrative units. The various strata that emerged on the basis of the levels of the university performance and the respective number for each selected are shown in appendix 6. The administrators in the category of vice chancellors were excluded from the study due to the nature of their work that would have inconvenienced timely data collection

3.6 Data Collection
Data was obtained using a questionnaire structured on a 5-point Interval Likert type scale to measure the four categories of variables from the respondents as shown under section 3.6. The main items in the questionnaire were grouped into five main parts as shown in appendences 1-3. To facilitate field work, a research permit was obtained from the National Council for Science and Technology and an introductory letter obtained from the Doctoral Studies Office of the School of Business explaining the purpose of the research. Initiatives were made through the office of the vice chancellor of each university to get authority to collect data and an office Identified for liaison and research assistance. In most of the universities a formal letter of request

was required and the researcher was given an official written authority to facilitate movement within the universities.

The questionnaire was administered to respondents by the researcher. This method was considered suitable for the study because of the various levels of analysis involved and their respective respondents, the technical nature of items in the scale and the need to ensure reliability of responses from the relevant respondents. To each respondent, the purpose of the research was explained and they were taken through all the items of the questionnaire and then given time to examine documents where such a case was required and the questionnaire collected later at some agreed date. This was the case in the offices for research, collaboration and students' placement offices. The respondents in the level of deputy vice chancellors and registrars were personally interviewed by the researcher and the responses coded directly in the research instrument.

3.7 Measurement of Variables

The study had four main types of variables as captured in the conceptual framework. The variables were operationalized in this study for measurement as shown in table 3.5.

Table 3.1: Operationalization and Measurement of Variables

	VARIABLE	NATURE	OPERATIONAL DEFINITION	MEASUREMENT CRITERIA IN QUESTIONNAIRE
Hypothesis 1: _____ is a relationship between the organizational development needs identified by the Universities and the organizational learning orientation, HRD practices and values	O D Needs	Independent	The major concerns that the management of each university considers internal priority developmental areas in view of the prevailing national and international circumstances	Sections 1-4,1-6 Questions 1-13
Hypothesis 1: _____ is a relationship between the prevailing organizational learning orientation adopted by universities and the HRD values they have embraced	Organizational Learning Orientation	Independent	The existence of an organizational environment that has both tangible and intangible elements for supporting learning in each University	Sections 1-4, 1-5,1-7 Questions 1-22
Hypothesis 1c: There is a relationship between the HRD values and the HRD practices adopted by the Universities	HRD Values	Independent	Important philosophical inclinations / orientations and or convictions that managers consider important in the development of employees in the universities	Section 1-6 Questions 1-16

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	HRD Practices	Independent	HRM activities that management considers necessary and applies to support the development of staff in the universities	Section 1-6 Questions 1-18
There is a relationship between the universities' organizational HRD orientation and their HRD practices.				
Hypothesis 2 University HRD infrastructure has influence on University-Industry Collaboration	Motivation for U-I Collaboration	Mediating	The likelihood of each manager initiating actions that will result in a collaborative undertaking either within or without their universities	Section 1-9 Questions 1-15
Hypothesis 3: University-Industry Collaboration mediates the relationship between University HRD Infrastructure and Performance	The Nature of U-I Collaboration	Mediating	The respective type of program that the university has or currently is partnering with an external stakeholder	Sections 1-5, 1-10 Questions 1-12
	The Level of U-I Collaboration	Mediating	The level of involvement of the parties in each collaborative undertaking between the university and an external stakeholder	Section 1-6,1-11 Questions 1-13
Hypothesis 4 The University's responsiveness in the institutional context moderates the relationship between the University HRD infrastructure and the University-Industry Collaboration	National culture	Moderating	The familiarity with the basic characteristics of the prevailing national cultural dimensions relevant to learning in organizations	Section 1-2 Questions 1-14
	Human Capital Development Needs	Moderating	The perceived importance of national considerations (priority developmental) concerns that the university needs to factor in business planning for the country's human resources	Section 1-3 Questions 1-16
Hypothesis 5: The University's responsiveness in the institutional context moderates the relationship between the University Industry Collaboration and University performance	HRD Value Base	Moderating	Preferred national concerns upon which HE in Kenya is anchored to which institutions of higher learning must help to achieve in the country	Sections 1-2,1-4 Questions 1-9
	Institutional characteristics	Moderating	The perceived state of the macro environmental conditions for HE in Kenya within the continuum of stability and turbulence of the environment	Section 1-3,1-5 Questions 1-20
	Bottom line Performance	Dependent	Indicators of measurable objective / Quantitative performance of the university	Section 1-7 Questions 1-14
	Readiness for Change	Dependent	Indicators of qualitative dimensions of performance associated with organizational culture resulting from change activities	Section 1-8 Questions 1-12

3.8 Testing for Reliability and Validity

There are two methods of testing the reliability of research instruments that were used in this study: tests for equivalence (consistency of the results by different investigators or similar tests at the same time) and Internal consistency (the measurement of the concept is consistent in all parts of the test). Test of equivalence was ensured through questionnaire pretesting with a sample of technically equivalent respondents not participating in the study. The questionnaire was pretested through officers in the offices for coordination of programs and heads of departments and some registered doctoral students in the school of business of the University of Nairobi. Editorial issues were addressed and the structure of questions as well as the overall design of the questionnaire. As a result, some questions that were duplicated were deleted from the original questionnaire thus reducing the number of questions from 210 to 185. The version of the questionnaire administered for the field survey contained the 185 items in all the four variables being measured.

Internal consistency of the research instrument was measured through the Coefficient Alpha. According to Nachmias and Nachmias (2004), Cronbach alpha is used to measure the reliability of a research in which a likert scale with multiple answers is used to collect data. This research adopted the likert type scale as the instrument for data gathering. The reliability of the instrument was computed from the composite indices of all the 4 variables used in the study. Each index was computed as the harmonic mean obtained from all the respondents answering each part of the questionnaire.

Validity in research is concerned with whether a research is measuring what is intended for measurement. It arises due to the fact that measurements in social sciences are indirect (Nachmias & Nachmias, 2004).Three kinds of validity were considered relevant for this research: face validity, sampling validity and construct validity. Face validity dealt with the researcher's subjective evaluation of the validity of the measuring instrument, and so the extent to which the researcher believed the instrument was appropriate. The current research relied on instruments developed in other related studies, as well as concepts generated from a broad range of appropriate literature (see Table 3.1). Sampling validity deals with whether a given population is adequately sampled by the measuring instrument so as to answer the question "do the questions, statements or indicators adequately represent the property being measured?" The

current research instrument had 185 statements that represented several concepts grouped into four main types of variables. Construct validity was ensured through the Operationalization of terms. The variables in the study were operationalized to reflect the theoretical assumptions that underpinned the conceptual framework for the study.

3.9 Data Analysis

Descriptive statistics were calculated to describe the main characteristics of the population under study using the mean and the standard deviation for each item in the questionnaire. Correlation coefficients were computed and cross tabulated to determine the relationship amongst variables. Parameter estimation and strength of relationships was determined by multivariate analysis. Correlation coefficients were computed to test hypotheses 1-3. A series of Regression analyses were employed to test hypotheses 4 and 5. To facilitate the test of the hypotheses, an index for each variable was constructed for all the universities participating in the study. The adopted approach for the computation of this index relied on the Harmonic Mean. According to Gupta (2008), the Harmonic Mean is based on the reciprocals of numbers averaged, and is defined as the reciprocal of the arithmetic mean of the reciprocals of the individual observations. The respective formula for the computation of the various Variable Indices is shown below:

$$C_i = \sum_{i=1}^{N} \left(\left(\frac{n}{\sum_{i=1}^{n} \frac{1}{x_i}} \right) W_i \right)$$

Source: Gupta, (2008) and adapted for this study.

Where:

C_i = Composite Index for Variable i. The variables for which indices were computed are University HRD Infrastructure, University Performance, University-Industry Collaboration and Responsiveness to the Institutional Context.

N= Total Number of Components that comprised the specific Variable.

n= Total Number of Respondents who responded to the respective section of the Questionnaire.

X_i–Percentage Mean Score for each Component for each organization, computed as a ratio of the Actual score to the Maximum possible score on the statements for each Variable

W_i=The Relative Weight given to each Component in a particular Variable

Table 3.2: Summary of Tests of Hypotheses for Each Research Objective

RESEARCH OBJECTIVE	HYPOTHESIS	TYPE OF ANALYSIS	INTERPRETATION OF RESULTS
RESEARCH OBJECTIVE 1 To determine the relationship among the various components that constitute the HRD Infrastructure for universities in Kenya	**Hypothesis 1$_a$:** There is a relationship between the organizational development needs identified by the Universities and the organizational learning orientation, HRD practices and values **Hypothesis 1$_b$:** There is a relationship between the prevailing organizational learning orientation adopted by Universities and the HRD values they have embraced. **Hypothesis 1$_c$:** There is a relationship between the HRD values and the HRD practices adopted by the Universities **Hypothesis 1$_d$:** There is a relationship between the Universities' organizational learning orientation and their HRD practices.	Correlation Analysis- Pearson Correlation coefficient(r)	r ranges from +1 to -1. r values of 0.7 or above show strong correlation while those below 0.3 show weak correlation. Measurement of effect as: r =± 0.1 represent a small effect r =±0.3 represent a medium effect r =±0.5 represent a large effect (Andy, 2005)
RESEARCH OBJECTIVE 2 To determine the relationship between the University HRD Infrastructure and University-Industry Collaboration	**Hypothesis 2:** University HRD Infrastructure has influence on University-Industry Collaboration	Pearson Correlation coefficient(r)	r ranges from +1 to -1. r values of 0.7 or above show strong correlation while those below 0.3 show weak correlation. Measurement of effect as: r =± 0.1 represent a small effect r =±0.3 represent a medium effect r =±0.5 represent a large effect
RESEARCH OBJECTIVE 3 To determine the influence of the University-Industry Collaboration on the strength of the relationship between the HRD Infrastructure and University Performance	**Hypothesis 3:** University-Industry Collaboration mediates the relationship between university HRD Infrastructure and University Performance	Two regression analysis models **Model 1:** $Y = \beta_{o1} + \tau X + \varepsilon_1$, **Model 2:** $Y = \beta_{o2} + \tau' X + \beta M + \varepsilon_2$, where Y is the Performance, X is the independent variable (HRD Infrastructure), M is the mediator, τ codes the relationship between HRD and Performance in the first equation. τ' is the coefficient relating the HRD to the Performance adjusted for the	R^2 (τ) is the nonmediated or direct effect ($\tau - \tau'$) is the mediated or indirect effect If the treatment coefficient (τ') is zero when the mediator is included in the model, then the relationship is entirely mediated by the mediating variable If, however, the absolute size of the direct effect between the independent variable and the dependent variable is reduced after controlling for the mediator variable, but the direct effect is still significantly

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		effects of the mediator, ε_1 and ε_2 code unexplained variability, and the intercepts are β_{o1} and β_{o2}.	different from zero, the mediation effect is said to be partial (MacKinnon et al ,1995)
RESEARCH OBJECTIVE 4 To determine the influence of the Universities' responsiveness to institutional context on the strength of the relationship between University HRD Infrastructure and University Industry Collaboration	**Hypothesis 4:** The University's responsiveness to the institutional context moderates the relationship between the University HRD infrastructure and the University-Industry Collaboration	Two Multiple regression models **Model 1:** $Y = \alpha + \beta_1 x_{1} + ... \beta_n x_n + \varepsilon_n$ where Y=Performance α = intercept of the line $X_1...X_n$ =regression coefficients $\beta_1 \beta_n$ gradient or the slope	R^2 Change in the Beta coefficient when the moderator variable is introduced into the relationship between predictor variable and Performance
RESEARCH OBJECTIVE 5 To determine the influence of the Universities' responsiveness to institutional context on the strength of the relationship between University Industry Collaboration and University Performance	**Hypothesis 5:** The University's responsiveness to the Institutional context moderates the relationship between the University-Industry Collaboration and University performance	**Model 2:** $Y = \alpha + \beta X + \tau M + \eta XM + \varepsilon$ Where: β the effect of the predictor variable when Moderator variable is zero τ - the effect of the Moderator variable when the predictor variable is zero η how much the effect of predictor variable changes as the Moderator variable goes from 0 to 1	

Source: Author, 2011

3.10 Controlling For Multicollinearity and Auto Correlation

To test the hypotheses using the regression analysis, the study ensured that the basic conditions for the application and interpretation of the results were complied with. The use of regression analysis assumes that the data is normally distributed and that there is independence of errors. It was necessary to control for multicollinearity and autocorrelation.

The research controlled for autocorrelation using the approach provided by Levine et.al (2008) The approach requires the computation of the Durbin-Watson statistic (D) which measures the correlation between each residual and the residual for the time period immediately preceding the one of interest. When the successive residuals positively autocorrelate, the value of D approaches 0. If the residuals are not auto correlated the value of D will be close to 2. If there is a negative

autocorrelation, D will be greater than 2 and could approach its maximum value of 4. For each of the tests performed, the study carried out a test for the autocorrelation and the value of D interpreted according to this criterion to determine whether autocorrelation could be invalidating the results.

The concept of multicollinearity is based on the basic assumption that in regression modeling the independent variables in the model are not linearly related. The existence of a linear relationship among some of the independent variables is called multicollinearity (Wang, 1996) which affects the stability of the parameter estimates calculated in multiple regression and discriminant analysis models. The study relied on the approach provided by Bowerman and O'Connell (1990), Myers (1990) and Andy (2005) to control for multicollinearity. Accordingly, the study computed the Variance Inflation Factor (VIF) and the Tolerance Statistic which indicate whether a predictor has a strong linear relationship with the other predictor(s). For the VIF, a value greater than 10 is a good value at which to worry while values substantially greater than 1 imply that multicollinearity may be biasing the regression model. The Tolerance Statistic is computed as the reciprocal of the VIF (1/VIF). Tolerance Statistics values below 0.1 indicate a serious problem while those below 0.2 indicate a potential problem. The test of hypotheses 3, 4 and 5 were accompanied by a computation of VIF score and the results interpreted according to this criterion.

3.11 Controlling for Type I and Type II Errors

Empirical research may be affected by the wrong interpretation arising out of the testing of hypotheses due to the influence of type I and type II errors. Type I error in research occurs when the null hypothesis is rejected when infact the null is true. Type II error on the other hand occurs when the researcher accepts a false null hypothesis when they should have rejected it (Zikmund, 2003; Nachmias & Nachmias, 2004; Cooper & Schindler, 2006). Scholars agree that the type I errors are considered more serious than the type II errors and that reducing the probability of a type II error increases the probability of a type I error (Cooper & Schindler, 2006)

To control this type I error, researchers and statisticians agree that it largely depends on the level of statistical significance that the researcher has set up for testing the hypotheses. The conventional levels are $p < 0.001$, $p < 0.01$ and $p < 0.05$ (Nachmias & Nachmias, 2004). The various hypotheses tested by this research were tested within the threshold of the conventional significance levels to ensure that the probability of committing this type I error was very low and that practical decisions made out of the recommendations of the tested hypotheses stand a relative low chance of being misleading.

Zikmund (2003) suggested that the type II error is addressed through the sample size by ensuring that the sample size is relatively large. This study obtained data from a population estimated at 300 respondents. While statisticians agree that a sample size of 30 respondents is the cut off point for determining whether the sample is large, this study increased the targeted sample size to 170 to whom questionnaires were distributed. The actual response was from 130 respondents which is considered relatively large to control for the chances of committing type II error. A number of scholars have used a similar approach to control for the type II error (Muathe, 2010).

3.12 Summary of Chapter Three
The contents of this chapter have provided a comprehensive description on the methodology applied by this research to enhancing the existing level of research. The chapter contents detail how the current level of knowledge in the relevant field of study of HRD will be moved forward through generation of new knowledge. The chapter contents have managed to connect between what exists and the focus of the future direction by presenting objectives that are matched with research hypotheses. In addition, the type of data required, methods of analysis, interpretation and reporting have been discussed. The chapter findings now lay the ground for the research to report on how this study moves the current level of knowledge to a new frontier.

CHAPTER FOUR

FINDINGS: DESCRIPTIVE STATISTICS

4.1 Introduction

This chapter presents the results of the field data collected. The data was collected between the month of May and July 2011. The study targeted 180 respondents from 19 universities in Kenya. The field data presented in this chapter was obtained from 16 universities representing 84 % success rate from the participating universities and 130 respondents representing 72% success rate on the part of the respondents. A total of 180 questionnaires were distributed to identifiable respondent offices in the 16 universities out of which 50 did not respond. While most scholars do not seem to agree on the acceptable level of response rate to form the basis for data analysis, Nachmias and Nachmias (2004) have pointed out that survey researches face a challenge of low response rate that rarely goes above 50%. Accordingly, they suggest that a response rate of 50% and above is satisfactory and represents a good basis for data analysis. This study was a descriptive survey in design, and the response rate registered is interpreted using this simple rule of response rate that is higher than 50% of the targeted sample size for the study.

4.2 Reliability of Research Instrument

The research tested the reliability of the research instrument by computing the cronbach alpha score for each variable measured. The research instrument measured four variables each with differing number of items to measure the variable. The results of the reliability test are shown in the table below:

Table 4.1: Test of Reliability of the Questionnaires

Questionnaire section	Number of Questionnaire items	Alpha score	Comment
Institutional context	55	0.9396	Reliable
HRD Infrastructure	68	0.7970	Reliable
I-I Collaboration	36	0.9489	Reliable
University Performance	26	0.9819	Reliable
Overall Reliability Coefficient	185	0.9617	Reliable

Source: Survey Data, 2012

According to the data obtained from the survey, the reliability score measured through the coefficient alpha score was 0.9617. This reliability score obtained indicates the degree to which the findings of a research are internally consistent and free from error (Malholtra, 1996). According to Malhotra (1996) Coefficient Alpha varies from 0 to 1 and a value of 0.6 or less generally indicates unsatisfactory internal consistency reliability whereas those scores of 0.6 and above indicate high levels of internal consistency reliability of the instrument. The reliability of the instrument used for this research thus stands at approximately 96%.

4.3 Biodata of the Respondent Universities

The data presented was obtained from 16 universities operating in Kenya in both the public and private category. From each university, data was obtained from respondents in the categories of members of academic and administrative staff. The summary of the profiles of the universities and respective set of respondents is presented in table 4.2. The table shows the frequency of the different types of respondent categories from the participating universities as well as their biographic data on the years of experience, level of administrative responsibility and the category of respondent. The data is obtained from a relatively diverse range of respondents in terms of academic backgrounds, administrative levels and years of experience considered suitable to reflect in the kind of input they account for through their responses.

Table 4.2: Respondents' Biodata

Participating University	Expected Respondents	Frequency	Percent of Total Respondents	Response Rate (%)
UON	27	20	15.4	74
KU	15	9	6.9	60
JKUAT	15	13	10.0	86
EGERTON	13	6	4.6	46
MOI	13	2	1.5	23
MASENO	10	7	5.4	70
MMUST	10	5	3.8	50
UEAB	10	8	6.2	80
CUEA	15	10	7.7	67
DAYSTAR	12	10	7.7	83
SCOTT	05	5	3.8	100
KABARAK	10	8	6.2	80
STRATHMORE	10	7	5.4	70
KIRIRI	05	5	3.1	100
ST PAUL'S	12	9	6.9	75
KEMU	12	7	5.4	58
Total	180	130	100.0	73

Distribution of respondents by Administrative Position	Frequency	Percent	
D V.C	5	3.8	
Registrar	11	8.5	
Dean/Director	29	22.3	
Head of Department	14	10.8	
Administrator	8	6.2	
Dean of Students	7	5.4	
Placement Officer	3	2.3	
Director of Linkage	3	2.3	
Director of Research	4	3.1	
Other	45	34.6	
Total	129	99.2	
Missing System	1	8	
Total	130	100.0	

Distribution of Respondents by Administrative Category	Frequency	Percent	
Administrator	29	22.3	
School Head	67	51.5	
Boundary Spanner	34	26.2	
Total	130	100.0	

Frequency of the Respondents Duration in the Current Position	Frequency	Percent	
0-2 Years	44	33.8	
2-4 Years	25	19.2	
4-6 Years	20	15.4	
6-7 Years	12	9.2	
Over 8 Years	20	15.4	
Total	121	93.1	
Missing system	9	6.9	
Total	130	100.0	

4.4 Organizational Responses to the Institutional Context

This section of the questionnaire had items that required respondents to show how the universities have responded to the contexts of the universities in Kenya. Since the study was interested in understanding the relationship between a concept that is an integral part of this configuration, four main variables were included in the questionnaire for the respondents to express their opinions on how the management of each university has responded. Thus the main variables considered in this section were Responsiveness to the National Culture, Human Capital Needs, Human Resource Development Value base and the Institutional Environment Characteristics. The responses on each area are shown and discussed in the four sections of this part of the chapter.

4.4.1 Universities' Responsiveness to National Culture

This section of the questionnaire measured how the participating universities have responded to the national culture of the Kenyan context in which they operate. Respondents were required to express their opinions through an attitude measurement scale with a scale ranging from 1 to 5. This section of the questionnaire targeted respondents in the categories of the deans and administrators. In total, the section was responded to by 96 of the respondents. The mean score for each item in the respective section of the questionnaire was computed and the accompanying measure of standard deviation. The results presenting the descriptive statistics on the items measuring responsiveness to national culture are shown in Table 4.3.

Table 4.3 Descriptive Statistics on Universities' Responsiveness to National Culture

Responsiveness To:-	N	Minimum	Maximum	Sum	Mean	Std. Deviation
...... and consistency	95	1.00	5.00	316.00	3.3261	1.01523
Aggressiveness in the society	95	1.00	5.00	308.00	3.2421	.89580
...... lying in planning ahead	96	1.00	5.00	373.00	3.8854	1.03486
A person's influence based on ones ability and contribution to society	95	1.00	5.00	335.00	3.5263	1.09973
.... group loyalty even if individual goals suffer	96	1.00	5.00	305.00	3.1771	1.16975
A culture of children taking pride in accomplishments of	95	1.00	5.00	324.00	3.4105	1.04672
..... teen aged students to strive for continuously improved performance	96	1.00	5.00	378.00	3.9375	1.01172
..... people lead highly structured lives with fewer unexpected events	96	1.00	5.00	315.00	3.2813	1.09259
Provision of sufficient work information for citizens to know expectations	96	1.00	5.00	342.00	3.5625	1.13149
Rank and position attracting special privileges	96	1.00	5.00	370.00	3.8542	1.17857
Emphasis on the importance of being accepted by other members of work group	96	1.00	5.00	361.00	3.7604	.85526
People being tolerant of mistakes	96	1.00	5.00	272.00	2.8333	1.04294
Valuing group cohesion more than individualism	96	1.00	5.00	347.00	3.6146	1.10853
Aggregate Scores				4373.00	3.4931	1.05270
Valid n (listwise)	93					

Source: Survey Data, 2012.

The overall aggregate mean score for this section stands at 3.4931 and a standard deviation of 1.05270. These scores show that the perceptions of the respondents on how the universities have responded to the country's national culture within the universities is one just slightly above the level of indifference. However, six of the items have been well responded to as the mean scores rounded off to the nearest whole number may come close to 4 indicating that respondents agree that the universities have adequately responded. Of particular concern is the mean score on the item measuring tolerance to mistakes with a mean score of 2.8 and a relatively low standard deviation of 1.04. Seven of the areas have been well responded to that covered responsiveness to planning ahead, ones influence being based on ability and contribution to society, encouraging teenagers to pursue continuous improvement, provision of information to remove uncertainty, rank and position attracting special privileges, importance of being accepted by others and valuing group cohesion. These areas that have been highly responded to seem to depict key defining characteristics of the country's national culture. Most of the items included in this instrument were obtained from those of the research by Hofstede (1985) and House et. al (2004) in which most African countries are expected to lie within a high score in terms of collectivism

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and low in uncertainty avoidance. Much more recent approaches have introduced another dimension with regard to future orientation in which the universities appear to have well responded to judging from the scores on the item on success lying in planning ahead (x=3.8854, s.d=1.03486)

4.4.2 Universities' Responsiveness to Human Capital Needs

The statements in this part of the questionnaire measured the responsiveness by universities to the prevailing human capital development needs of the country. The instrument measured the responsiveness in a scale ranging from 1-5. The results are shown in Table 4.4.

Table 4.4 Descriptive Statistics on Universities' Responsiveness to Human Capital Needs

Responsiveness to:	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Attainment of the MDGs	96	1.00	5.00	318.00	3.3125	.88630
Offering lifelong learning and education opportunities in Kenya	96	1.00	5.00	383.00	3.9896	.91185
Supporting innovative research for sustainable development	96	2.00	5.00	364.00	3.7917	.93939
Building a strong science and technology base	96	1.00	5.00	354.00	3.6875	1.12683
Linking HLE to workforce needs in the industry	91	2.00	5.00	363.00	3.8617	.91111
Producing globally competitive human resources	96	2.00	5.00	386.00	4.0208	.91742
Providing opportunities for all Kenyans to participate in national development	96	2.00	5.00	371.00	3.8646	.94724
Curbing emigration of human capital	96	1.00	5.00	280.00	2.9167	1.17578
Coping with increasing challenges	96	2.00	5.00	332.00	3.4583	.97243
Need for industrialization in line with vision 2030	96	1.00	5.00	337.00	3.5104	1.03613
Developing an adaptive human resource base for an industrializing economy	96	1.00	5.00	343.00	3.5729	1.09299
Enhancing collaboration between the industry and training institutions	96	1.00	5.00	362.00	3.7708	1.01025
Providing globally competitive higher education	96	2.00	5.00	400.00	4.1667	.81650
Providing training and research to Kenyan citizens for development	96	2.00	5.00	380.00	3.9583	.92812
Building a globally competitive and prosperous Kenya	96	1.00	5.00	372.00	3.8750	.95422
Aggregate mean scores				5345.00	3.7171	.97462
Valid N (listwise)	94					

As demonstrated in table 4.4, the aggregate mean score for the statements is 3.7171 and the standard deviation 0.97462 which indicate that in terms of the scale used, universities can generally be said to have highly responded to the country's human capital development needs. Most of the statements have a mean score that ranks close to or slightly above the level of high response of 4. However, it is noticeable from the contents of table 4.4 that two of the items scored relatively low, namely attainment of the millennium development goals (x=3.3125, s.d.=.88630) and curbing the emigration of human capital (x=2.9167; s.d 1.17578). Those items

scoring the highest in response slightly above 4 are on the areas of producing globally competitive human resources and providing globally competitive higher education. This compared against the score for the statement on curbing emigration of human capital may lead to the puzzling question as to whether the aspect of brain drain is considered a real problem by managers and scholars in the higher education industry in Kenya. Theoretically, some scholars have presented this as a major point of concern that universities in developing countries need to address (Kiamba, 2005).

While this finding confirms some of the points identified in the literature with regard to the possible set of human capital development needs in the country, it also presents a contrast on some of the needs that would have been expected to rate relatively high. The theory had identified areas such as the need for curbing emigration of human capital (brain drain), and the pursuit of the Millennium Development Goals (The Report of the National Conference on Education and Training, 2003; Kiamba, 2005; KESSP, 2005; Vision 2030, 2007; Pillay et.al, 2003; Beardwell & Holden, 1997; Al-Dosary et.al, 2006; Sporn, 1999; Albatch & Davis, 1999). In this study, they register relatively lower mean scores as compared to the other items in the scale. This may be explained through the mean scores obtained on the areas of providing globally competitive higher education and producing globally competitive human resources that have registered relatively high mean scores sending the message that globalization is more preferred by the universities and that the issue of brain drain could be on the converse a good sign of the international quality of their graduates and educational programs.

4.4.3 Universities' Responsiveness to the Country's Human Resource Development Value Base

This section of the questionnaire was to provide information on the general situation on the basic philosophy that provides the basis for the nation's value base for education that will inform national human resource development. The study generated 9 items that were presented to respondents to express their opinions in a scale of 1-5 ranging from not important at all to most important. The respondents were required to indicate the degree of responsiveness in terms of the perceived importance of the items in the questionnaire as priority developmental concerns for the country. The section of the questionnaire was responded to by those in the category of deans,

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boundary span roles and the administrators. The results on the scores for each statement are demonstrated in Table 4.5.

Table 4.5: Descriptive Statistics on Universities' Responsiveness to the Country's HRD Value base

The importance of:-	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Linking education with work	101	1.00	5.00	427.00	4.2277	.82318
Continuing professional Development beyond the Bachelors degree	101	1.00	5.00	428.00	4.2376	.80185
Considering the influence of technology	101	1.00	5.00	421.00	4.1683	.82546
Internationalization of the curriculum	101	1.00	5.00	415.00	4.1089	.85908
Shifting H.E goals from socio-cultural to economic concerns	101	1.00	5.00	404.00	4.0000	.92336
Building knowledge based economy	101	1.00	5.00	417.00	4.1287	.83263
Considering training as an investment for the future	101	1.00	5.00	422.00	4.1782	.74022
Education as the primary means for preserving and increasing the nation's human capital	101	1.00	5.00	445.00	4.4059	.72359
Education as the means for ensuring workforce competence and national competitiveness	101	1.00	5.00	440.00	4.3564	.74275
Aggregate Scores				3819.00	4.2013	.81030
Valid N (listwise)	101					

The study found that the universities have highly responded to the country's human resource development value base. The aggregate mean score shows that the responsiveness is above the level of important ($x=4.2013$; $s.d$ 0.81030). The highest ranked items in this section touched on considering education as the primary means for preserving and increasing the nation's human capital ($x=4.4059$, $s.d=0.72359$); education as the means for ensuring workforce competence and national competitiveness ($x=4.3564$, $s.d$ 0.74275); continuing professional development beyond the bachelors degree ($x=4.2376$, $s.d=0.80185$) and linking education with work ($x=4.2277$; $s.d=0.82318$). This finding may be confirming some of the latest moves undertaken by the universities in which they have opened and expanded doors to give access to more learners through more flexible modes of study.

Even though it had been argued by the theory that Kenya does not have a well articulated set of philosophy to guide the HRD Value base (Eshiwani, 2009), the relatively high response by the managers participating in the research shows that there is a well formed idea as to what HE education in Kenya should achieve as an aspect of its National Human Resource Development. These findings on the aspect of the value base send a strong message towards the understanding

of HRD systems in Kenya. The study had observed that HRD systems in most developing countries have not been well studied and documented. One theoretical observation that leads towards an understanding of the HRD situation in Kenya from the HRD value base arises from the observations of Cox et.al. (2005) who pointed that the study of HRD within national contexts has been approached from a comparative practices and national policy perspectives. McLean and McLean's (2001) approach to HRD based on these two perspectives identified two dimensions in which national definitions of HRD seem to vary: the scope of activities and the perceived beneficiaries of activities. The scope of activities range from solely focusing on training to the inclusion of activities such as career development, organization development, process improvement, social development and manpower planning. The Perceived beneficiaries of activities include the individual, group/team, work process, organization, community and nation. From the set of items and responses obtained, a clear picture emerges as to the range of activities considered important for HRD in Kenya, the justification for the same and the implied set of stakeholders likely to benefit.

4.4.4 Universities' Responsiveness to the Institutional Characteristics

The statements in this section sought to measure responsiveness to the conditions of the macro economic conditions of the environment for HE in Kenya. The theory presented one of the issues that managers have to pay attention in this context as the real as well as the perceived degree of uncertainty in the context of the work of universities in Kenya. The theoretical argument from the organization theory literature was that this understanding guides in the system organizations configure their basic infrastructures for doing work to facilitate value creation. The items in this part of the questionnaire focused on the level of turbulence in the industry for higher education and was measured in a scale from 1-5 from no response at all to very high response. Table 4.6 presents the results.

Table 4.6 Descriptive Statistics on Universities' Responsiveness to the Institutional Characteristics

Responsiveness To:-	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Rapidly changing customer preferences	100	1.00	5.00	380.00	3.8000	.82878
The frequency of customers looking for new programs all the time	101	1.00	5.00	394.00	3.9010	.83072
The demands of a very price sensitive market	101	1.00	5.00	361.00	3.5743	.90036
Highly changing set of needs of learners from those of previous learners	99	1.00	5.00	369.00	3.7273	.79306
The degree of unpredictability in the market for H.E	100	1.00	5.00	345.00	3.4500	.79614
The degree of rapid change in technology in the industry	100	1.00	5.00	384.00	3.8400	.80050
How difficult it is to predict where the technology will be in the next 2-3 years	101	1.00	5.00	337.00	3.3366	.95160
Cut throat competition in this Industry	101	1.00	5.00	366.00	3.6238	.96800
Promotional wars in the industry	101	1.00	5.00	343.00	3.3960	1.03033
Relative ease in which programs are easily matched by others	101	1.00	5.00	348.00	3.4455	.98463
Frequency in which new competitive moves are experienced almost every day	100	1.00	5.00	346.00	3.4600	.91475
The pressure from globalization and competition	101	2.00	5.00	369.00	3.6535	.94272
Declining state funds	100	1.00	5.00	352.00	3.5200	1.05868
Increasing demand for a university degree	100	1.00	5.00	401.00	4.0100	1.04924
Emergence of a learning society in Kenya	100	1.00	5.00	423.00	4.2300	.87450
Extent of enforcement of patents and copyrights protection	101	1.00	5.00	368.00	3.6436	1.05436
The volatile political and economic conditions in the country	101	1.00	5.00	340.00	3.3663	.95627
Aggregate scores				6226.00	3.4198	.92609
Valid N (listwise)	94					

Source: Survey Data, 2011

The aggregate mean score of 3.4198 and standard deviation of 0.92609 shows that the managers are of the opinion that universities have moderately responded to the institutional context characteristics. The standard deviation is relatively low compared to those of other items in the part of the questionnaire. The organization theory literature justifies this observation through the argument that managers form cognitions about the context and select those elements of the external environment they will respond to. The most highly responded to items are the emergence of a learning society (x 4.230, s.d 0.87450), increasing demand for a university degree ($x=4.010$, s.d=1.04924), frequency of customers looking for new programs ($x=3.46$, s.d=0.9147), rapid change in technology in the industry (x 3.8400, s.d=0.80050), and the changing nature of learners needs from those of previous learners ($x=3.7273$, s.d 0.79306).

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This may indicate that these areas constitute the institutional context elements managers have formed cognitions about and have selected as relevant for responsiveness in order to configure their internal structures for value creation. The universities have moderately responded to the demands of a price sensitive market, unpredictability in the market for H.E, difficulties in predicting where the technology will be in the next 2-3 years, promotional wars in the industry, relative ease of imitation by others, the degree of volatility in politics and economic conditions in the country.

The theory had offered an appropriate argument that may explain this situation of this finding using the work of Nadkarni and Barr, (2008), Delmas and Offel, (2008) and Zigarmi, et.al, (2009). They indicated that the managers develop cognitions of the context based on two approaches and argued that the cognitions influence strategic behavior of organizations through the choices that managers make. Using this line of reasoning, it may be argued that the respondent managers in this case have developed strong cognitions of the items touching on changing customer preferences and so the demand for new programs, changing customers' needs, change in technology pressure from globalization, demand for a university degree driven by the emergence of a learning society in Kenya.

4.5 Universities' Responses on the HRD Infrastructure

This section of the questionnaire addressed areas that constitute the HRD infrastructure for universities in Kenya from the background that it has not been studied and so is less understood. The study employed assertions from the strategic human resource development and management literature that support the argument that HRD grows out of an organization's strategy that becomes the basis for the organizational development needs that need to be satisfied for the present and future growth of each university. Change was presented as a key element of this process in line with the expected role of HRM in managing strategic change. The research therefore developed items drawn from the strategic HRM and HRD fields for managing strategic change and identified four main areas along which respondents were required to respond in a 5-point likert type scale with regard to the degree of importance of each item. The areas are organization developmental needs, organizational learning culture, HRD Values and Practices. The results of responses analyzed are presented in the four subsections of this part of the chapter.

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4.5.1 Responses on Universities' Organizational Development Needs

The organization development needs emerging from the strategy being pursued by an organization was argued to form the basis for the HRD Infrastructure for organizations in the HE sector. The questionnaire had 13 items to be responded to by the senior administrators and deans/directors of schools. The results are shown in table 4.7. The overall mean score for the statements on the HRD Infrastructure stood at 3.9533 and the standard deviation at 0.98795. The overall picture is that these universities seem to have a clear understanding as to the priority organization development areas that need to be addressed in order to sustain their current and future growth prospects. This is evident from the individual item mean scores that are either at or close to the level of important standing at 4. The areas that have emerged as of importance are creative thinking about the future, quality and continuous improvement, high level of professionalism, building professional intellect among employees, high level of education, developing ability to adapt to changing circumstances, ability to manage relationships with internal and external customers, being the employer of choice, being a world class university, undertaking marketable research and developing programs that lead to the development of a knowledge based economy.

Table 4.7: Descriptive Statistics on Universities' Organizational Development Needs

The importance of:	N	Min.	Max.	Sum	Mean	Std. Deviation
Building the ability of problem solving among employees	96	1.00	5.00	353.00	3.4950	1.05474
Creative thinking about the future and contribution of unique ideas	96	1.00	5.00	367.00	3.8229	.95140
Quality and continuous improvement	96	1.00	5.00	332.00	4.0000	.92394
High level of professionalism	96	1.00	5.00	386.00	4.0208	.88233
Building professional intellect among employees	96	1.00	5.00	385.00	4.0104	.96785
High level of education	96	1.00	5.00	383.00	3.9896	.99995
Ability to learn new skills to adapt to changing circumstances	96	1.00	5.00	381.00	3.9688	1.00998
Ability to manage relationships with customers and between departments	96	1.00	5.00	380.00	3.9583	.99384
Being the employer of choice for creative, innovative people and development focused employees	96	1.00	5.00	380.00	3.9583	1.04546
Becoming a prestigious world class university	96	1.00	5.00	405.00	4.2632	.96987
Building an entrepreneurial university culture	96	1.00	5.00	398.00	4.1458	.97310
Undertaking marketable research	96	1.00	5.00	359.00	3.7396	1.09779
Building a university whose programs lead to the development of a knowledge based economy	96	1.00	5.00	386.00	4.0208	.97310
Aggregate scores				4895.00	3.9533	.98795
Valid N (listwise)	67					

The results of this section on the items compare favorably with the findings on the area of responsiveness to national culture, human capital development needs and chosen value base for HRD for Kenya as reported under part 4.2 of this chapter. One item however scored a mean value ranging at the level of just relative importance. The item is that on building the ability of problem solving among employees ($x=3.4950;s.d=1.05474$), an aspect that might appear shocking given that these are learning institutions where employee empowerment is expected to measure relatively highly. This may be presenting a relatively different scenario of the prevailing situation in HE institutions that may be inconsistent with the basic characteristics of learning systems and organizations. The prominent scholars on this area underscore the role of participation in decision making and problem solving as key to sustaining learning organizations (Pedler, et.al, 1996; Garvin, 1993).

4.5.2 Responses on Universities' Organizational Learning Culture

Under the HRD Infrastructure, the literature argued that a suitable organizational learning environment would be required to sustain strategic change. Thus, this section of the questionnaire developed items that would measure the existence of that environment in universities in Kenya. The statements were replicated from those reported by Brown (1998) and used the same approach in which respondents would give their opinions in a range of definitely false to definitely true. The section had 20 items for respondents to give opinions in a scale of 1-5. The results are shown in table 4.8.

Table 4.8: Descriptive Statistics on Universities' Organizational Learning Culture.

The Importance Of:-	N	Min.	Max.	Sum	Mean	Std. Deviation
A well established culture of employee empowerment	97	1.00	5.00	365.00	3.7629	1.11592
Encouraging a culture of continuous learning	97	1.00	43.00	413.00	4.2577	4.11369
Strong sense of teamwork and networking among members of staff	97	1.00	5.00	379.00	3.9072	1.02146
A strategy for long term customer service	97	1.00	5.00	373.00	3.8454	.95022
Embraces practice of constant environmental scanning	97	1.00	5.00	345.00	3.5567	1.04052
Carrying out evaluation of tasks accomplished	97	1.00	5.00	367.00	3.7835	.99191
Having a system of sharing problems and solutions to the problems	97	1.00	5.00	366.00	3.7732	1.02576
Open communication system within and without the university	96	1.00	5.00	348.00	3.6250	1.11686
Encouraging diversity in team work	97	1.00	5.00	377.00	3.8866	1.02953
Manager functions as a facilitator	97	1.00	5.00	378.00	3.8969	.91838
Individuals receive regular review of performance and learning	97	1.00	5.00	386.00	3.9794	.82890
Individuals receive timely feedback on both performance and achieved learning	97	1.00	5.00	373.00	3.8454	.98256
Manager encouraged to identify their own learning needs	97	1.00	5.00	353.00	3.6392	1.02251
Managers encouraged to set challenging learning goals for themselves	97	1.00	5.00	356.00	3.6701	.95439
Managers assisted in identifying learning opportunities in their jobs	97	1.00	5.00	348.00	3.5876	.97631
Managers seek to provide new experiences from others can learn	97	1.00	5.00	342.00	3.5258	1.04176
Opportunities are offered for the off-the job training	97	1.00	5.00	329.00	3.3918	1.09503
Managers are encouraged to take risks so long as they learn from mistakes	97	1.00	5.00	329.00	3.3918	1.06611
Managers are encouraged to review, conclude and plan learning activities	97	1.00	5.00	348.00	3.5876	.97631
Managers are encouraged to challenge the traditional way of doing things	97	1.00	5.00	342.00	3.5258	1.06157
Aggregate scores				7217.00	3.7219	1.01648
Valid N (listwise)	96					

The overall mean score for the section measuring organizational learning culture and the standard deviation are 3.7219 and 1.016485 respectively. Except for two items with a mean score of less than 3.5, the rest of the statements measure at a mean score above 3.5 with the appropriate response being mostly true. The items in which the respondents scores tended towards false were offering opportunities for the off the job training and encouraging managers to take risks as long as they try to learn from their mistakes. This may be explained from the fact that the universities are training institutions and may not seriously consider off the job training with other organizations as a priority. The aspect of encouraging managers to take risks as long as they learn from their mistakes may be culturally explained from the finding on the responsiveness to

...sonal cultural issues where one of the statements was on the degree of tolerance to mistakes in which the institutions scored low on the item. Given the scenario of the clear understanding of the organizational development needs among the universities, it becomes clear there could be a possible link between this clear set of OD needs and development of the accompanying organizational learning climate for supporting the identified needs.

4.5.3 Responses on Universities' Human Resource Development Values

The theoretical literature supported the inclusion of this component on the strength that managers make HR decisions on the basis of key guiding beliefs that are considered important from a human point as well as organizational point of view. The value systems were argued to be an integral part of the HRD Philosophy that touches on work performance, meaning of work and learning of individuals as constituting the main paradigms that underpin HRD. The research generated 15 statements from both HRM and HRD literatures for respondents to indicate their opinion on the degree of importance of each. A number of other studies have supported this approach for the measurement of values. The strategic management literature also supported the need of strong values that are integral to mission of each organization. The results of the scores on each statement are presented in table 4.9.

Table 4.9: Descriptive Statistics on Universities' Human Resource Development Values

The Importance of:-	N	Min.	Max.	Sum	Mean	Std. Deviation
Helping individuals create work that energizes their inner spirit	96	1.00	5.00	341.00	3.5521	1.13202
Enabling individuals to create work that is personally meaningful	96	1.00	5.00	347.00	3.6146	1.21716
Responsibility for HRD and OD going beyond organization goals	96	1.00	5.00	359.00	3.7396	1.14473
Building socially responsible organizations	96	1.00	5.00	376.00	3.9167	1.04294
Offering learning systems in organizations	96	1.00	5.00	380.00	3.9583	.93939
Transforming organizations into continuous learning systems	96	2.00	5.00	386.00	4.0208	.95122
Enabling individuals to improve job related performance	96	1.00	5.00	396.00	4.1250	.98675
Improving organizational performance as the central task of HRD	96	2.00	5.00	390.00	4.0625	.86830
Focusing on meeting organizational performance goals	95	2.00	5.00	400.00	4.2105	.83659
Employees taking charge over their own lives	96	1.00	5.00	395.00	4.1146	.88103
Facilitating employees in developing skills that are preferable in the labor market	96	1.00	5.00	377.00	3.9271	1.01820
Enabling individuals create work that is personally meaningful	96	1.00	5.00	357.00	3.7188	1.10218
Recognizing responsibility for human and OD going beyond organizational goals	96	2.00	5.00	370.00	3.8542	1.00503
The quality of human resources representing a critical success factor	67	1.00	5.00	259.00	3.8657	.98312
The success of corporations lying more on intellectual systems and capabilities than in physical assets	96	1.00	5.00	371.00	3.8646	1.09179
Aggregate scores				5504.00	3.9030	1.01353
Valid N (listwise)	67					

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overall mean score for the statements in this section is 3.90300 and a standard deviation of (0.855). This score indicates that managers responding to the questionnaire have a strong value orientation towards HRD, an aspect that is consistent with the emerging concerns of the SHRM and SHRD literature calling for a partnership role among line managers and their staff colleagues in the HRM especially in creating and sustaining flexible work environments for managing strategic change (Jackson & Schuler, 2000). It is worthy noting that all the statements in this section measured at a mean score above of 3.5 tending towards the level of importance. The one item that seems to measure relatively lower derives from the meaning of work paradigm, specifically helping individuals create work that energizes their inner spirit (x 3.551; sd 1.132.02). Under the section on OD Needs and organizational learning orientations of the HRD Infrastructure, there was a notably low score among respondents on the area of building ability among workers for problem solving and encouragement of risk taking as long as managers learn from their mistakes. These aspects may be interpreted to lean more towards the meaning of work paradigm which under the section of HRD Values seems to score relatively low compared to the other HRD related paradigm items. The statements derived from the performance and learning paradigms seem to be rated highly by the respondents. This finding registers well for organizations in this sector classified in the category of human capital development institutions as well as knowledge intensive organizations. As argued earlier, there seems to be a common thread that is cutting across the clear picture of the identified set of OD needs and the accompanying HRD Infrastructural elements and more specifically on this area of HRD Values.

4.5.4 Responses on Universities' Human Resource Development Practices

The HRD Infrastructure is operationalized through the set of practices carried out to ensure the performance and survival of organizations. The SHRD literature is of the view that HRD is not an isolated function but one that is closely connected with the HRM functions of organizations. This section of the questionnaire developed items that were considered to be closely connected with the other proposed elements of the HRD Infrastructure for respondents in the category of administrators to indicate the extent to which these areas are considered necessary and therefore encouraged and practiced. 19 items were developed and each expressed in a simple statement and respondents required to rate each in a scale of 1-5 ranging from not practiced at all to very highly encouraged and practiced. In total 29 respondents in the category of administrators who

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...responsible for most HRM issues in universities responded to the statements and their scores are shown in table 4.10.

Table 4.10: Descriptive Statistics on Universities' Human Resource Development Practices

The extent of Practice of:-	N	Min.	Max.	Mean	Std. Deviation
...of the best young adults	29	1.00	5.00	3.3798	1.11939
...early development of employees	29	1.00	5.00	3.8966	.93003
...professional challenges for employees	29	1.00	5.00	3.5517	1.05513
...ting and weeding employees	29	1.00	5.00	3.6552	1.00980
...intellectual webs	28	1.00	5.00	3.1429	1.20844
...management	29	1.00	5.00	2.8966	1.04693
Leadership development	29	1.00	5.00	3.0315	1.05162
Knowledge management	29	1.00	5.00	3.6207	.86246
...and transformational leadership	29	1.00	5.00	3.6552	.81398
...professional development	29	1.00	5.00	3.6552	.76885
...ample learning opportunities	28	1.00	5.00	3.8929	1.03062
...challenging jobs	28	1.00	5.00	3.8571	.80343
...of assignments that allow growth	29	1.00	5.00	3.6552	.85673
...learning and updating skills on lifelong basis	29	1.00	5.00	3.1724	1.10418
...ing demanding performance standards	29	1.00	5.00	3.6207	.82001
Setting challenging goals	29	1.00	5.00	3.6897	.96745
...ing task interdependence	29	1.00	5.00	3.9310	.84223
Designing incentives and compensation systems based on ...tive performance	29	1.00	5.00	3.1183	1.05511
Designing incentives and compensation systems to enhance ...ledge creation and sharing	29	1.00	5.00	2.8276	1.22675
Aggregate scores				3.5043	0.97800
Valid N (listwise)	26				

Source: Survey Data, 2012.

The overall mean score and standard deviation stand at 3.5043 and 0.97800 respectively. The mean score indicates that most of the items are moderately practiced in the universities. The items that are ranked highly by the respondents seem to be consistent with the emerging trend from the other elements of the HRD infrastructure reflecting the nature of the industry for HE. These scores are in the areas of encouraging task interdependence ($x = 3.9310$, s.d $= 0.84223$), providing challenging jobs ($x = 3.8571$, s.d 0.80343), providing ample learning opportunities ($x = 3.8929$, s.d $= 1.03062$) and intensive early development of employees ($x = 3.8966$, s.d $= 0.93903$). Those with relatively lower scores tending towards just somewhat practiced are talent management ($x = 2.8966$, s.d 1.04693) and the design of incentives and compensation systems to enhance knowledge creation and sharing ($x = 2.8276$, s.d $= 1.22675$). These two areas may be said to have a close connection with those items found to have low scores on the organizational learning and HRD Values section reported before considered to be at the heart of the learning organization whose characteristics define the work of universities.

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finding on the low scores arising from the area of incentives and talent management may serious concerns as they are connected with learning systems considered key to organizational competitiveness through knowledge generation and sharing. This concern is due to the emerging concerns on the role of knowledge management in sustaining competitiveness in the knowledge based economy. According to the resource based view of the firm, human resources are considered in this context as strategic assets that need to be managed in a way that they can continually generate knowledge and upgrade themselves. This will however not occur without considering their motivation to update, generate and transfer knowledge. Universities are knowledge intensive industries and that knowledge has to be created by a highly motivated workforce and so pointing at the need for relevant incentives to support knowledge generation and sharing.

4.6 Responses on University – Industry Collaboration

This section of the questionnaire dealt with issues of interorganizational networks among universities that take the nature of university industry collaboration programs. The key focus was on how they are initiated and sustained. The theoretical basis was that these would follow the basic orientation of the work of universities that revolves around learning. The study had proposed three areas that needed investigation, namely the motivation to pursue collaboration, the type of collaboration and the level of collaboration. The statements in this section were responded to by the three types of respondents. The deans of schools were required to respond to the three areas while the administrators responded only to the level of collaboration and the boundary unit respondents responded to the type and level of collaboration. This section reports on the findings from the respondents from all the three categories

4.6.1 Responses on Motivation for Collaboration

This section intended to obtain responses from the deans/directors of schools on their likelihood to initiate collaboration programs with external stakeholders. The theory behind this section obtained from the organization theory literature had argued that collaborations are initiated and sustained at the functional levels by technical personnel using their professional networks. Thus, the motivation of the deans of schools supported by the members of academic staff in their faculties would be critical to initiating and sustaining university-industry linkages. The questionnaire used a 5-point scale ranging from extremely unlikely to extremely likely. Table 4.11 presents a summary of the scores for each statement.

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Table 4.11 Descriptive Statistics on Motivation for Collaboration

The likelihood that one will:-	N	Min.	Max.	Sum	Mean	Std. Deviation
Work on an interdisciplinary project	67	1.00	5.00	377.00	3.9271	.96513
Have a personal development plan	67	1.00	5.00	253.00	3.7761	.81317
Initiate development of long-term strategies	67	1.00	5.00	267.00	3.9851	.92920
Pursue collaboration with private organizations	67	1.00	5.00	273.00	4.0746	.90977
Pursue consultation with public bodies	67	1.00	5.00	256.00	3.8209	.81511
Facilitate creation of intellectual webs internally	67	1.00	5.00	245.00	3.6567	.93017
Pursue knowledge updating activities	67	1.00	5.00	271.00	4.0448	.80590
Convert knowledge into useful products	67	1.00	5.00	262.00	3.9104	.94918
Find avenues for adapting to external solutions	67	1.00	5.00	254.00	3.7910	.87969
Enable knowledge transfer to external stakeholders	67	1.00	5.00	251.00	3.7463	.82284
Creation of intellectual webs externally	67	1.00	5.00	254.00	3.7910	.87969
Make increased knowledge available to provision of products	67	1.00	5.00	250.00	3.7313	.94680
Enhance innovation and organizational leaning to increase smart connectivity	67	1.00	5.00	255.00	3.8060	.92505
Scan business environments and allow employees to obtain external insights	67	1.00	5.00	249.00	3.7164	.86700
Manage intellectual capital and assets in the workforce	67	1.00	5.00	247.00	3.6866	.95678
Aggregate scores				3964.00	4.0966	0.8930
Valid N (listwise)	67					

A total of 15 statements were presented to respondents and the aggregate mean score and standard deviation stand at 4.0966 and 0.8930 respectively. This indicates that generally the deans and directors of the schools motivation level to pursue collaboration stands at a level above the 50-50 chance likelihood. The items that scored relatively higher are those touching on pursuing collaboration with private organizations $(x=4.0746, s.d=.90977)$ and pursuing knowledge updating activities $(x=4.0448, s.d=.80590)$. Given the nature of this industry and the environment for survival and career progression, it is prudent to point that this finding is consistent with the defining characteristics of the work of professionals in the industry for higher education where knowledge generation, constant updating and networking for research, conferences and publications are key requirements. Thus the deans seem to have well mastered the art of survival in this industry.

4.5.3 Responses on Nature of Collaboration

This section intended to understand the various forms in which universities are collaborating with the industry. The section was responded to by the deans of schools and those in boundary span roles. The respondents were required to express their opinion to each statement in a scale of 1-5 ranging from none at all to excellent state in the partnership for each program listed in the scale. Twelve items were generated from the literature review based on previous research and theoretical writings so that the respondents would be well versed with the nature of each. Respondents were relatively well knowledgeable about the areas as was evident from their responses during the interviews. The actual scores for each item of collaboration are shown in table 4.12.

Table 4.12: Respondents Descriptive Statistics on the nature of collaboration

Type of Collaboration Program	N	Minimum	Maximum	Sum	Mean	Std. Deviation
General support	67	1.00	5.00	236.00	3.5224	1.00541
Contract research	98	1.00	5.00	339.00	3.4592	.99658
Research centers and institutes	100	1.00	5.00	341.00	3.4100	1.05500
Research consortia	100	1.00	5.00	328.00	3.2800	1.08321
Industry sponsored contract research	99	1.00	5.00	315.00	3.1818	1.14610
Technology licensing	101	1.00	5.00	286.00	2.8317	1.26546
Joint research and development	99	1.00	5.00	315.00	3.1818	1.31214
Research parks	100	1.00	5.00	291.00	2.9100	1.27995
Technology transfer offices	100	1.00	5.00	264.00	2.6400	1.32207
Faculty consulting on personal relationships	100	1.00	5.00	312.00	3.1200	1.23321
Professors as recruitment agents	100	1.00	5.00	317.00	3.1700	1.24766
Student practice and exchange model	98	1.00	5.00	327.00	3.3367	1.21794
Aggregate scores				4272.00	3.1703	1.18039
Valid N (listwise)	67					

Source: Survey Data, 2012.

The different items listed in the scale on this section received mixed responses. Those that received the lowest mean scores were technology licensing ($X=2.8317$; $s.d=1.26546$), research parks ($X=2.91$; $s.d=1.27995$), technology transfer offices ($X=2.64$, $s.d=1.32207$), showing that according to the scale used, these areas have only experienced some slight degree of collaboration. The remaining items have mean scores that show that universities have collaborated at a moderate level and that there is none of the areas in which the mean score is rated at a good or excellent level. It is also worthy noting that the standard deviation is relatively high implying that this is an area in which the responses across the universities varied widely.

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This may be understood from the diversity of responses, differences in the nature of programs undertaken at each school and university as well the possible influences of the size of each university. This however may present a worrying situation given the calls for collaboration and the justification for it that may enhance the relevance and quality of academic work output.

4.6.3 Responses on Level of Collaboration

The last section of this part of the questionnaire focused on understanding the level of collaboration between universities and external stakeholders. This section sought responses from all the three types of respondents included in the study. The study relied on 9 areas that were generated from the work of Weigl et.al (2008) on interorganizational networks. The respondents were required to demonstrate understanding of the level of collaboration that the universities have been engaged in a scale of 1-5 ranging from very low to very high. The scores for the statements are shown in table 4.13.

Table 4.13: Respondents' Descriptive Statistics on the level of collaboration

Level of Collaboration based on:-	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Level of trust based interactions	129	1.00	5.00	360.00	3.6164	.85062
Reciprocal contacts	129	1.00	5.00	476.00	3.6899	.94206
Interactions for rules, procedures governing the transactions	129	1.00	5.00	475.00	3.7109	.91190
Quality of resources	129	1.00	5.00	476.00	3.7187	.88680
Development of information systems links	129	1.00	33.00	472.00	3.7460	2.79123
Amount of contacts between organizations	129	1.00	5.00	296.00	3.3238	.89814
Amount of resources in the relationship	129	1.00	5.00	461.00	3.6299	.81184
How resources flow to both parties	129	1.00	5.00	430.00	3.4127	.87882
Extent terms of agreement are mutually agreed	129	1.00	5.00	445.00	3.5039	.88975
Aggregate scores				3891.00	3.6191	1.09846
Valid N (listwise)	71					

Source: Survey Data, 2012.

The overall mean and standard deviation for the Level of Collaboration stands at 3.6191 and 1.09846 respectively. This sends the message that the level of collaboration in the universities participating in the study is slightly low since the scores are relatively below 4. Since the standard deviation on the scores of most of the items is relatively low, it implies that the respondents are generally agreeing that across the schools and universities, the level of collaboration is low, a finding that is consistent with the theory and empirical findings of the studies cited as laying precedence for the current study. One area is however outstanding, namely that of development of information system links (X 3.7460; s d = 2.79123), sending the message

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that even though the mean score falls within the range of close to high, some institutions have extremely very low and very high levels of linkages in this area.

This finding documents an important phenomenon on the operations of universities in Kenya. The study had operated from the background observation that little work has been done on documenting experiences of University-Industry collaborations in Africa and Kenya in particular. This finding makes a contribution towards an understanding of the level at which universities are engaged with external stakeholders as well as the dimensions in which the engagements evolve. The finding also moves the level of scholarship on this area forward by virtue of having empirically tested an instrument whose contents had not been tested before by its proponents (Weigl, 2008). This section of the questionnaire relied on a theoretically proposed set of dimensions of the levels of collaboration in interorganizational networks. This scale has produced satisfactory empirical results since it was proposed by the authors in their theoretical work.

4.7 Responses on University Performance

The last part of the questionnaire focused on the performance of universities in the Kenyan context. The main argument behind adoption of this part in the research was that university industry collaboration is an area of strategic choice whose adoption by universities needs justification on the basis of its contribution to the performance of universities. Previous research had not shown the possible links and the exact manner in which the performance of the universities may be linked to this phenomenon. Using the SHRM literature and empirical findings (Jackson & Schuler, 2000; Kontoghiorghes et.al, 2005), it was argued that due to the nature of institutions of higher learning, performance needs to be measured comprehensively to capture both objective and subjective performance. Thus, two main areas were identified as indicators of performance for universities, namely bottom line and organizational readiness for change. Respondents in the categories of administrators and boundary span units were required to respond to both areas while the deans/directors were required to respond only to the organizational readiness to change. Both sections required respondents to express their opinion on the level of performance attained within a planning period of the last five years from the date of the interview in a scale of 1-5 ranging from very low to very high.

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4.7.1 Responses on Bottom line Performance

Bottom line performance indicators relied on areas that reflect the nature of the work of universities connected with knowledge development. The instrument generated 14 items for respondents to express their opinions drawn from previous research and academic writings. The results on each are of performance are shown in table 4.14.

Table 4.14: Descriptive Statistics on Bottom line Performance.

Bottom line performance	N	Min.	Max.	Sum	Mean	Std. Deviation
The university national rating	61	1.00	5.00	230.00	3.7705	.86397
The university's international rating	63	1.00	5.00	248.00	3.9365	.94822
The number of new academic programs initiated	63	1.00	5.00	209.00	3.3175	1.16155
The number of curriculum changes effected	62	1.00	5.00	256.00	4.1290	.81951
The number of scientific conferences participated in and sponsored	63	1.00	5.00	246.00	3.9048	.73428
The number of refereed journal articles published	61	1.00	5.00	214.00	3.5082	1.04280
The number of books and chapters in books authored and published	62	1.00	5.00	203.00	3.2742	1.05848
The number of research grants won	61	1.00	5.00	186.00	3.0492	1.21691
The level of success in financial performance	62	1.00	5.00	201.00	3.2419	1.16908
The number of self sponsored students	62	1.00	5.00	218.00	3.5161	1.12704
The sum of research spending by academic staff	62	1.00	5.00	270.00	4.3548	.88885
The total number of patents granted to researchers	62	1.00	5.00	209.00	3.3710	1.05914
The number of new businesses developed	62	1.00	5.00	149.00	2.4032	1.19369
The number of new technologies developed	62	1.00	5.00	162.00	2.6129	1.17842
Aggregate scores				3001.00	3.4564	1.03301
Valid N (listwise)	57					

Source: Survey Data, 2012.

The overall mean score and the standard deviation for the bottom line performance stand at 3.4564 and 1.03301 respectively showing that the level of performance is moderate. The standard deviation for some of the areas show a relatively wide variation to imply that some universities have registered relatively high performance while others have registered extremely low performance. Areas that seem to register this wide range are the number of new academic programs initiated (s.d=1.16155), number of refereed journal articles published (s.d=1.0428), number of books and chapters of books published (s.d=1.05848), number of research grants won (s.d=1.216191), level of success in financial performance (s.d=1.16908), the total number of patents granted (s.d=1.09544), new businesses developed (s.d=1.19369), and the number of new technologies developed (s.d=1.17842). The best well performed area is that of research spending

...earchers $(x=4.3548; s.d=.8885)$ and the number of curriculum changes effected $(...1290, s.d=.81951)$. The worst performed area is that touching on the number of new ...ologies developed $(x=2.6129; s.d=1.71842)$. This may be understood from the earlier ...ding on the section on the responsiveness to the country's national culture and institutional ...ntext. The section reported low scores on responsiveness to tolerance for mistakes considered ...ritical to innovation. Also on the area of OD Needs and organizational learning, the study ...ported relatively low scores on building the ability for problem solving and encouragement of ...nagers to take risks respectively. The same was noted on the area of design of incentives and ...pensation systems that enable knowledge creation and sharing under HRD Practices all of ...hich are considered key supporting innovations that lead to new technology development.

4.7.2 Responses on Readiness for Change

This section of the questionnaire was adopted in response to the reasoning that HRD lends to ...rformance in other dimensions that are qualitative in nature and are associated with the degree ...f readiness for change attained. This is in line with the postulates of the SHRM and SHRM ...erature that argues that in turbulent business environments, organizations require an inbuilt ...pability for change entrenched in internal systems to sustain agile conditions to absorb and ...spond to change. In the context of universities, the argument was that they will need to adopt ...n organizational development program anchored on HRD to build the required flexibility for ...ange sustained by a culture that supports learning. One of the leading paradigms in HRD ...bscribes to this school and was used as the basis for this section and the set of items along ...hich respondents were expected to express knowledge in performance for the past planning ...riod of five years. The scale required the respondents to express their knowledge in a scale of 1-5 ranging from very low to very high.12 statements were presented in the questionnaire ...btained from relevant theoretical literature in HRM, OD, and HRD. Table 4.15 presents a ...mmary of the scores on each area in this section of the questionnaire.

Table 4.15: Descriptive Statistics on Organizational Readiness for Change

Area of Performance	N	Min.	Max.	Sum	Mean	Std. Deviation
Development of a culture of continuous learning	129	1.00	5.00	151.00	2.4754	1.20563
Development of a strong sense of teamwork	129	1.00	5.00	496.00	3.8750	.93067
Development of a strategy for long-term customer service	129	1.00	5.00	479.00	3.7132	.95356
Embracing benchmarking practices within and without the university	129	1.00	5.00	507.00	3.9302	.89431
Development of programs for enabling employees identify and solve problems	129	1.00	5.00	493.00	3.8217	.86105
Good collaboration of managers in administration and academics	129	1.00	5.00	459.00	3.5859	1.00806
Open communication system providing feedback to employees	129	1.00	5.00	476.00	3.6899	.91684
Well developed systems for recording lessons learned from change efforts	129	1.00	5.00	464.00	3.5969	.99624
Strong core values that support customer service	129	1.00	5.00	435.00	3.3721	.97684
Development of a strong mission and core values	129	1.00	5.00	516.00	4.0000	.87500
Equitable provision of training programs and opportunities to all employees	129	1.00	5.00	562.00	4.3566	.73738
Continual environmental scanning	129	1.00	5.00	468.00	3.6279	1.02370
Composite scores				5506.00	3.6704	0.95077

The overall mean score and standard deviation for this section are 3.6704 and 0.95077 respectively. This score may be interpreted to imply that generally the universities have achieved a relatively satisfactory level of performance that ranges between slightly low and high. The variation among the individual statements is relatively low among the items whereby it measuring at less than 1 for majority of the items with an exception of only three having a standard deviation above 1. The worst performed area is that on the development of a culture of continuous learning ($x=2.4754$; $s.d=1.20563$) which confirms some previous theoretical and empirical observations on the prevailing conditions on cultures among most universities. While the aggregate mean score on this area remains satisfactory, from an HRD standpoint the culture of continuous learning commands more attention for the institutions of HE than these other areas in which the universities are rated well. It will thus remain a worrying observation and finding that the level of performance on such an essential component for survival in the knowledge intensive industries where HE operates in has registered such a low measure of performance. Given the emerging trend in the findings observed from responsiveness to tolerance to mistakes, the encouragement for risk and incentives for knowledge creation, the low performance on the culture of continuous learning may be understood.

The findings presented on this section make an important contribution on the continuing series on the dimensions of the performance of organizations. As compared to other functions of an organization, the HR function finds itself faced with challenges on how to justify its contribution to the performance of organizations. While in the case reported in this study for bottom line performance the score is at the level of moderate, that on readiness for change registers at the level of high. HRD has a reason to justify existence and continued investment in that some of the bottom line performance areas require a satisfactory good level of performance in readiness for change in order for the bottom line performance to arise. Using the aspect learning and the contributions of the resource based view, it is logical to point at some items through which the readiness for change contributes directly to as innovations, new products, number of publications, new academic programs initiated, number of grants won, reputation of institutions, and level of customer satisfaction.

4.1 Summary of the Aggregate Mean Scores for the Main Variables

In order to demonstrate the emerging phenomena among the various variables being measured, the aggregate mean scores for each variable and its components were summarized and presented in table 4.16.

Table 4.16: Summary of the Variable Aggregate Mean Scores

Variable	Aggregate Mean	Std. Deviation	Correlations			
Institutional Context	3.7073	0.94092				
• National Culture	3.4931	1.05270	1.000			
• Human Capital Development Needs	3.7171	0.97462	0.987	1.000		
• HRD value Base	4.2013	0.81030	0.894	.914	1.000	
• Institutional Characteristics	3.4198	0.92609	0.839	.864	.910	1.000
HRD Infrastructure	3.7706	0.99539				
• O.D Needs	3.9533	0.98795	1.000			
• Organizational Learning	3.7219	1.01648	0.785	1.000		
• HRD Values	3.9030	1.01353	0.789	.700	1.000	
• HRD Practices	3.5043	0.97500	0.731	.761	.855	1.000
HR Collaboration	3.74552	1.0409				
• Motivation	4.0966	0.8930	1.000			
• Type	3.1703	1.18039	.492	1.000		
• Level	3.6191	1.09846	-.096	.131	1.000	
Company Performance	3.5634	0.99189				
• Bottom Line	3.4564	1.03301	1.000			
• Readiness for change	3.6704	0.95077	.391	1.000		

Source: Survey Data, 2012.

Summary of Chapter Four

The contents of chapter four have discussed the descriptive findings of this research. Each variable that was measured in the research has been reported on alongside the elements that composed each. The descriptive results summarize the data so as to show the general picture of the situation obtaining on each variable in the context of the study, the Kenyan higher education sector. The last section of the chapter presents a table that summarizes the descriptive scores so as to illustrate the emerging phenomena on the behavior of the variables in the context of the study. This description provides a strong basis for the inferential analysis that is presented in the next chapter of the thesis.

CHAPTER FIVE

FINDINGS ON TEST OF HYPOTHESES

5.1 Introduction

This chapter undertakes to perform several statistical analyses to test the hypotheses regarding the expected relationships and provide appropriate explanations to the findings on each. To undertake this process, several indices were computed for each component of a variable the study investigated. The components of the variables whose indices were computed for hypothesis1 were OD Needs, Organizational Learning Culture, HRD Values and HRD Practices. In addition a composite index for each of the four main variables the study investigated was computed for each of the sixteen universities that participated in the study. The indices computed and used for the analysis for the hypotheses testing appear in appendices VII-XI

The test of hypotheses 3 to 5 required the use of multiple regression analyses. This was performed using the field data and the results interpreted according to the R^2 values and the values of t and F at the 95% level of significance. Regression analysis requires that certain conditions are satisfied in the interpretation of the results so that they are not invalidated by the influence of autocorrelation and multicollinearity. For each test of hypothesis that used a regression model, the study provides the measures of multicollinearity and autocorrelation through the values of Durbin-Watson (D) score and the Variance Inflation Factor (VIF). The interpretations are given for each as obtained and presented in the corresponding table.

5.2 Hypothesis H1

This hypothesis sought to understand the design of the HRD Infrastructure in universities in Kenya. Using evidence from the theoretical literature on the strategic nature of HRD, it was proposed that this HRD Infrastructure comprises four elements: Organizational development needs, Organizational learning culture, HRD Values and HRD Practices. The hypothesis was intended to bring out an understanding of the nature of the relationship among these components that make up the HRD Infrastructure. Using the strategic HRD orientation, the study proposed that the O.D Needs that arise from the strategies pursued by organizations will shape the design of the relevant components necessary to operationalize these O.D Needs in the areas of organizational learning, HRD Values and practices. The hypothesis was split into four parts and each was tested accordingly.

To test these hypotheses, Pearson's product moment correlation was used. The hypotheses were tested using the indices computed on each of the four variables that were considered as elements of the HRD Infrastructure for universities in Kenya A Bivariate Correlation test was performed using the indices on each of the variables from the 16 universities participating in the study (n=16). The study considered it necessary to use an index for each variable since the data was collected in qualitative form through a 5-point likert type scale. The Index for each variable was computed using the approach for computing the Harmonic mean for each variable multiplied by the relative weight given to the components that make up each variable. The study relied on a simple formula from Gupta (2008) that was adjusted for the purposes of the study as presented in page 97 of chapter three of this study. The Indices for the components of the HRD Infrastructure are shown in appendix VIII.

The results of the statistical analysis were interpreted using the measure of the strength of the relationship as indicated by the value of r which ranges from +1 to -1. The interpretation of the r values is made in terms of the strength of the correlation and measurement of effect. The correlation is interpreted such that r values of 0.7 show strong correlation while those below 0.3 show weak correlation. The Measurement of effect is interpreted as: r = ± 0.1 represents a small effect, r = ±0.3 represent a medium effect; r = ±0.5 represent a large effect (Andy, 2005). The results of the statistical test for the whole of hypothesis 1 are presented in table 5.1.

Table 5.1 Correlations Coefficients for the relationship between O.D Needs and organizational learning, HRD Values and HRD Practices

		O.D Needs	Org. Learning	HRD Values	HRD Practices
O.D Needs	Pearson Correlation	1			
	Sig (2-tailed)				
	N	16			
Org.Learning	Pearson Correlation	.456	1		
	Sig. (2-tailed)	.076			
	N	16	16		
HRD Values	Pearson Correlation	794(**)	492	1	
	Sig (2-tailed)	000	053		
	N	16	16	16	
HRD Practices	Pearson Correlation	.202	-.096	.131	1
	Sig. (2-tailed)	508	.755	.670	.
	N	13	13	13	13

** Correlation is significant at the 0.01 level (2-tailed)

Source: Survey Data, 2012.

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4.2.1 Hypothesis IIIa: There is a Relationship between the Organizational Development Needs identified by the Universities and the Organizational Learning Orientation, HRD Practices and Values.

Results of the test of hypothesis 1a are presented in table 5.1. As shown in table 5.1, there is a strong positive and significant correlation between OD Needs and HRD Values (r 0.794, p<0.01). The correlation between OD Needs and organizational learning is positive and moderately strong but insignificant (r=0.46, p<0.076) while OD Needs and HRD Practices are weakly but positively correlated at r=0.202, p<0.508. Thus hypothesis 1a is partly supported and the study concludes that the set of OD needs among universities in Kenya have a significant correlation and effect on the HRD Values embraced by managers in the universities and a relatively moderate effect on the Universities learning orientations and their HRD Practices.

This finding is a significant step in understanding the design of HRD systems in organizations since most of the theory has so far considered the HRD Infrastructure and its components from a theoretical standpoint (Bratton & Gold, 2001; Rothwell & Sullivan, 2005; Swanson & Holton III, 2009). The finding extends this theoretical understanding by providing empirical evidence on what may constitute the basic elements along which HRD Infrastructures are configured. That the HRD values have a strong correlation with the OD needs requires both managers and scholars' attention. According to the behavioral scientists, values lay the foundation for the understanding of organizational behavior. HRD has captured these values as key ingredients of the HRD paradigms under which HRD Programs in organizations are designed and implemented (Bates & Chen, 2005). Other streams of HRD theory had argued on the basis of the need of a paradigm on matters dealing with human resources that enables each organization to determine its best approach for survival in its environment (Kuhn, 1977). This paradigm will position HRD to link with the strategy of an organization in line with the postulates of the SHRD and SHRM theory

From the findings on this hypothesis, it is important to make an observation biased towards the nature of organizations in this industry as learning organizations. While the correlation between OD Needs and HRD Values was shown to be high, those of the other elements were low and statistically not significant. One approach that may explain this situation from the viewpoint of learning organizations is that of Pedler et.al (1996) using the resource based view to create

...ing systems or organizations. They offer several steps through which a learning ...ration emerges characterized by a vision of the learning organization as an efficient ...ive unit taking advantage of environmental change.

...ney proposed a three stage process of the evolution of the learning company as surviving, ...apting and sustaining. The third stage of sustaining depicts a state in which companies create ...contexts as much as they are created by them, who achieve a sustainable, through adaptive ...tion in a symbiotic relationship with the environment displaying the characteristics of a ...pany capable of changing, developing, and transforming themselves in response to the needs ...aspirations of people inside and outside the company and that enrich and sustain the wider ...rld of which they are a part. The breakthrough to this stage is part of the emergent evolution ...work organizations where the principal concern for all stakeholders becomes the production of ...eaning. That the score on organizational learning culture is low but the effect large may be ...dicative of a situation in which the cultures of the HE institutions are still evolving to the full ...tus of a learning organization. It is this connection that will extend to explain the contents that ...ill bring about and sustain that culture

5.2.2 Hypothesis III b: There is a Relationship between the Prevailing Organization Learning Orientation adopted by Universities and the set of HRD Values they have embraced

This hypothesis was theoretically based on the aspects of the HRD Philosophy drawn from the three paradigms of learning, performance and the meaning of work. The statistical test was performed jointly with that of hypothesis 1a. From the output obtained in table 5.1 the results show that there is a positive and moderately strong correlation between the learning organization culture and HRD values which is significant at $r= 0.492$, $p<0.05$. Hypothesis 1b is therefore supported and thus the study concludes that on the basis of the data obtained, there is a significant correlation between the prevailing Organizational Learning Culture in universities in Kenya and the set of HRD Values that managers in those universities have embraced. The Organization Learning Culture has a relatively high effect on the HRD Values.

In terms of the concerns of this study, this finding sheds some light on the role of the learning organization culture. In this case, there is some influence emanating from the culture on the values that managers in an organizational setting will embrace on the management of employees. This is considered key in influencing the perceptions of managers especially in a setting where universities operate, under the context of knowledge intensive settings where the culture needs to continually support the environment suitable to generate and disseminate knowledge and commercialization of the same through products and services. The theoretical connection between these two areas raises some concerns for both theory and practice. The learning organization concept and culture represents a coordinated system of change, culture to develop long-term organizational capacity, monitoring continually the environment to adapt to the external environment and its conditions, building the capacity to create the future and empowerment of employees. Most of the issues that characterize this learning organization depict human resource activities carried out by organizations within the strategic realms of the management of firms. In addition, they seem to play an important role in shaping the cognitions that managers develop about their organizational contexts in order to select survival techniques in the identified contexts of the organizations. This is an observation that seems to support the theoretical postulates relied upon by the study from the culture representation theory and the SHRD Framework (Erez & Early, 1993; Garavan et.al, 2007).

5.2.3 Hypothesis H1c: There is a Relationship between the Set of HRD Values and the HRD Practices adopted by the Universities

The results of table 5.1 show that there is a weakly positive but insignificant correlation (r 0.131, p<0.670) between the set of HRD Values and Practices adopted by Universities in Kenya. However in terms of the effect, it is interpreted to imply that there is a relatively small effect between the set of HRD Values and the HRD Practices by universities in Kenya. On the basis of these statistics, the study concludes that there is no significant correlation between the set of HRD Values and HRD Practices among universities in Kenya. There is however some small effect. Hypothesis 1c is therefore not supported by the data obtained.

This finding seems to contrast the theoretical underpinning of the espoused relationship between values and practices from the viewpoint of the behavioral science approach. While the argument is that values will lay the foundation for the understanding of behavior as depicted by what

people actually do, in this case the behavioral science proposition seems not to be upheld. The various strands to the understanding of the design and functioning of HRM in organizations may offer an explanation as to why the current situation holds The contingency school of thought for SHRM addressing the links between strategic management and HRM in organizations uses aspects of vertical and horizontal integration to explain the extent to which an organization's strategy fits with HRM policies and practices (Golding, 2007). The horizontal integration addresses the link between HR policies and line managers while the vertical addresses linkages between HRM and business strategy an aspect that enables HRM to become strategic. The set of values that are used for HRD reflect the set of core values that are espoused within the realms of the development of the mission of each organization (Quinn et.al. 1996). To the extent that the HRD values and practices have a low correlation, it is pointing at a situation in which HRM is yet to become strategic in universities in Kenya.

Jackson and Schuler (2000) further raised the need for a partnership between line managers and staff managers responsible for HRM issues in organizations in the context of organizational change. In the case of universities, the line managers are the heads of academic sections while the staff role employees are those in the mainstream administrative support units where HR administrative activities are implemented. While these administrators may have strong and positive values on the management of human resources, their views may not be integrated in the major decisions on the management of employees in this sector and thus their positive values may have little impact on the set of HRD practices that characterize the work environment of universities in Kenya. This observation is important for the success of institutions in this sector, which need to position knowledge as their primary means for sustaining competitive advantage. This knowledge is generated by human resources and this raises a strong case for the need for HRM to move to a more strategic point in universities in Kenya.

5.2.4 Hypothesis H1d: There is a Relationship between the Universities' Organizational Learning Orientation and their HRD Practices

The results of table 5.1 show that there is a very weak negative and insignificant correlation between the universities organizational learning orientation and their HRD Practices (r -0.096, p=0.755). The study concludes that there is no significant relationship between the prevailing organization learning culture in universities in Kenya and their HRD Practices. There is also a

...ively very small negative effect between the organizational culture and the HRD Practices. This inverse relationship appears to confirm the trend that emerged in the last chapter reporting on the descriptive scores on the items that comprised each variable. It was noted that the universities registered low levels on their responsiveness to areas that will deal with learning, tolerance to mistakes, $x=2.8$) while inside the organization, the OD needs, HRD Practices and organizational learning culture orientation recorded low scores on those areas that enhance learning (building the ability of problem solving, $x=3.495$; encouraging managers to take risks, $x=3.3918$). This learning is critical to the nature of the work of universities.

This low and converse relationship may be explained from the characteristics of the learning organization concept and the kind of practical activities organizations will be expected to put into place. Herarty and Morley (2008) consider the learning organization as one based on the system of shared values and beliefs that shape how organizational members think, feel and behave. Senge (1990)'s approach considered the learning organization as an organization that is continuously expanding to create its future. Wick and Lean (1995) defined it as one that continually improves by rapidly creating and refining the capabilities required for future success. Pedler et.al (1989) viewed it as an organization that facilitates the learning of all its members and continually transforms itself. Hence Learning organizations have to be able to adapt to their context and develop their people to match the context. Garvin (1993) considered it as an organization that is skilled at meeting, acquiring, and transferring knowledge and at modifying its behavior to reflect new knowledge and insights. Accordingly they do five things as: systematic problem solving, experimentation, learning from past experience, learning from others through benchmarking and transferring knowledge quickly and efficiently throughout the organization by seconding people with new expertise or by educating and training programs, as long as the latter are linked explicitly with implementation. The reported mean scores on the respective areas suitable to support learning showed relatively low scores on the relevant areas among the universities that are suitable to support learning, innovation and creativity.

5.3 Hypothesis H2: There is a Positive Relationship between University HRD Infrastructure and U-I Collaboration

This hypothesis was designed to test the relationship between the HRD Infrastructure for universities and the phenomenon of interorganizational networks taking the form of university-industry collaboration. The study leaned towards the learning paradigm of HRD to postulate that the learning orientation embraced in organizations will lead to interorganizational networks among organizations. The hypothesis was tested using the composite indices for HRD Infrastructure and that of University-Industry collaboration. Bivariate correlation test was conducted to test this hypothesis using the composite indices for all the universities on the two variables of HRD Infrastructure and that of University-industry Collaboration. The results of the test are shown on table 5.2.

Table 5.2 Results of the Correlation analysis for the relationship between University HRD Infrastructure and U-I Collaboration

		HRD Infrastructure	U-I Collaboration
HRD Infrastructure	Pearson Correlation	1	.880(**)
	Sig. (2-tailed)		.000
		16	16

** Correlation is significant at the 0.01 level (2-tailed).

Source: Survey Data, 2012.

The results of this statistical test show that the r value stands at .880 and is significant at p= 0.01. The interpretation is that there is a significant positive correlation between the University HRD Infrastructure in Kenya and the phenomenon of University Industry Collaboration. This effect is relatively large. Thus hypothesis two is supported and it is concluded that there is a significant positive correlation between the University HRD Infrastructure in Kenya as currently designed and the phenomenon of University-Industry Collaboration. This conclusion is important for universities in Kenya, in terms of the understanding of the key drivers of collaborations in the universities, the orientation HRD needs to take and the path through which HRD contributes to performance

With regard to the key drivers of collaborations in the universities, an explanation may be offered in terms of the key items that were used to measure the U-I Collaboration reflecting the nature of HRD. The components that were measured under the U-I Collaboration carry a significant message for managers in this sector. Besides measuring the level and type of collaboration, the study also measured the motivation among heads of schools to pursue collaboration with external stakeholders. This aspect of motivation is purely an HRD area especially looked at from the standpoint of the learning paradigm that is the basis for continuous learning and knowledge sharing in organizations. It is this learning that is argued to support strategic choices for interorganizational networks aimed at disseminating this knowledge and commercializing it. Some stream of the HRD research has focused on this aspect of the motivation to transfer learning and this current study contributes to this stream in the case of universities in Kenya.

5.4 Hypothesis H3: University –Industry Collaboration mediates the Relationship between University HRD Infrastructure and University Performance

This hypothesis sought to understand the role of the phenomenon of University-Industry Collaboration in the performance of universities in view of the growing concerns for universities to intensify links with the productive sectors of the economy. The study tested the possibility of a mediating effect of this variable on the relationship between the HRD Infrastructure and the University Performance. The theoretical reasoning guiding this hypothesis relied on the nature of HRD that links with the work of universities leaning towards learning that becomes the basis of generation of knowledge that needs to be shared with external stakeholders for commercialization purposes. The study relied on the approach proposed by McKinnon et.al (1995) to test this hypothesis through a simple linear regression model. The approach requires the formulation of two regression models at two stages to measure the direct effect and the mediated effect. Two regression models were therefore constructed at two stages. In the first step, the regression analysis was performed using the composite index for University HRD Infrastructure as the independent variable and the composite index for University Performance as the dependent variable. The study used the regression model of the form shown in model 1 to express the direct effect of HRD Infrastructure on University Performance:

$$Y = \beta_{01} + \tau X + \varepsilon_1 \ldots\ldots\ldots \text{Model 1.}$$

Where τ is the direct effect, β_{01} the constant, **X** Predictor variable, HRD Infrastructure and **Y** is the dependent variable, University Performance.

The statistical output of the computation is presented in table 5.3.

Table 5.3: Results of Regression Analysis for HRD Infrastructure and Performance

Model summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.857(a)	.734	715	19 5	1.818

Regression coefficients							
Model 1	Unstandardized Coefficients	Standardized Coefficients	t		Sig	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	21.8	11.2		1.941	073		
HRD Infrastructure	.938	151	857	6 217	.000	1.000	1.000

Anova					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1477.37	1	1477.37	38 653	.000(a)
Residual	5 350	14	38 22		
Total	2012.47	15			

Model 1 is thus expressed in terms of the actual statistical output as:

University Performance=21.8+ 0.857 (HRD Infr.)

In the second stage, regression analysis was performed with the index of the mediator variable, namely University-Industry Collaboration. The general regression model guiding this second analysis in order to test for the mediating effect was:

$$Y = \beta_{02} + \tau' X + \beta M + \varepsilon_2 \qquad \text{Model 2}$$

Where τ is the direct effect, β_{02} the constant, β the intercept of the mediating variable, **X** the Predictor variable HRD Infrastructure, **M** the mediating variable U-I-C and **Y** is the dependent variable, University Performance

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The statistical output for this is shown in tables 5.4.

Table 5.4 Results of Regression Analysis for HRD Infrastructure, U- I-C and Performance

			Model summary		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.868(a)	.754	.716	19.53	1.904

	Regression coefficients						
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	18.68	11.64		1.606	.132		
HRD Infrastructure	.656	.317	.599	2.066	.050	.226	4.430
U-I-C	.242	.239	.293	1.012	.330	.226	4.430

	Anova				
Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	1516.42	2	758.21	19.871	.000(a)
Residual	496.046	13	38.157		
Total	2012.47	15			

Source: Survey Data, 2012.

The regression Model 2 showing the mediating effect of U-I-C on the relationship between University Performance and HRD Infrastructure was expressed as:

University Performance=18.6+0.599 (HRD Infr.)+0.293 (U-I-C)

The results of the two regression models are summarized in the table 5.5.

Table 5.5: Summary of Regression Results for the Mediating Effect

Variable Parameter	Model 1 (BeforeMediation)	Model2 (After Mediation)	Change in statistics	Significance of change
HRD Infrastructure	0.857*	0.599**	(τ - τ') -0.258	Change is significant at τ=2.066, p<0.05
R²	0.734*	0.754**	0.02	
Adjusted R²	0.715*	0.716**	0.001	
t	0.857*	2.066**	1.509	
F	38.653***	19.871***	-18.782	Change is significant at p<0.001

*p<0.000   ** p<0.05   ***p<0.001

Source: Survey Data, 2012.

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In the first output under the regression model 1 the non mediated or direct effect shown by the coefficient of HRD Infrastructure is 0.857. The squared R^2 value is 0.734 and the statistics are significant (t 6.217, p<0.00). When the mediating variable is introduced under the second model, the coefficient of the HRD Infrastructure is 0.599 and the squared R^2 value is 0.754 and the statistics are significant (t=2.066, p<0.050). According to McKinnon et.al (1995) the results of the two regression models are interpreted using the coefficient of the predictor variable before and after mediation to confirm whether the data supports the hypothesis using the R^2 and the difference between the beta coefficients of the predictor variable. They observe that the interpretation is done as: (τ) is the nonmediated or direct effect, while (τ - τ') is the mediated or indirect effect. If the treatment coefficient (τ') is zero when the mediator is included in the model, then the relationship is entirely mediated by the mediating variable. If, however, the absolute size of the direct effect between the independent variable and the dependent variable is reduced after controlling for the mediator variable, but the direct effect is still significantly different from zero, the mediation effect is said to be partial.

According to the above rule therefore, the direct effect is 0.676 while the mediated effect (0.857-0.599) is 0.258 and is significant at t 2.066, p<0.05. Thus, the study concludes that University-Industry Collaboration has a significant partial mediating influence on the relationship between the University HRD Infrastructure and University Performance. Considering the R^2 value in the two models, in the non mediated relationship between HRD Infrastructure and the University Performance, the R^2 value is 0.734 while under the mediated relationship, the r^2 value increases to 0.754. This indicates a stronger empirical explanatory power on the relationship between University HRD Infrastructure and University Performance when the mediating variable of University –Industry Collaboration is introduced. The regression models at the two stages are significant at F=38.653, p<0.001 and F 19.871, p<0.001 for the non mediated and mediated scenarios respectively. The D and VIF values show that the results are not invalidated by autocorrelation and multicollinearity effects. Thus on the basis of these statistics, hypothesis 3 is supported. The study concludes that the phenomenon of University-Industry Collaboration changes the strength of the relationship between University HRD Infrastructure and the Performance of Universities.

This finding is important and reinforces the strongly emerging calls for U-I-C especially given the type of performance indicators used here and those used to measure the mediating variable. The study used performance indicators that are specific to the work of the HE sector of two types. The bottom line performance indicators were on the areas of national and international ones, academic programs developed, scientific conferences participated and sponsored, research grants won, research spending by academic staff and the number of curriculum changes effected. The organization readiness for change performance indicators used were considered as part of the learning environment suitable to support the bottom line performance aspects touching on aspects of cultures for continuous learning, strategy of long-term customer service, collaboration among administrators and the faculty, constant environmental scanning and benchmarking practices. Considering these findings and implications, a strong case emerges for universities to consider pursuits for U-I-C due to its contribution to the performance of the institutions.

5.5 Hypothesis H4: Organizational Responsiveness to the Institutional Context Moderates the Relationship between the University HRD Infrastructure and the U-I Collaboration

This hypothesis was based on the need to understand the influence of the context of universities on the relationship between the university HRD Infrastructure and the phenomenon of U-I Collaboration. Theoretically the study proposed that the responsiveness to the context of universities will depend on the cognitions that managers in this industry form about the context. These cognitions were proposed to influence the strategic behavior of organizations through the strategic decisions made to respond to the requirements of the external context. The hypothesis was tested using two regression models in order to obtain different coefficients of the explanatory variable before and after introducing the moderator variable. In the first stage the regression analysis was conducted to determine the relationship between the Index for University HRD Infrastructure as the independent variable and that for University Industry Collaboration as the dependent variable under the model:

$$Y = \alpha + \beta X + \varepsilon, \ldots\ldots\ldots\ldots\ldots Model \ 3$$

Where:

$Y = U-I-C$

$\alpha =$ Intercept of the line

$X =$ Regression coefficient (HRD Infrastructure)

$\beta =$ Gradient or the slope

The statistical output is shown by the data in tables 5.6.

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Table 5.6 Results of Regression Analysis for HRD Infrastructure and U-I-C

Model summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	880(a)	.774	.758	21.83	1.865

Regression coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12.89	12.51		1.028	.321		
	HRD Infrastructure	1.168	.169	.880	6.930	.000	1.000	1.000

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2290.39	1	2290.39	18.022	.000(a)
	Residual	667.72	14	476.91		
	Total	2958.11	15			

Source: Survey Data, 2012.

The non moderated regression analysis for the relationship between HRD Infrastructure and University-Industry Collaboration derived from the guideline of model 3 is expressed as:

$$U\text{-}I\text{-}C = 12.89 + 0.880 \ (HRD \ Infr.)$$

The regression approach proposed also performed an analysis for the relationship when the composite index for HRD Infrastructure is zero as model 4 of the analysis series. The analysis was done to satisfy the requirement for model 4 as shown below:

$$Y = a + \beta X + \varepsilon \ldots \ldots \ldots \ldots \ldots \text{Model 4}$$
Where:
  Y = U-I-C
  a = Intercept of the line
  X = Regression Coefficient (U-I-C)
  β = Gradient or the slope

The output is shown below in table 5.7.

Table 5.7 Results of Regression Analysis for Institutional Context and U-I-C

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.965(a)	.931	.926	121.1	2.053

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
4 (Constant)	87.88	67.34		1.305	.213		
Institutional context	.984	.072	.965	13.700	.000	1.000	1.000

Source: Survey Data, 2012.

The regression model based on model 4 drawn from this output is expressed as:

$$U\text{-}I\text{-}C = 87.88 + 0.965(Inst.Context)$$

The final stage was running the regression analysis when both the explanatory variable and moderator variable are introduced. The analysis was treated as the regression model 5 that took the form of model 5 shown below.

$$Y = \alpha + \beta X + \tau M + \eta XM + \varepsilon \ldots\ldots\ldots\ldots \text{ Model } 5$$

Where:

Y=U-I-C;

α=Constant

β= The effect of the predictor variable (HRD Infrastructure) when Moderator variable is zero

τ= The effect of the Moderator variable (Institutional Context) when the predictor variable is zero

η= How much the effect of predictor variable changes as the Moderator variable goes from 0 to 1

The output is shown below in table 5.8.

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Table 5.8 Results of Regression Analysis for HRD Infrastructure, Institutional Context and U-I-C

Model summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.965(a)	.932	.921	124.79	2.149

Regression coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9.6	7.196		1.335	.205		
	HRD Infrastructure	-.109	.253	-.082	-.431	.673	.145	6.884
	Institutional Context	1.061	.194	1.041	5.466	.000	.145	6.884

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2755.67	2	1377.83	88.478	.000(a)
	Residual	202.44	13	155.72		
	Total	2958.11	15			

Source: Survey Data, 2012.

The results of the three regression analyses and their major indications on the moderating effect are summarized in table 5.9.

U-I-C=9.60+ 0.880(HRD Infr.)+ 0.965 (Inst. Context) -0.082 (HRD Infr.) (Inst. Context)

Table 5.9: Summary of Regression Results for the Moderating Effect of the Institutional Context

Variable Parameter	Model 3(Before Moderation)	Model 4(Moderator variable alone)	Model 5(After Moderation)	Change	Significance of change
HRD Infrastructure (Predictor)	0.880*		-0.082**	-0.798	Change not significant at p<0.673
Institutional Context (Moderator)		0.965*	1.041	0.076	Change significant at p<0.001
R²	0.774*	0.931*	0.932**	0.158	Change is significant at p<0.001
Adjusted R²	0.758*	0.926*	0.921**		
t	6.930	13.70*	-0.431**	5.884	
F	48.00*		88.478*	40.478	

*p<0.001   **p=0.673

Source: Survey Data, 2012

The test of the hypothesis is done using the R² values and the change in the coefficients of the explanatory and moderator variables. From the output contained in tables 5.6-5.9, we observe that When the index for the variable institutional context is zero, the beta coefficient for HRD Infrastructure is 0.880 while the R² is 0.774. The values are significant at t=6.930 p<0.00. When HRD is zero, the effect of institutional context is 0.965 while the R² is 0.932. The values for the effect of the moderator variable are significant at t 13.70, p<0.001. When the moderator variable moves from zero when the explanatory variable is present, the effect of the index for the predictor variable HRD Infrastructure is -0.082 and is not significant at t -.431 p<0.673. The coefficient of the moderator variable is 1.041, and is significant at t=5.466, p<0.00, and the R² value is 0.932.

Based on these statistics, the moderating effect is assessed in terms of how the effect of the explanatory variable changes when the moderator variable is introduced. The coefficient of the index for HRD Infrastructure changes from +0.880 to -0.082 as the index for the moderator variable moves from zero to 1. The R² value for this moderated relationship is 0.932 indicating an upward change in the strength of the relationship by 0.158. Hypothesis 4 is therefore supported. The study thus concludes that the organizational responsiveness to institutional context by universities moderates the relationship between the university HRD Infrastructure and the phenomenon of University-Industry Collaboration. The moderated relationship has a stronger explanatory power rising from the R² value of 0.774 in the non moderated relationship to R² value of 0.932 in the moderated relationship. The regression models used at the various stages are all significant at p<0.001. The autocorrelation and multicollinearity measures also show that the scores are at a level in which they do not invalidate the conclusions arrived at. Thus hypothesis four is supported and the study concludes that the degree of responsiveness to the institutional context based on the managerial cognitions of the context has a moderating effect on the relationship between the university HRD Infrastructure and the phenomenon of university industry collaboration.

The support of this hypothesis may be explained from some of the theoretical underpinnings that underlie the development of the managerial cognitions. The study had relied on the input of the institutional theory based on the need to attain legitimacy so as to gain acceptance in ones industry. One study relied upon by the current study had raised the need to integrate the institutional theory with the resource based view (Meyer et.al. 2009). In the current study, when the moderator variable is introduced, the HRD coefficient takes a negative value, an aspect that may help explain why the universities had scored poorly on areas that were considered critical to enhancing learning as a defining nature of the operations of the industry. The theory had argued that the managerial cognitions of the context will be crucial to explaining an organization's strategic behavior through the responses they make in view of what is considered as important in the context and demanding attention. Kirsdy et.al (2009)'s work was relied upon by this study to advance this position. They used the cognitive decision making theory to indicate that decision makers rely on cues from the institutional context to determine the strategic behavior of their firms Nadkarni and Barr (2008) suggested that top managers develop two major forms of subjective representations about environments in order to drive the organization's strategic behavior, namely attention focus and environment strategy causal logics describing those institutional factors managers pay attention to and therefore considered in the strategic decision making process. This hypothesis strengthens this conclusion, which confirms the findings reported on the descriptive statistics reported showing varying responses by different managers from different universities on the aspects of the institutional context captured by the research instrument.

The design of the HRD Infrastructure was argued to be integrating the basic postulates of the resource based view of the firm that focuses on building and sustaining strategic assets for generating and sustaining competitive advantage. Human resources have been argued to bear those characteristics that this theory advocates as possessed by the strategic resources of firms. In terms of the finding on hypothesis 4, it is established that the explanatory power of the relationship between the strategic resources and the strategic choices for U-I Collaboration is enhanced when the moderator variable is introduced based on the postulates of the institutional theory. Thus, the finding makes a significant contribution in terms of what the study had leaned towards on the need to use a multidisciplinary based approach to research on the phenomenon of interorganizational networks within the HE sector. In addition, the finding strengthens the

owing call by scholars in strategic management and organization theory for the integration of the postulates of the resource based view with those of the institutional theory.

4.6 Hypothesis H5: Organizational Responsiveness Institutional Context moderates the Relationship between the U-I Collaboration and University Performance

The test for this hypothesis followed the same procedure as that of hypothesis 4. The first regression analysis used the indices for U-I-C and Performance and the results are presented in table 5.10. The analysis for the non moderated relationship between U-I-C was expressed in the form of model 6 shown below. This model was treated as model 6.

$$Y=a+\beta X+\varepsilon, \ldots\ldots\ldots\ldots\ldots Model\ 6$$

Where:
      Y=University Performance
      a = Intercept of the line
      X=Regression coefficient (U-I-C)
      β = Gradient or the slope

Table 5.10 Results of Regression Analysis for U-I-C and Performance

Model summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.820(a)	.673	.649	216..94	1.924	

Regression coefficients							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	23.00	12.71		1.809	.092		
	U-I-C	.676	.126	.820	5.363	.000	1.000	1.000

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1353.54	1	1353.54	28.758	.000(a)
	Residual	658.93	14	470.66		
	Total	2012.47	15			

The non moderated relationship between University Performance and U-I-C developed using the actual output to express model 6 was expressed as:

University Performance =23.0+0.820(U-I-C)

The second regression analysis tested the effect of the moderator variable, Institutional Context when the predictor variable was zero. It was considered as the regression model 7 which took the form shown below:

$$Y=\alpha+\beta X+\varepsilon,\ldots\ldots\ldots\ldots\ldots Model\ 7$$

Where

Y=University Performance

α =Intercept of the line

X Regression coefficient (Institutional Context)

β=Gradient or the slope

The results of this analysis are shown in table 5.11.

Table 5.11 Results of Regression Analysis for Institutional Context

Model summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		Durbin-Watson
1	807(a)	651	627	223.83		2.081

Regression coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	27.82	12.44		2.235	.042		
	Institutional Context	679	.133	.807	5.115	000	1.000	1.000

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1311.019	1	1311.019	26.166	000(a)
	Residual	701.45	14	501.03		
	Total	2012.47	15			

Source: Survey Data, 2012.

The effect of the moderator variable alone is expressed using the guideline of model 7 as:

University Performance 27.82+0.807(Inst.Context)

In the third stage of the analysis, the moderator variable was introduced when the explanatory variable was present and produced the results shown in table 5.12. This was considered as the regression model 8. The moderated relationship was expresses using the multiple regression equation of the form shown in model 8.

$$Y = \alpha + \beta X + \tau M + \eta XM + \varepsilon \ldots\ldots\ldots\ldots \text{Model 8}$$

Where:
Y=University Performance
α=Constant
β =The effect of the Predictor variable (U-I-C) when Moderator variable is zero
τ = The effect of the Moderator variable (Institutional Context) when the predictor variable is zero
η = How much the effect of Predictor variable changes as the Moderator variable goes from 0 to 1

Table 5.12 Results of Regression Analysis for Institutional Context, U-I-C and Performance

Model summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.822(a)	.676	.626	221.86	1.978	
Regression coefficients						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	23.48	13.18		1.781	.098		
U-I-C	.493	.494	.598	.998	.336	.069	14.406
Institutional Context	.194	.494	.230	.355	.707	.069	14.406
Anova						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1 Regression	1360.95	2	6804.77	13.578	.001(a)	
Residual	651.51	13	501.16			
Total	2012.47	15				

The moderated linear regression model obtained from the output of table 5.12 is expressed using the guideline of model 8 as:

University Performance 23.48+0.820(U-I-C) +0.807(Inst.Context) +0.222(U-I-C) (Inst.Context)

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The summary of these regression analyses and the key indicators for assessing the relationship is presented in table 5.13.

Table 5.13: Summary of Regression Results for the Moderating Effect of the Institutional Context

Variable parameter	Model 6 (Before moderation)	Model 7 Moderator variable alone	Model 8 (After moderation)	Change	Significance of change
β U-I-C	0.820*		0.598**	0.222	Change not significant at p<0.336
β Institutional Context		0.807*	0.230***	0.577	Change not significant at p<0.707
R²	0.673*	0.651*	0.676**	0.003	
Adjusted R²		0.627*	1.781**	0.0054	
t	5.363*	5.115*	14.406**	13.406	
F	28.758*	26.166*	13.578**	-15.18	Change is significant at P=0.001

*p=0.001   ** p<0.098   ***t=0.355, p<0.707

Source: Survey Data, 2012.

From the summary in table 5.13, it is observed that when the explanatory variable is tested alone the effect is 0.820 and the R^2 is 0.673 and the relationship is significant at t=5.363, p<0.001. When the moderator variable is tested when the index for U-I-C is zero, the coefficient of the moderator is 0.807 and the R^2 value is 0.651 and the relationship is significant at t=5.115, p<0.00. When the moderator moves from zero when the index for university-industry collaboration is present, the effect of the university-industry collaboration is 0.598 and R^2 is 0.676 and the effect is not significant at t=0.998, p<0.336. The effect of the moderator is 0.230 and the beta is not significant at t -0.385, p<0.707. The F values for the regression models at p=0.001 are significant while the D and VIF values show that the results are not invalidated by the influence of autocorrelation and multicollinearity. Hypothesis 5 is therefore not supported. The study thus concludes that the degree of responsiveness to institutional contexts by universities does not have a significant moderating effect on the relationship between the phenomenon of university-industry collaboration and the performance of universities in Kenya. The explanatory power of the relationship however only increases marginally under the moderated relationship.

While these observations are expressed in view of the finding on hypothesis 5, it is important to note that while the managerial cognitions of the context play an important role in making strategic choices for organizations, the same may not be extended towards explaining the relationship between those strategic choices and the corresponding performance of organizations. An explanation for this may be offered from the reality of the nature of organizations' strategic behavior and the paths that lead towards performance. From the strategic management theory and process, strategic choices are argued to be adopted after analysis of the external environment in which managers use their cognitions to select those factors that require strategic response and then select options considered most responsive to the factors. However, when it comes to explaining actual performance resulting from the strategic choice made, managers may pay little attention to the external environmental conditions and probably focus more on internal factors that are likely to influence performance. This is an important finding in that debate has raged with regard to relating strategies with the performance of organizations. The finding may be pointing at the need for managers to focus more on internal factors that will account for the quality of the results obtained.

5.7 Summary of Chapter Five

Chapter five of the thesis has presented the inferential analysis of the findings of this research. The findings were presented through the test of the five hypotheses along which the study had identified objectives. The findings reported on the test of each hypothesis have been presented and interpretations provided in terms of the message they send from a statistical and theoretical point of view. The interpretations have been made using statistical knowledge and the existing body of theoretical and empirical literature. The findings presented have implications for both theory and practice in the area of HRM. The next chapter undertakes to highlight those implications and identify the specific contribution to knowledge in the field of study.

CHAPTER SIX

DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents a summary of the findings of the study and the set of hypotheses tested in view of the underpinning theoretical and empirical literatures to ascertain the extent to which the research objectives have been answered, the implications for theory, policy and future research. The chapter presents the summary of the findings logically to highlight the extent to which the findings compare with the empirical and theoretical reasoning that defined the problem for the research undertaken. It is from such an analysis where conclusions are drawn as to whether each research question and objective has been satisfied and the direction for future research suggested. The chapter first presents a summary of the findings and the accompanying discussions. The conclusions of the study and recommendations follow next.

6.2 Summary of Findings on Descriptive Analysis

The purpose of this study was to establish an understanding on the role of institutional contexts and the phenomenon of university-industry collaboration on the relationship between university HRD Infrastructure and University performance. The study proposed five major objectives to answer the research questions that were considered suitable to address the problem of the study. Comprehensive field data that was obtained was presented in chapter four and relied upon in testing the hypotheses for the study. The field data obtained was presented through the descriptive statistics along the main variables of the study. The data was obtained from a relatively diverse set of respondents with a wealth of experience and knowledge on the management of universities in Kenya That the study was able to get the input of five deputy vice chancellors and four registrars and 29 deans/directors of faculties from a pool of 16 universities renders the findings of the study relatively credible from which conclusions about the state of affairs and the direction on the way forward based on the findings can be based. In addition, the instrument through which the primary data was obtained registered a relatively high level of reliability. The instrument had items that were developed from other studies in the same area as well as theoretical postulates from prominent scholars in the supporting disciplines that grounded the study (Currin et.al, 2003; Lapina & Slaidins, 2005; Solm, 2005; Wu, 2005; Chang et.al, 2006).

The mean scores of the items on responsiveness to national culture were just slightly above the level of indifference, implying that managers in this industry may have been ignorant on the key areas that characterize the context of their institutions. One notable aspect in this area was the responsiveness to the area of tolerance to mistakes in which the score was relatively low compared to the other items in this section. This is considered a critical area in affecting the design of work programs for HE institutions as well as maintaining learning systems. One study relied upon had confirmed that national cultures have influence on knowledge sharing in organizations (Song etal, 2009). Thus, this is a matter that would need to be addressed to facilitate effective knowledge management in universities in Kenya. The study had used the findings of Song etal on the role of national culture in knowledge sharing and this seems to have influenced the design of the HRD systems in which this research reports low scores on those areas that would support learning systems in human capital development institutions. This finding raises some implications for theory and practice. In theory, scholars will require to interrogate the aspects of national cultures accounting for the knowledge transfer in the context of developing countries whereby empirical studies confirm that little work in this area has been done (Sydhagen & Cunningham, 2007; Jorgensen & Keller, 2008). In practice, managers of this industry will have to respond to the challenges arising from the national cultural constraints affecting knowledge management which is a key component of the work of the human capital development institutions.

The study reported that the nation's human capital development needs have been adequately responded to. However two items seemed to register low scores in the area of attaining the millennium development goals and curbing brain drain. This may be contrasted with the relatively high scores on the need to produce globally competitive human resources supported by an equally globally competitive education. The responsiveness to the nation's HRD Value base also supports this position as the respondents scored highly on establishing the nation's human capital base ensuring workforce competence, continuing professional development and linking education with work. The responsiveness to the institutional characteristics of the context registered a moderate response. Notably high scores were on the emergence of a learning society in Kenya, increasing demand for a university degree, frequency of customers looking for new programs, rapid change in technology in the industry and the changing nature of learners who are different from the previous set of learners. The set of items registering low scores indicate that

industry may not be very competitive. This is evident from the low scores on price sensitivity, unpredictability to where the technology will be, promotional wars, relative ease of imitation and volatility in politics and economic conditions. The study had used the organic theory to the development of HRD which seems to play a major role in explaining the situation. This finding will raise matters with an implication on epistemology on HRM and HRD.

The theory relied on for the justification of the study in the Kenyan context had indicated that there are competing attendant factors to those items influencing design of HRD systems in developing countries (Brewster, 2004). The study used the postulates of the organic theory to understand the development of HRD in the Kenyan context (Lee & Stead, 1996). The basic postulates and explanation offered by this organic theory seems to have carried the day, in that these aspects of brain drain and MDGs may be seen as foreign elements as compared to those prevailing national concerns. Thus, the value base for HRD and the set of priority developmental needs upon which HRD is established for universities in Kenya seems to be largely in conformity with the postulates of the organic theory postulated by Lee and Stead (1996). While this theory in its focus does not allude to any epistemological issues, Collin (2007) in his approach towards the embeddedness of HRD in the context supplies a theoretical backing necessary to offer an explanation in this situation. His approach was based on the need to understand the broad context of HRM so as to obtain the language to understand it fully and suggested the positivist approach as an appropriate orientation for empirical investigations on HRM. The behavioral science approach considers HRM as an applied discipline at the micro level of analysis that uses the epistemological approach of the behavioral sciences (Luthans, 1992; Robbins, 2007; Huenzsky & Buchanan, 2007).

The research leaned more towards the positivism epistemological orientation because of the embedded nature of HRM in the context of practice (Collin, 2007). Out of the Kenyan context, the research points at the congruence between the HRM programs and the components of the context shaping this design. From a national point of view, this congruence provides a strong basis for national competitiveness as the theory argued on the basis of the need to continually evolve to respond to trends of the context and the needs of one era and transition to other states. This research extends this field of study to a new frontier in which the past theoretical framework is used to demonstrate the epistemological approach for adoption in examining the state of HRD

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in new contexts of practice. Researchers would therefore benefit by applying the postulates of the organic theory to understand the national cultural influences on the design of HRD at the various levels of its analysis in new contexts (Lee & Stead, 1996).

The scores on the HRD Infrastructure show that the universities have a clear picture of the set of organizational needs considered as priority for the institutions' continued growth. However, these institutions seem to have missed on the most important ingredient that characterizes their work with regard to learning and knowledge generation. The universities registered a relatively low score on building the ability for problem solving among employees. This is also reflected on the area of organizational learning in which the score for the statement on encouraging managers to take risks as long as they learn from their mistakes recorded a low score. Under the HRD Practices, those items that would connect with the aspect of learning also recorded low scores on the area of talent management, design of incentives and compensation systems for enabling knowledge creation and sharing. While it has been pointed that HRD at the national level seems to play a strategic role, it may be surprising why it fails to occupy the same role at the organizational level at which universities are operating. The management scholarship trying to understand and explain the strategic behavior of the organizations in this industry will need to explain why this phenomenon holds. This study had employed the input of the cognition theory to enhance the conceptualization that would explain the strategic behavior of firms in this industry. The cognitions approach focus on understanding what the individual managers know about themselves, the context as well as the conscious process of acquiring this knowledge (Ivancevich, et.al, 2008; Gibson et.al, 2009).

While the cognition theory was used to justify strategic choices and responses, research is needed to explain those aspects of the Kenyan context of the universities that managers in this industry have their attention drawn to accounting for the disparity between HRD playing a strategic role at a national level and seemingly failing to attain the same at the organizational level. This in itself has some theoretical and practical implications on the theoretical foundations underlying this study suitable to enhance management of organizations. The study used the postulates of the institutional theory and the resource dependence perspectives to the understanding of organizations and their strategic behaviors. The theories based their argument on the need to attain legitimacy and control resources for their value creation. Empirical work

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...shown that managers develop cues towards the aspects of the environment that they select in order to program in decision making for strategic response (Kirsdy, et.al, 2008; Nadkarmi & ... 2008). While this may hold, in the Kenyan context, there seems to be a contrast in terms of ... contents of the context and the cognitions of that context. This may provide a fertile ground ... further investigation in the Kenyan context for scholarship to offer empirical explanations on how managers in Kenyan context develop cues on key macro and micro influences of the context that they use to determine strategic responses that shape the strategic behavior of the institutions in this sector.

1.2.1 Summary of the Findings on Objective 1

The first hypothesis responding to research objective one sought to understand the current design of the HRD Infrastructure for universities in Kenya. The study relied on the input of the resource based view and the strategic human resource framework (Barney, 2001) to postulate that the design is connected with the strategic direction of each organization that lays the basis for organizational needs that arise from each strategy. Theoretical work that had attempted to offer an explanation seemed to be supportive of this reasoning (Garavan, 2007). The hypothesis was split into four sub hypotheses to test the relationship among the OD needs that arise from the strategy and these emerging components of the infrastructure. The hypothesis testing the correlation between the OD Needs and the other components of the infrastructure was partly supported in that it found a strong correlation between OD Needs and the HRD Values the universities have embraced. Even though the correlation between the OD Needs and the other components was not significant, yet the measured effect between the OD Needs and the components was relatively large to the extent that a clear picture may be seen emerging as to the basic elements of an organization HRD Infrastructure. The sub hypotheses tested the relationships among the elements that arise from the needs, notably the HRD values, Organization learning culture and HRD Practices. The elements have a relatively low correlation and a range of mild to large effect. Even though the statistical significance is low, yet on the basis of the effect, it may be concluded that these elements constitute an organizations HRD Infrastructure.

The finding from this hypothesis has a number of implications to theory and research. In theory, the study had offered a multidisciplinary based theoretical model that hypothesized the possible relationships between the set of organizational needs and the components that make up the HRD infrastructure in the areas of organizational learning, HRD Values and practices. The needs indicated here arise from the strategies being pursued by organizations. Thus through this hypothesis, the theory moves a step ahead to demonstrate the theoretical links between strategies of organizations and the human resource levers upon which those strategies depend for their operationalization to move an organization forward. Using the postulates of the resource based view, it can be argued that the suggested theoretical model provides a link between organizational strategies and the set of strategic assets that provide key levers for the operationalization of the strategy and establishment of sustainable competitive advantage. From this connection, the implication towards empirical research emerges in that on the basis of the argument and the explanation offered, the strategic nature of HRD moves to the point that future research stands a better position to mount empirical investigation based on this theoretical link. The finding strengthens the school of thought based on theory preceding empirical research (Guba & Lincoln, 1994) in which theoretical models are first developed and then tried in empirical work for validation and adoption. Using the conceptualization provided linking the various concepts used to display the HRD Infrastructure, a theory begins to emerge on the nature of strategic HRD as a subset of HRM.

Thus the first objective of the study is partly answered. On the basis of this observation, the study extends the level of knowledge toward the understanding of the design of HRD infrastructures a step further and particularly those theoretical and empirical attempts made towards this stream of research (Cox et.al, 2006; Ke et.al, 2006; Cunningham et.al, 2006; Paprock et.al, 2006). In addition, the study sheds light on the situational positioning of HRD in institutions of higher learning in Kenya through the theoretical explanation that indicated that HRM is yet to become strategic in universities in Kenya. Based on the findings on the whole of hypothesis1, this research advances the state of knowledge with regard to the design of HRD infrastructures in organizations. The findings show the various elements and what components need to be considered for HRD to play a strategic role in organizations. The findings seem to be supportive of the theoretical arguments that were generated from the Resource based view, the HRD Framework and that of the culture representation theory. It is logical to point that in terms

of what should comprise an HRD Infrastructure for organizations, the study offers an important insight from the need to approach it from a strategic stand point. The strategic management literature underscores the role of a corporate mission in which the uniqueness of each organization is captured, its domain determined and the core values embraced identified (Pearce, et al, 2007; Oakland, 2000). An emerging concern of the philosophy focuses on the human resource dimension as a prime mover of the desired degrees of competitive advantage organizations want to attain and sustain. Thus, HRD infrastructures need to reflect the strategic imperatives of each organization.

6.2.2 Summary of the Findings on Objective 2

The second objective that sought to understand the relationship between the HRD Infrastructure and the phenomenon of University-Industry Collaboration. The results showed a very strong correlation between the Universities HRD Infrastructure and the U-I Collaboration as well as a large effect. The study had leaned towards the stream of scholarship in HRD based on building interorganizational networks at organizational level (Weigl, et al, 2008). In addition, the study used the postulates of the HRD philosophy based on the learning paradigm to postulate that the learning orientation would provide a strong basis for pursuit of interorganizational networks. The theoretical argument had been that the very defining nature of HRD that reflects in the nature of HE Institutions forms a strong basis for the pursuit of interorganizational networks taking the nature U-I Collaboration. The support of this hypothesis presents a major step in the way forward in theory, practice and research.

In practice, the institutions in this sector will find it useful to understand the key items that were measured as the mediating variable, U-I Collaboration. The instrument on the part of the U-I-C measured the motivation, level and the nature of collaboration. The motivation aspect had been included because one of the streams of HRD theory and empirical work leaning towards knowledge management has this aspect of motivation to share acquired knowledge. There are important concerns for managers to take note, in terms of how the knowledge is generated, how it is shared and the needed atmosphere for this knowledge to be successfully transferred. The study used the input of the organizational studies and the configuration of organizations to show that the alliances are initiated at functional levels based on professional synergies among managers at that level (Daft, 2007; Jones, 2004). At the university level, this functional level is

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...sented by the school. This study relied on the deans, directors of institutes and schools as key respondents. In discussing interorganizational networks at university level, the schools and the departments working under each are critical to establishing and sustaining alliances with the productive sector based on knowledge. The other dimensions that the study investigated on the area of motivation and level of collaboration were based on this premise of the prime movers to initiating and sustaining collaborations in universities and the critical factors to address in enhancing development and sustainability of collaborations, namely an environment motivating them to generate and transfer knowledge. The section of measurement of the level of collaboration relied on theoretical elements that were proposed by Weigl (2008). The study adopted these items and to the extent that they have produced desirable empirical results validates them for adoption and use in empirical work.

In terms of the orientation HRD takes, this finding is consistent with some stream of scholarship that has considered entrepreneurship as the main component around which University-Industry (U-I) collaboration revolves (Chang et.al, 2006). As a result, the call on universities to intensify links with the industry is on the basis that such a move will usher an entrepreneurial culture giving room for entrepreneurs to accelerate the generation, dissemination and application of innovative ideas. Entrepreneurship however exists under conditions of uncertainty and risk where innovation oriented opportunities are being developed and exploited. Internal entrepreneurship is important for organizational renewal, the creation of new business and improved performance. Learning lies at the heart of the strategic renewal process that enables a firm to adapt and respond to challenges in their markets and so pointing at the critical role of HRD (Zahra et.al, 1999). The main argument from the theory behind the pursuit of the interorganizational networks was based on the learning paradigm as the basis that would lead to the linkages, an aspect that seems to be supported by the results of this hypothesis. The scores reported in the findings had shown relatively high mean score values on areas that derived from the learning orientation to HRD.

The results of this hypothesis may also be interpreted as indicative of the path through which HRD influences performance. Katou's (2009) research had made some attempts that were inconclusive. However using the theoretical literature from the organization theory stream of organizational studies, the support of the hypothesis may be taken as an indicator of the level of

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effectiveness on the part of the universities arising from the impact of HRD as an intervention in the path to the performance of the institutions. The organizational theory stream is of the view that the essence of initiating the organizational development interventions is to increase organizational health that ultimately improves the organizational performance and effectiveness.

How the U-I Collaboration phenomenon features in this context is through the balance on stakeholder demands. The SHRD approach emphasizes the role of the stakeholder orientation which this hypothesis shows the universities are well oriented to. The stakeholder approach integrates diverse organizational activities by looking at various organizational stakeholders and what they want from the organization. The OT literature is of the view that the stakeholder perspective benefits organizations through a relatively advantageous position that gives an organization a bargaining position enabling the organization to obtain scarce resources; ability of decision makers to perceive and correctly interpret the real properties of the external environment; the abilities of managers to use tangible and intangible resources in day today organizational activities to achieve superior performance; the ability of the organization to respond to changes in the environment.

Internally, the approach facilitates the development of a culture that fosters adaptability and quick response to changing conditions in the environment. This may be reflected through indicators of an organization's capability for innovation that include: the length of time needed to make a decision, the amount of time needed to get new products to market and the amount of time spent coordinating the activities of different departments (Daft, 2007). Using the work of Katou (2009), this finding goes along way to offer an explanation on the manner in which HRD influences organizational performance. A major concern on this stream of research is identification of the paths leading from HRD contributing to performance.

The second objective of the study is therefore well answered. Based on this observation the study notes that a contribution is made towards understanding the role of HRD in interorganizational networks and explaining the strategic behavior of firms. Previous studies had argued theoretically with no empirical evidence. This study extends and strengthens the theoretical conclusions earlier made by the stream of scholarship on interorganizational networks and U-I Collaboration (Hawley & Taylor, 2006; Martin, 2000; Fontana, et.al, 2003; Worasinchai, 2008).

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6.2.4 Summary of the Findings on Objective 3

Objective three was based on the need to understand the role of the phenomenon of interorganizational networks in influencing organizational performance. The theoretical argument held the position that interorganizational networks are strategic choices for managers that require justification due to the implied effects on the current and future prosperity of organizations. Under this concern, the hypothesis was formulated to enhance the current agitation that calls universities to intensify links with the productive sector. The score showed that the U-I-C partially mediates the relationship between HRD Infrastructure and University performance and that that the strength of the relationship is enhanced when the mediator variable is introduced. The study relied on the SHRD Framework that advocates a stakeholder based approach to management of employees for enhanced performance of organizations (Garavan, 2007; Freeman & McVea, 2001). The stakeholder approach is grounded on the organization theory stream of organizational studies seeking to attain congruence between organization's internal systems and their external environments. However, while in theory the arguments have been convincing for this move, the theory needs empirical support to justify decisions towards this move. The finding on this hypothesis provides a needed empirical support on the role of HRD based U-I Collaboration programs on the performance of universities and justifies investments for this strategic move in that there is a stronger explanatory power on the relationship between the HRD Infrastructure and the level of performance when the phenomenon of U-I-C is introduced as a mediating factor.

The study observes that this finding is an important move with implications on theory and practice in this industry. In practice, the beginning point is at the consideration that the U-I-C approach is based on HRD. The HRD Infrastructure for each organizations aims at enhancing value creation activities that enhance organizational performance in its markets. One school that fits in this explanation was advanced by Beer (1980) that supported the HRD approach for the development and sustainability of interorganizational networks by universities. This approach based support for this phenomenon on the need for organizations to attain some degree of congruence between internal systems and the external environment. The congruence requires organizations to focus both internally and externally.

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Internally, the organization seeks to develop a capacity to achieve its goals by fulfilling its members needs which leads to the need to focus on building a congruence between its people, processes and structures and its environment. Beer's approach relied on the contingency perspective of management (Jones, 2004; Daft, 2007) to propose an HR orientation for establishing this required congruence or fit between its social structures and processes and the environment being served. He identified four components that must be congruent as: people through their abilities, needs, values and expectations; process through the behaviors, attitudes, and interactions within the organization at the individual, group and intergroup levels; structures through the formal mechanisms and systems of the organization that are designed to channel behavior toward organizational goals and fulfill member needs; environment through the external conditions with which the organization must deal including its markets, customers, technology, stakeholders, government regulations and the social culture and values in which it operates. The support of this hypothesis is thus interpreted in terms of the role of the degree of congruence attained by universities with their external stakeholders towards enhancing performance. Murillo-Luna et.al (2008) identified the role of stakeholders as a critical factor when studying environmental response patterns by firms. Given the nature of data relied upon and the set of indicators used, the study builds a strong case for universities to pursue U-I linkages based on the types of knowledge that they generate. Objective three of the study is well answered by the findings of the study.

Through this finding and the accompanying explanations provided, this study makes three contributions towards the exiting knowledge. First, the study provides an empirical support for pursuit of interorganizational networks by universities as earlier attempts had not made any empirical indication on the manner interorganizational networks influence the performance of organizations. Through this, the calls for universities to pursue U-I programs based on their core business of knowledge development has been strengthened. Second, the study advances the level of scholarship towards an understanding of the stakeholder orientation embraced both in strategic management and SHRM. The HRD approach relied on in the study provides strong pillars upon which research on the stakeholder approach and its relative contribution to performance stands on the key strategic resources of organizations. Thirdly, the finding makes an attempt to move the stream of research on interorganizational networks in general and those specifically focusing on U-I Collaboration forward by providing an understanding of the basic strategic imperatives

that justify the networks and those elements of networks that lead to enhanced performance. In particular, the aspects of learning orientation are key to explaining this phenomenon as well as the postulates of the SHRD framework relied upon in conceptualizing the model of the study.

6.2.5 Summary on the Findings on Objectives 4 and 5

The fourth and fifth objectives focused on understanding the role of the institutional context of universities on the strategic choice for the pursuit of University-Industry collaboration and on the relationship between this strategic choice and University Performance. The influence was theoretically explained to emanate from the cognitions that managers form about the context in which they operate. The study found the evidence of a strong moderating effect of the institutional context on the relationship between HRD Infrastructure and the phenomenon of U-I Collaboration but no moderating effect when influencing the relationship between the U-I Collaboration and the corresponding University Performance. This may be explained by the fact that in making the strategic choice, managers will focus more on the contexts that impact on the relevance of their decisions while at the performance level, the focus may be more on internal factors. This may well strengthen the argument of the resource based view whose attention is turned to building and sustaining performance using the internal resources that possess the qualities of strategic assets. The finding raises some implications with regard to resolving some of the dilemmas that the theory of strategic management and that on organizations in general has faced due to the divergent postulates advanced by the institutional perspective of organizations and the resource based view of the firm. While these offer differing explanations to the strategic behavior of firms, the differing perspectives are reconcilable through empirical work. The findings on hypothesis four and five fit in this context to offer integration.

While the responsiveness to the institutional context based on the managerial cognitions plays a significant role in explaining strategic choice for University-Industry collaboration, its explanatory power declines when it comes to relating the strategic choice to the expected performance of the organization adopting the strategic choice. In the moderated regression, the coefficient of the moderator variable is not significant in explaining the variation in performance as does the strategic choice of U-I Collaboration. However, one point is clear, the role of managerial focus on external and internal focus pitting calls from the RBV against those of the institutional and resource dependence perspectives. The debate has been on finding

complimentaries that may strengthen decision making that accounts for organizational behaviors promoting performance. One study that gets confirmed is that of Meyer et.al (2009) that was done in response to calls to integrate institutional theory and the RBV. The study found complimentarity between the RBV and the institutional theory. Specifically, it established that strong explanatory and predictive power of the institution is enhanced when it is integrated with the RBV. In their study, they used the case of equity based firms. The current study using a different industrial set up and different aspects of performance confirms these earlier findings and strengthens the case for the integration of the Institutional and RBV theories in alliance research as well as supporting the conclusions of the study by Nadkarni and Barr (2008)'s study that concluded that industry cognition variables are crucial in developing explanations of strategic actions of firms in the respective industry.

Through this finding, this study extends the body of knowledge in the stream of organizational studies calling for the integration of the postulates of the resource based view with those of the institutional theory by indicating the scope in which such integration may be initiated. The findings of the study and the explanations offered attempt to show the particular areas of the strategic behavior of firms that both are better explained by the integrated framework of the two theories as well as those areas in which each offers better explanation when used independently. It would be unnecessary to extend it to explaining relationships between strategic choices and performance of institutions. This finding thus contributes towards extending the knowledge on the stream of academic inquiry based on the role of managerial cognitions on the external environment. The study had relied on the postulates of the culture representation theory, the institutional theory as well as the resource dependence theory. This study illustrates the influence of the cognitions of the context on explaining the strategic behavior of organizations using the Kenyan cultural context in the case of human capital development institutions. This study therefore makes a significant contribution towards understanding some of the dilemmas the theory in strategic management has confronted with regard to balancing between competing interests of internal and external focus. Objective four and five of the study are thus adequately answered.

6.3 Conclusion

From the summary of the findings of the main areas of this study, several conclusions may be made. The first concern of the study was on understanding the nature that the HRD Infrastructure for organization takes. From the results obtained, it is justified to conclude that this infrastructure is build on elements that are considered strategic in that they derive from the strategy being pursued that forms the basis for the Organization development needs considered priority for the growth of an organization. The areas that make up the elements will revolve around the overall philosophy on the management of workers captured through the values managers have. In a real life situation, each of the needs and value orientations will require a supportive organization culture and set of practices to cement the set of values, needs and culture.

The second point the study makes is that this HRD Infrastructure has a significant influence on both strategic choices of organizations for collaboration as well as the emergent performance. Thus universities that embrace linkages with external stakeholders register better and well explained performance results. This strengthens the call for organizations in the HE industry to enhance collaborations with the industry based on their core business of knowledge generation and dissemination. The context of the universities and how the managers perceive and respond to it has a significant influence on the relationship between the HRD Infrastructure and the strategic choices for interorganizational networks but not that between the strategic choice and the performance. While the strategic choice for U-I Collaboration is more influenced by the degree of responsiveness to the context based on the managerial cognitions, the study observes that on performance aspect it is largely dependent on the internal factors. Thus managers in this context need to pay attention to the strategic assets in their human resources that account for the performance of their organizations.

6.4 Limitations of the Study

While the study makes the above conclusions based on the field data, it is important to highlight a number of areas that may limit the extent of generalization and applicability of the findings. First, the study developed the independent variable based on the theoretical connection between HRD Infrastructure and the set of OD Needs arising from the strategic choices being pursued. While the data reported supports this theoretical proposition, the exact relationship between the strategies being pursued and the set of OD Needs emerging were not addressed by this Study. This study is of the view that with a focus on the exact set of strategies and the emerging OD

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Needs, there may be a likelihood of a better explanation to the relationship between the strategy being pursued and the HRD Infrastructure in organizations. To the extent that the specific set of strategies pursued by the universities were not considered, the conclusions will need to be adopted with some caution.

The study relied on subjective data obtained as opinions in most of the areas in the questionnaire. While some stream of research argues that there may be no significant difference in the kind of empirical results while using objective data on the one hand and subjective one the other, some dimensions of the phenomenon being measured by this study may highlight a better picture of the relationships being explored. Particularly, data on the numerical figures on the bottom line indicators of performance and that on nature and level of collaboration would be more desirable to measure the level of explained variation. This study had used these subjective opinions for fear that some of the data required may be too sensitive for most organizations to allow their officers to divulge. In some of the universities, this was confirmed through the interviews. Thus the absence of the objective data to some extent limits the extent of generalization of the conclusions made.

The study was largely guided by a multidisciplinary based theory to the formulation of concepts and their relationships. Prominent in this series of multidisciplinary literature is that in the area of organizational theory. This stream of scholarship has highlighted a number of imperatives that may explain the behavior of organizations among which interorganizational networks are classified. The imperatives include size, technology, structure and strategy. The study did not control for these imperatives so as to be able to explain how they may offer explanations to varying degrees of responses to the issues being measured. From the mean scores and standard deviations for the items in the questionnaires, the study registered some wide variation in some areas that may be explained by the OT imperatives. Along the same breath, it is also noted that the study did not account for the differences between the main categorization of the universities, namely public and private. It is feared that these may have aspects that will account for different organizational cultures that may affect the extent of the generalization of the current findings.

6.5 Recommendations with Policy Implications

From the findings of this study, it is necessary to point out a number of areas for management of institutions in the HE sector to consider. First, these institutions are human capital development in nature and thus require the support of healthy human resource practices. The study has reported that HRM is yet to become strategic in universities and that reflects in the universities low scores on dimensions that touch on the very nature of the institutions on the area of learning. The study makes a recommendation to the councils and management boards of the various universities in Kenya to redesign their HRM functions in a more strategically aligned manner. Key among the areas to address in the alignment is the need to strengthen the focus on building learning organization systems supported by industry relevant HRM practices. Specific areas are those that touch on management of talent, compensation systems being based on generation and sharing of knowledge and a high degree of tolerance for mistakes to allow people to learn. These are matters that will need to be integrated in the performance management systems touching on targets and the environment for the achievement of these objectives providing room for corrective actions in order to learn through experimentation and accommodate the influence of the learned lessons. Since most of the institutions have embraced the quality culture, within the systems for quality management systems on continuous improvement, they need to factor relevant provisions for the members of staff to reflect and be evaluated in a more humane manner.

The study found a disconnect between the prevailing cultures and the HRD Practices needed to support competitiveness in their core business, knowledge generation and dissemination. The key question that managers need to address is whether the institutions of higher learning in Kenya have well conceptualized their mandate on a national and international scope. The study made the observation that this situation prevails because HRM has not yet become strategic in the universities and thus the level of horizontal integration of HRM and strategy among universities very low. The study recommends that the councils of the universities invest more on improving their strategic management approaches to embrace a greater sense of involvement among internal stakeholders. Particularly, management needs to focus on building networks within their work systems so that the partnership expected among academicians and administrators is enhanced. Through this, the expectations of stakeholders will be understood and integrated into work systems and as a result the experienced low scores on talent management,

tolerance for mistakes and incentive systems for knowledge development may be better addressed.

6.6 Recommendations for Future Research

The study recommends that future research focuses on a number of areas that arise from the limitations cited and encountered. The study had relied on empirical and theoretical conclusions that showed the performance of the universities was at dissonance with the expectations of their markets and societies (Ruben, 2006; Hatala & Gumm, 2006). According to the findings presented in this study, the managers in this industry have painted a different scenario. The study recommends that researchers replicate this study undertaken from the industry side or even at best integrated with a focus on both sectors. Previous research shows that this series of scholarship may be undertaken from either the industry side, from the university or from both sides (Chang et.al, 2006; Dooley & Kirk, 2007). Such attempts could also consider using quantitative indicators of some of the variables used where the case would apply.

The study did not provide a complete explanation on the elements of the organization HRD Infrastructure. While this study contributes towards understanding of the effects of Organizational development needs on the areas of HRD Values, HRD Practices and organizational learning, future research will need to reexamine this set using a wider range of items from the theory on SHRM and SHRD. It is suggested that future research may expand the set of items in line with the postulates of the learning organization concept.

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APPENDICES

APPENDIX I: RESEARCH QUESTIONNAIRE – ADMINISTRATION LEVEL

University name ....SERIAL NUMBER:..................

INTRODUCTION

The questionnaire is designed to obtain information for purely academic research purposes from respondents in various administrative levels in both private and public universities in Kenya. The accuracy of the responses you provide will be crucial to the success of the research project. The questionnaire has four main parts. You are kindly requested to respond to each of the questions in the various sections in the provided scale for each section

SECTION 1-1: BIOGRAPHIC DATA

ADMINSITRATIVE POSITION		DURATION IN THE CURRENT POSITION	
VICE CHANCELLOR	☐	0-2 YEARS	☐
DEPUTY VICE-CHANCELLOR	☐	2-4 YEARS	☐
PRINCIPAL	☐	4-0 YEARS	☐
REGISTRAR	☐	6-7 YEARS	☐
OTHER (SPECIFY)	☐	OVER 8 YEARS	☐

SECTION 1-2 : RESPONSIVENESS TO NATIONAL CULTURE

The statements in this section are about certain dimensions of the Kenyan society. To what extend do you agree or disagree with each of the following statements? Indicate your response in a scale of 1-5 where

1 = Strongly disagree;
2 = Disagree,
3 = Neither Agree nor Disagree,
4 = Agree,
5 = Strongly Agree

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	The design of Work in this university has well integrated the extent to which orderliness and consistency are stressed even at the expense of experimentation and innovation	(1)	(2)	(3)	(4)	(5)
2	The design of Work in this university has well integrated the manner in which People in this society are generally aggressive	(1)	(2)	(3)	(4)	(5)
3	The design of Work in this university has well integrated the manner in which People in this society believe that the way to be successful is to plan ahead for the future	(1)	(2)	(3)	(4)	(5)
4	The design of Work in this university has been done to allow for a person's influence to be based primarily on ones ability and contribution to society	(1)	(2)	(3)	(4)	(5)
5	The culture in this university reflects on in which leaders encourage group loyalty even if individual goals suffer	(1)	(2)	(3)	(4)	(5)
6	The university promotes a culture comparable to the one in which children take pride in the individual accomplishments of their parents	(1)	(2)	(3)	(4)	(5)
7	The culture promotes societal expectations for teen aged students to be encourage to strive for continuously improved performance	(1)	(2)	(3)	(4)	(5)
8	The design of Work in this university has well integrated the fact that most people lead highly structured lives with fewer unexpected events	(1)	(2)	(3)	(4)	(5)
9	The university provides sufficient in line with the societal requirements that instructions are spelled out in detail so citizens know what they are expected to do	(1)	(2)	(3)	(4)	(5)
10	In this University rank and position in the hierarchy have special privileges	(1)	(2)	(3)	(4)	(5)
11	The work culture emphasizes the importance of being accepted by other members of a work group	(1)	(2)	(3)	(4)	(5)
12	The work culture requires people generally to be very tolerant to mistakes	(1)	(2)	(3)	(4)	(5)
13	Work performance in this university values group cohesion more than individualism	(1)	(2)	(3)	(4)	(5)

SECTION 1-3 RESPONSIVENESS TO HUMAN CAPITAL NEEDS

The statements in this section are about Human Capital Development Needs in Kenya. What is the extent to which the following human capital development needs have been responded to by the management of this university? Indicate your response in a scale of 1-5 where :

1 = No Response at All ;
2 = Some Slight Response;
3 = Moderate Response,
4 = High Response,
5 = Very High Response

		No Response At All	Some Slight Response	Moderate Response	High Response	Very High Response
1.	Achievement of the millennium development goals	(1)	(2)	(3)	(4)	(5)
2	Offering lifelong learning and education opportunities in Kenya	(1)	(2)	(3)	(4)	(5)
3	Supporting innovative research for sustainable development	(1)	(2)	(3)	(4)	(5)
4	Building a strong science and technology base	(1)	(2)	(3)	(4)	(5)
5	Linking higher education to workforce needs in the industry	(1)	(2)	(3)	(4)	(5)
6	Producing globally competitive human resources	(1)	(2)	(3)	(4)	(6)
7.	Providing opportunities for all Kenyans to participate in national development	(1)	(2)	(3)	(4)	(6)
8	Curbing emigration of human capital (brain drain)	(1)	(2)	(3)	(4)	(5)
9	Coping with increasing challenges	(1)	2	(3)	(4)	(5)
10	Need for industrialization in line with vision 2030	(1)	(2)	(3)	(4)	(5)
11.	Developing an adaptive human resource base for an industrializing economy	(1)	(2)	(3)	(4)	(1)
12	Enhancing collaboration between the industry and training institutions	(1)	(2)	(3)	(4)	(5)
13	Providing globally competitive quality education	(1)	(2)	(3)	(4)	(5)
14	Providing training and research to Kenyan citizens for development	(1)	(2)	(3)	(4)	(5)
15.	Building a globally competitive and prosperous Kenya	(1)	(2)	(3)	(4)	5

SECTION 1-4 : ORGANIZATION DEVELOPMENT NEEDS

The statements here are about the major areas considered to be of priority in this university for its current and future growth and development in view of the prevailing national and international circumstances. Indicate the importance of each in a scale of 1-5, where: 1 = Not Important at all ; 2 = Slight Important; 3 = Moderate Important, 4 = Important , 5 = Most Important	Not Important at all	Slight Important	Moderate Important	Important	Most Important
1. Building the ability for problem solving among employees	①	②	③	④	⑤
2 creative thinking about the future and contribute unique ideas					
3 Quality and continuous improvement	①	②	③	④	⑤
4 High level of professionalism characterized by employees with self governance, focus on gaining developing knowledge, special skills and ethical behavior	①	②	③	④	⑤
5. Building professional intellect among employees	①	②	③	⏐4⏐	⑤
6 High level of education for employees in order to operate and take decisions appropriate for the jobs	①	②	③	④	⑤
7 Ability to learn new skills to adapt to changing circumstance	①	②	③	④	⑤
8 Ability to manage relationships with customers and between departments	①	②	③	④	⑤
9 Being the employer of choice for creative, innovative people and employees with a development focus	①	②	③	④	⑤
10. Becoming a prestigious world-class university	①	②	③	④	⑤
11. Building an entrepreneurial university culture	①	②	③	④	⑤
12. Undertaking marketable research	①	②	③	④	⑤
13 Building a university whose programs will lead to the development of a knowledge-based economy	①	②	③	④	⑤

SECTION 1-6 : ORGANISATION LEARNING CULTURE

The statements here are about the existence of an organization environment that has both tangible intangible structures for supporting learning in each university. Indicate your opinion for each as guided by the following scale where :

1 = Definitely False ;
2 = False;
3 = Not Applicable;
4 = Mostly True;
5 = Definitely True.

		Definitely False	False	Not Applicable	Mostly True	Definitely True
1	There is a well established culture of employee empowerment in this university	(1)	(2)	3	(4)	(5)
2	We encourage a culture of continuous learning in the university	(1)	(2)	3	(4)	(5)
3	There is a strong sense of teamwork and networking among members of staff	(1)	(2)	(3)	(4)	(5)
4	We have a strategy for long-term customer service	(1)	(2)	(3)	(4)	(5)
5	There is a relentless practice of constant environmental scanning	(1)	2	(3)	4	(5)
6	We carry out evaluation of tasks accomplished	(1)	(2)	(3)	(4)	(5)
7	We have a system of sharing problems and solutions to those problems	(1)	(2)	(3)	4	(5)
8	We have an open communication system within and without the university	(1)	(2)	(3)	(4)	(5)
9	We encourage diversity in team work	(1)	(2)	(3)	(4)	(5)
10	Each manager here functions as a facilitator	(1)	(2)	(3)	(4)	(5)
11	Individuals receive a regular review of performance and learning	(1)	(2)	(3)	(4)	(5)
12	Individuals receive timely feedback on both performance and achieved learning	(1)	(2)	(3)	(4)	(5)
13	Managers are encouraged to identify their own learning needs	(1)	(2)	(3)	(4)	(5)
14	Managers are encouraged to set challenging learning goals for themselves	(1)	(2)	(3)	(4)	(5)
15.	Managers are encouraged to set challenging learning goals for themselves	(1)	(2)	(3)	(4)	5
16	Managers are assisted in identifying learning opportunities in their jobs	(1)	(2)	(3)	(4)	(5)
17.	Managers seek to provide new experiences from which others can learn	(1)	(2)	(3)	(4)	(5)
18	Opportunities are offered for the off the job training	(1)	(2)	(3)	(4)	(5)
19	Managers are encouraged to take risks so long as they try to learn form their mistakes	(1)	(2)	(3)	(4)	(5)
20	Managers are encouraged to review, conclude and plan learning activities	(1)	(2)	(3)	(4)	(5)
21	Managers are encouraged to challenge the traditional way of doing things	(1)	(2)	3	(4)	(5)

SECTION 1-8 : HUMAN RESOURCE DEVELOPMENT PRACTICES

These statements here are about Human Resource Management activities that management in this university considers necessary and applies to support the development of its staff in the university. Respond to each statement as guided by the scale below where:

1 = Not at all Practiced ;
2 = Some What Practiced;
3 = Moderately Practiced.
4 = Practiced,
5 = Very Highly Practiced Encouraged

	Not At All Practiced	Some What Practiced	Moderate Practiced	Practiced	Very Highly Practiced Encouraged
1. Recruitment of the best young adults	(1)	(2)	(3)	(4)	(5)
2 Intensive early development of employees	(1)	(2)	(3)	(4)	(5)
3 Increasing professional challenges for employees	(1)	2	(3)	(4)	(5)
4 Evaluating and weeding employees	(1)	(2)	(3)	(4)	(5)
5 Creating intellectual webs	(1)	(2)	(3)	(4)	(5)
6 Talent management	(1)	(2)	(3)	4	(5)
7 Leadership development	(1)	(2)	(3)	(4)	(5)
8 Knowledge management	(1)	(2)	(3)	(4)	5
9 Visionary and transformational leadership	(1)	2	(3)	4	(5)
10 Continuous professional development	(1)	(2)	(3)	(4)	(5)
11. Providing ample learning opportunities	(1)	(2)	(3)	(4)	(5)
12. Providing challenging jobs	(1)	(2)	(3)	(4)	(5)
13 Rotation of assignments that allow growth	(1)	(2)	(3)	4	(5)
14 Constant learning ad updating skills on biolong basis	(1)	(2)	(3)	(4)	(5)
15 Setting demanding performance standards	(1)	(2)	(3)	(4)	(5)
16 Setting challenging goals	(1)	2	(3)	(4)	(5)
17 Encouraging tasks interdependence	(1)	(2)	(3)	(4)	(5)
18. Designing incentives and compensation systems based on collective performance	(1)	(2)	(3)	(4)	(5)
19 Designing incentives and compensation systems to enhance knowledge creation and sharing	(1)	(2)	(3)	(4)	(5)

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SECTION 1-7 : HUMAN RESOURCE DEVELOPMENT VALUES

The statements here are about important guiding beliefs suitable to guide managers in the management of employees. Indicate the degree of importance of each in a scale of 1-5, where:

1 = Not important at all ;
2 = Slight Important;
3 = Moderate Important,
4 = Important ,
5 = Most Important

	Statement	Not important at all	Slight Important	Moderate Important	Important	Most Important
1.	Helping individuals create work that energizes their inner spirit	(1)	(2)	3	(4)	(5)
2	Enabling individuals to create work that is personally meaningful	(1)	(2)	(3)	(4)	(5)
3	Recognizing a responsibility for human and organizational development that goes beyond organization goals	(1)	(2)	(3)	(4)	(5)
4	Building socially responsible organizations	(1)	(2)	(3)	(4)	(5)
5	Offering learning systems in organizations	(1)	(2)	(3)	(4)	(5)
6	Transforming organizations into continuous learning systems	(1)	(2)	3	(4)	(5)
7	Enabling individuals to improve job related performance	(1)	(2)	(3)	(4)	(5)
8	Improving organization performance as the central task of Human Resource Development	(1)	(2)	(3)	(4)	(5)
9	Focus on meeting organizational performance goals	(1)	(2)	(3)	(4)	(5)
10	Employees should taking charge of their own lives and their desires to contribute to the economies society at large	(1)	(2)	(3)	(4)	(5)
11.	Facilitating employees in developing skills that are referable in the labour market	(1)	(2)	(3)	(4)	(5)
12	Investing in activities that help individuals create work that energizes their inner spirit	(1)	(2)	(3)	(4)	(5)
13.	Enabling individuals to create work that is personally meaningful	(1)	(2)	(3)	(4)	(5)
14	Recognizing a responsibility for human and organizational development that goes beyond its organizational goals.	(1)	(2)	(3)	(4)	(5)
15	Quality of organizations human resources as representing a critical successful factor	(1)	(2)	(3)	(4)	(5)
16	The success of corporations lying more on intellectual systems and capabilities than in physical assets	(1)	(2)	(3)	(4)	(5)

For collaborative programs the university has been involved in, indicate the level of involvement of the parties in each collaborative undertaking, where:

1 = Very Low;
2 = Low;
3 = Slightly Low.
4 = High.
5 = Very High

		Very Low	Low	Slightly low	High	Very High
1	The level of trust based interactions	(1)	(2)	(3)	(4)	(5)
2	Reciprocal contacts	(1)	(2)	(3)	(4)	(5)
3	Instructions for rules, norms, procedures and values governing transactions among the organizations	(1)	(2)	(3)	(4)	(5)
4	Similarity of resources for procedures used, the develop the to information systems links among other members	(1)	(2)	(3)	(4)	(5)
5.	The amount of contact between organizations or the number of interactions	(1)	(2)	(3)	(4)	(5)
6	The amount of resources in the relationship	(1)	(2)	(3)	(4)	(5)
7.	The extent to which the resources in the transactions or relationship flow to both parties	(1)	(2)	(3)	(4)	(5)
8	The extent to which the terms of the transactions are mutually agreed upon with equal contributions from all organizations concerned	(1)	(2)	(3)	(4)	(5)

Rate the extent to which the performance of university has been achieved in the last years, where:

1 = Low ;
2 = Slightly;
3 = Moderate.
4 = Good,
5 = High

		Low	Slight	Moderate	Good	High
1	The university national rating	(1)	(2)	(3)	(4)	(5)
2.	The university's International rating	(1)	(2)	(3)	(4)	5
3.	New academic programs initiated	(1)	(2)	(3)	(4)	(5)
4.	The number of curriculum changes effected	(1)	(2)	(3)	(4)	(5)
5.	The number of scientific conferences participated in and sponsored	(1)	(2)	(3)	(4)	(5)
6.	The number of refereed journal article published	(1)	(2)	(3)	(4)	(5)
7.	The number of books and chapters in books authored and published	(1)	(2)	(3)	(4)	(5)
8.	The number of research grants won	(1)	(2)	(3)	(4)	(5)
9	The level of success in the financial performance	(1)	(2)	(3)	(4)	(5)
10	Number of self sponsored students	(1)	(2)	(3)	(4)	(5)
11.	The sum of research spending by academic staff	(1)	(2)	(3)	(4)	(5)
12.	The total number of patents granted to researchers in this university	(1)	(2)	(3)	(4)	(5)
13	The number of new businesses developed	(1)	(2)	(3)	(4)	(5)
14	The number of new technologies developed	(1)	(2)	(3)	(4)	(5)

SECTION 1-10 : ORGANIZAITONAL READINESS FOR CHANGE

Rate the extent to which the performance of university has been achieved in the last 5 years, where: 1 = Low ; 2 = Slightly; 3 = Moderate, 4 = Good, 5 = High	Low	Slight	Moderate	Good	High
1. Development of a culture of continuous learning in the department and university	(1)	(2)	3	(4)	(5)
2 Development of a strong sense of team work	(1)	2	(3)	4	(5)
3 Development of a strategy for long-term customer service	(1)	(2)	(3)	4	(5)
4 Embracing of benchmarking practices within and without the organization	(1)	(2)	(3)	4	(5)
5. Development of programs for enabling employees to identity and solve problems	(1)	(2)	(3)	(4)	(6)
6 High collaboration of manager in administration and academics	(1)	(2)	(3)	(4)	(5)
7. Existence of an open communication system providing feedback to employees	(1)	2	(3)	(4)	(5)
8. Well developed systems for recording lessons from change efforts	(1)	(2)	(3)	(4)	(5)
9 Strong core values that support customer service	(1)	(2)	(3)	(4)	(5)
10 Development of a suitable mission and core values	(1)	(2)	3	(4)	(5)
11. Equitable provision of formal training programs and opportunities to all employees	(1)	(2)	(3)	(4)	(5)
12 Constant environmental scanning	(1)	(2)	(3)	(4)	(5)

THANK YOU FOR YOUR COOPERATION

APPENDIX II: RESEARCH QUESTIONNAIRE – SCHOOLS/FACULTIES

University name ....SERIAL NUMBER..............

INTRODUCTION

The questionnaire is designed to obtain information for purely academic research purposes from respondents in various administrative levels in both private and public universities in Kenya. The accuracy of the responses you provide will be crucial to the success of the research project. The questionnaire has four main parts. You are kindly requested to respond to each of the questions in the various sections in the provided scale for each section.

SECTION 1-1: BIOGRAPHIC DATA

ADMINSITRATIVE POSITION		DURATION IN THE CURRENT POSITION	
DEAN/DIRECTOR OF SCHOOL/INSTITUTE	[ ]	0-2 YEARS	☐
HEAD OF DEPARTMENT	☐	2-4 YEARS	☐
OTHER (SPECIFY)	☐	4-6 YEARS	☐
		6-7 YEARS	☐
		OVER 8 YEARS	☐

SCHOOL / INSTITUTE ....

SECTION 1-2 : RESPONSIVENESS TO NATIONAL CULTURE

The statements in this section are about certain dimensions of the Kenyan society. To what extend do you agree or disagree with each of the following statements? Indicate your response in a scale of 1-5 where :

1 = Strongly disagree,
2 = Disagree,
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. The design of Work in this university has well integrated the extent to which orderliness and consistency are stressed even at the expense of experimentation and innovation	(1)	(2)	(3)	(4)	(5)
2. The design of Work in this university has well integrated the manner in which People in this society are generally aggressive	(1)	(2)	(3)	(4)	(5)
3. The design of Work in this university has well integrated the manner in which People in this society believe that the way to be successful is to plan ahead for the future	(1)	(2)	(3)	(4)	(5)
4. The design of Work in this university has been done to allow for a person's influence to be based primarily on ones ability and contribution to society	(1)	(2)	(3)	(4)	(5)
5. The culture in this university reflects on in which leaders encourage group loyalty even if individual goals suffer	(1)	(2)	(3)	(4)	(5)
6. The university promotes a culture comparable to the one in which children take pride in the individual accomplishments of their parents	(1)	(2)	(3)	(4)	(5)
7. The culture promotes societal expectations for teen aged students to be encourage to strive for continuously improved performance	(1)	(2)	(3)	(4)	(5)
8. The design of Work in this university has well integrated the fact that most people lead highly structured lives with fewer unexpected events	(1)	(2)	(3)	(4)	(5)
9. The university provides sufficient in line with the societal requirements that instructions are spelled out in detail so citizens know what they are expected to do	(1)	(2)	(3)	(4)	(5)
10. In this University rank and position in the hierarchy have special privileges	(1)	(2)	(3)	4	(5)
11. The work culture emphasizes the importance of being accepted by other members of a work group	(1)	(2)	(3)	(4)	(5)
12. The work culture requires people generally to be very tolerant to mistakes	(1)	(2)	(3)	(4)	(5)
13. Work performance in this university values group cohesion more than individualism	(1)	(2)	(3)	(4)	(5)

The statements in this section are about Human Capital Development Needs in Kenya. What is the extent to which the following human capital development needs have been responded to by the management of this university? indicate your response in a scale of 1-5 where :

1 = No Response at All ;
2 = Some Slight Response;
3 = Moderate Response,
4 = High Response,
5 = Very High Response

	No Response At All	Some Slight Response	Moderate Response	High Response	Very High Response
1. Achievement of the millennium development goals	(1)	(2)	(3)	(4)	(5)
2 Offering lifelong learning and education opportunities in Kenya	(1)	(2)	(3)	(4)	(5)
3 Supporting innovative research for sustainable development	(1)	(2)	(3)	(4)	(5)
4. Building a strong science and technology base	(1)	(2)	(3)	(4)	(5)
5 Linking higher education to workforce needs in the industry	(1)	(2)	(3)	(4)	(5)
6 Producing globally competitive human resources	(1)	(2)	(3)	(4)	(5)
7. Providing opportunities for all Kenyans to participate in national development	(1)	(2)	(3)	(4)	(5)
8. Curbing emigration of human capital (brain drain)	(1)	(2)	(3)	(4)	(5)
9 Coping with increasing challenges	(1)	(2)	(3)	(4)	(5)
10 Need for industrialization in line with vision 2030	(1)	(2)	(3)	(4)	(5)
11. Developing an adaptive human resource base for an industrializing economy	(1)	(2)	(3)	(4)	(5)
12. Enhancing collaboration between the industry and training institutions	(1)	(2)	(3)	(4)	(5)
13 Providing globally competitive quality education	(1)	(2)	(3)	(4)	(5)
14. Providing training and research to Kenyan citizens for development	(1)	(2)	(3)	(4)	(5)
15. Building a globally competitive and prosperous Kenya	(1)	(2)	(3)	(4)	(5)

The statements here are about important national values upon which higher education in Kenya is anchored. What is the extent to which the following priority development needs are considered important by the management of this university? Indicate your response in a scale of 1-5, where: 1 = Not Important at all ; 2 = Slight Important; 3 = Moderate Important, 4 = Important , 5 = Most Important	Not important at all	Slight Important	Moderate Important	Important	Most Important
1 Linking education with work	1	2	3	4	5
2 Continuing professional development beyond the bachelors degree	1	2	3	4	5
3 Incorporating the influence of technology	1	2	3	4	5
4 Internationalization of the curriculum	1	2	3	4	5
5. Shifting HE objectives from socio-cultural concerns to economic issues such as the employability of graduates and accommodation of the private sector	1	2	3	4	5
6 Building a knowledge based economy	1	2	3	4	5
7. Considering training skills development as an investment for individuals, the entire economy and the future of people	1	2	3	4	5
8. Education as the primary means by which the country's human capital is preserved and increased	1	2	3	4	5
9 Education as the means for ensuring workforce competence, competitiveness of firms and the nation	1	2	3	4	5

SECTION 1-5 : RESPONSIVENESS TO INSTITUTIONAL CHARACTERISTICS

What is the extent to which the following macro environment conditions likely to have affected higher education in Kenya have been responded to by the management of this university? Indicate your response in a scale of 1-5 where

1 = No Response at All ;
2 = Some Slight Response;
3 = Moderate Response,
4 = High Response,
5 = Very High Response

		No Response At All	Some Slight Response	Moderate Response	High Response	Very High Response
1	The Rapidly changing customer preferences	(1)	(2)	(3)	(4)	(5)
2	The frequency in which customers look for new programs all the time	(1)	(2)	(3)	(4)	(5)
3	The demands of a very price sensitive market	(1)	(2)	(3)	(4)	(5)
4	The highly changing set of needs of new learners totally different from those of previous learners	(1)	(2)	(3)	(4)	(5)
5	The degree of unpredictability any in this market for higher education	(1)	(2)	(3)	(4)	(5)
6	The extent to which the technology in our industry is changing rapidly	(1)	(2)	(3)	(4)	(5)
7	The extent to which it is very difficult to forecast where the technology in our industry will be the next 2 to 3 years	(1)	(2)	(3)	(4)	(5)
8.	The high frequency of technological developments in this industry	(1)	(2)	(3)	(4)	(5)
9	The cut throat competition in this industry	(1)	(2)	(3)	(4)	(5)
10	The promotional wars in our industry	(1)	(2)	(3)	(4)	(5)
11.	The relative ease in which any program that one university can offer, others can match readily	(1)	(2)	(3)	(4)	(5)
12.	The frequency in which new competitive moves are experienced almost every day	(1)	(2)	(3)	4	(5)
13.	The pressure from globalization and competition	(1)	(2)	(3)	(4)	(5)
14	The state declining state funding	(1)	(2)	(3)	(4)	(5)
15.	The increasing demand for a university degree	(1)	(2)	(3)	(4)	(5)
16	the Emergence of a learning society in Kenya	(1)	(2)	(3)	(4)	(5)
17	The extent to which intellectual patents and copyrights protection are enforced in the country	(1)	(2)	(3)	(4)	(5)
18	The volatile political and economic conditions in the country	(1)	(2)	(3)	(4)	(5)

SECTION 1-8: ORGANIZATION DEVELOPMENT NEEDS

The statements here are about the major areas considered to be of priority in this university for its current and future growth and development in view of the prevailing national and international circumstances. Indicate the importance of each in a scale of 1-5, where:

1 = Not Important at all ;
2 = Slight Important;
3 = Moderate Important,
4 = Important ,
5 = Most Important

		Not Important at all	Slight Important	Moderate Important	Important	Most Important
1.	Building the ability for problem solving among employees	(1)	(2)	(3)	(4)	(5)
2	creative thinking about the future and contribute unique ideas	(1)	(2)	(3)	(4)	(5)
3	Quality and continuous improvement	(1)	(2)	3	(4)	(5)
4	High level of professionalism characterized by employees with self governance. focus on gaining developing knowledge, special skills and ethical behavior	(1)	(2)	(3)	(4)	(5)
5.	Building professional intellect among employees	(1)	(2)	(3)	(4)	(5)
6	High level of education for employees in order to operate and take decisions appropriate for the jobs	(1)	(2)	(3)	(4)	(5)
7	Ability to learn new skills to adapt to changing circumstance	(1)	(2)	(3)	(4)	(5)
8	Ability to manage relationships with customers and between departments	(1)	(2)	(3)	4	(5)
9	Being the employer of choice for creative, innovative people and employees with a development focus	(1)	(2)	(3)	(4)	(5)
10	Becoming a prestigious world-class university	(1)	(2)	(3)	(4)	(5)
11.	Building an entrepreneurial university culture	(1)	(2)	(3)	(4)	(5)
12.	Undertaking marketable research	(1)	(2)	(3)	(4)	(5)
13	Building a university whose programs will lead to the development of a knowledge-based economy	(1)	(2)	3	(4)	(5)

SECTION 1-7 : ORGANISATION LEARNING CULTURE

The statements here are about the existence of an organization environment that has both tangible intangible structures for supporting learning in each university. Indicate your opinion for each as guided by the following scale where :

1 = Definitely False ;
2 = False;
3 = Not Applicable,
4 = Mostly True,
5 = Definitely True.

		Definitely False	False	Not Applicable	Mostly True	Definitely True
1	There is a well established culture of employee empowerment in this university	1	2	3	4	5
2	We encourage a culture of continuous learning in the university	1	2	3	4	5
3	There is a strong sense of teamwork and networking among members of staff	1	2	3	4	5
4	We have a strategy for long term customer service	1	2	3	4	5
5	There is a relentless practice of constant environmental scanning	1	2	3	4	5
6	We carry out evaluation of tasks accomplished	1	2	3	4	5
7	We have a system of sharing problems and solutions to those problems	1	2	3	4	5
8	We have an open communication system within and without the university	1	2	3	4	5
9	We encourage diversity in team work	1	2	3	4	5
10	Each manager here functions as a facilitator	1	2	3	4	5
11	Individuals receive a regular review of performance and learning	1	2	3	4	5
12	Individuals receive timely feedback on both performance and achieved learning	1	2	3	4	5
13	Managers are encouraged to identify their own learning needs	1	2	3	4	5
14	Managers are encouraged to set challenging learning goals for themselves	1	2	3	4	5
15	Managers are encouraged to set challenging learning goals for themselves	1	2	3	4	5
16	Managers are assisted in identifying learning opportunities in their jobs	1	2	3	4	5
17	Managers seek to provide new experiences from which others can learn	1	2	3	4	5
18	Opportunities are offered for the off the job training	1	2	3	4	5
19	Managers are encouraged to take risks so long as they try to learn form their mistakes	1	2	3	4	5
20	Managers are encouraged to review, conclude and plan learning activities	1	2	3	4	5
21	Managers are encouraged to challenge the traditional way of doing things	1	2	3	4	5

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SECTION 1-8 : HUMAN RESOURCE DEVELOPMENT VALUES

The statements here are about important guiding beliefs suitable to guide managers in the management of employees. Indicate the degree of importance of each in a scale of 1-5, where:

1 = Not Important at all ;
2 = Slight Important;
3 = Moderate Important.
4 = Important ,
5 = Most Important

	Statement	Not Important at all	Slight Important	Moderate Important	Important	Most Important
1	Helping individuals create work that energizes their inner spirit	(1)	(2)	(3)	(4)	(5)
2	Enabling individuals to create work that is personally meaningful	(1)	(2)	(3)	(4)	(5)
3	Recognizing a responsibility for human and organizational development that goes beyond organization goals	(1)	(2)	(3)	(4)	(5)
4	Building socially responsible organizations	(1)	(2)	(3)	(4)	(5)
5	Offering learning systems in organizations	(1)	(2)	(3)	(4)	(5)
6	Transforming organizations into continuous learning systems	(1)	(2)	(3)	(4)	(5)
7	Enabling individuals to improve job related performance	(1)	(2)	(3)	(4)	(5)
8	Improving organization performance as the central task of Human Resource Development	(1)	(2)	(3)	(4)	(5)
9.	Focus on meeting organizational performance goals	(1)	(2)	(3)	(4)	(5)
10	Employees should taking charge of their own lives and their desires to contribute to the economies society at large	(1)	(2)	(3)	(4)	(5)
11	Facilitating employees in developing skills that are referable in the labour market	(1)	(2)	(3)	(4)	(5)
12	Investing in activities that help individuals create work that energizes their inner spirit	(1)	(2)	(3)	(4)	(5)
13.	Enabling individuals to create work that is personally meaningful	(1)	(2)	(3)	(4)	(5)
14	Recognizing a responsibility for human and organizational development that goes beyond its organizational goals	(1)	(2)	(3)	(4)	(5)
15	Quality of organizations human resources as representing a critical success factor	(1)	(2)	(3)	(4)	(5)
16	The success of corporations lying more on intellectual systems and capabilities than in physical assets	(1)	(2)	(3)	(4)	(5)

SECTION 1-8 . MOTIVATION

The statements here are about the concern by universities to establish collaboration with external organizations. Or each statement, respond according to the scale below, where:

1 = Extremely Unlikely ;
2 = very unlikely;
3 = likely 50-50 change .
4 = very likely,
5 = extremely likely

How likely is it that you as the head of this School, in the next planning period:-

	Extremely unlikely	Very unlikely	Likely 50-50 change	Very likely	Extremely likely
1. Will work on an interdisciplinary project	(1)	(2)	(3)	(4)	(5)
2. Will initiate a personal development plan	(1)	(2)	(3)	(4)	(5)
3. Will initiate development of long-term strategies	(1)	(2)	3	(4)	(5)
4. Will pursue collaboration programs with private or development oriented organization	(1)	(2)	(3)	(4)	(5)
5. Will initiate consultation with public bodies	(1)	(2)	(3)	(4)	(5)
6. Will facilitate the creation of intellectual webs for solving complex problems that go beyond the capability of one practitioner	(1)	(2)	(3)	(4)	(5)
7. Will pursue knowledge updating activities	(1)	(2)	(3)	(4)	(5)
8. Will convert the knowledge being generated in this department into useful products	(1)	(2)	(3)	(4)	(5)
9. Will seek appropriate avenues for adapting this department and the entire university to external solutions	(1)	(2)	(3)	(4)	(5)
10. Will ensure knowledge transfer to external stakeholders of this department / university?	(1)	(2)	(3)	(4)	(5)
11. Will create intellectual webs to connect scholars and practitioners	(1)	(2)	(3)	(4)	(5)
12. Will make available increased knowledge content in the development and provision of products and services	(1)	(2)	(3)	(4)	(5)
13. Will facilitate and manage innovation and organizational learning to increase the network connectivity between internal and external individuals	(1)	(2)	(3)	(4)	(5)
14. Will Manage business environments and allow employees to obtain relevant insights and ideas appropriate to their work	(1)	(2)	(3)	(4)	(5)
15. Will Manage intellectual capital and intellectual assets in the workforce (such as the expertise and know how possessed by key individuals)	(1)	(2)	(3)	(4)	(5)

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SECTION 1-10 : NATURE OF COLLABORATION

THE STATEMENTS HERE ARE ABOUT THE RESPECTIVE TYPES OF PROGRAMS THAT THE UNIVERSITY HAS IN THE PAST OR IS CURRENTLY PARTNERING WITH AN EXTERNAL STAKEHOLDER FOR EACH OF THE TYPE LISTED BELOW. INDICATE HOW EACH HAS OCCURRED IN THIS UNIVERSITY IN A SCALE OF 1-5 WHERE::

1 = None ;
2 = Slightly;
3 = Moderate,
4 = Good,
5 = Excellent

	None	Slight	Moderate	Good	Excellent
16 General support	(1)	(2)	(3)	(4)	(5)
17. Contract research	(1)	(2)	(3)	(4)	(5)
18. Research centers and institute	(1)	(2)	(3)	(4)	(5)
19 Research consortia	(1)	(2)	(3)	(4)	(5)
20 Industry sponsored contract research	(1)	(2)	(3)	(4)	(5)
21 Technology licensing	(1)	(2)	(3)	(4)	(5)
22 Joint research and development	(1)	(2)	(3)	(4)	(5)
23 Research parks	(1)	(2)	(3)	(4)	(5)
24 Technology transfer offices to handle patenting and licensing	(1)	(2)	(3)	(4)	(5)
25 Faculty consulting based on personal relationships	(1)	(2)	(3)	(4)	(5)
26 Professors as recruitment agents	(1)	(2)	(3)	(4)	(5)
27. Student practice and exchange model	(1)	(2)	(3)	(4)	(5)

SECTION 1-11 : LEVEL OF COLLABORATION

For collaborative programs the university has been involved in, indicate the level of involvement of the parties in each collaborative undertaking, where:

1 = Very Low;
2 = Low;
3 = Slightly Low,
4 = High,
5 = Very High

	Very Low	Low	Slightly low	High	Very High
1. The level of trust based interactions	(1)	(2)	(3)	(4)	(5)
2 Reciprocal contacts	(1)	(2)	(3)	(4)	(5)
3 Instructions for rules, norms, procedures and values governing transactions among the organizations	(1)	(2)	(3)	(4)	(5)
4 Similarity of resources for procedures used, 5 The development of information systems links among other members	(1)	(2)	(3)	(4)	(5)
6 The amount of contacts between organization or the number of interactions	(1)	(2)	(3)	(4)	(5)
7 The amount of resources in the relationship	(1)	(2)	(3)	(4)	(5)
8 The extent to which the resources in the transaction or relationship flow to both parties	(1)	(2)	(3)	(4)	(5)
9 The extent to which the terms of the transactions are mutually agreed upon with equal contributions form all organizations concerned will work on an interdisciplinary project	(1)	(2)	(3)	(4)	(5)

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SECTION 1-12 : ORGANIZAITONAL READINESS FOR CHANGE					
Rate the extent to which change has been achieved in this university on organizational systems for supporting work performance in the last 5 years, where: 1 = Very Low; 2 = Low; 3 = Slightly Low. 4 = High, 5 = Very High	Very Low	Low	Slightly low	High	Very High
1 Development of a culture of continuous learning in the department and university	(1)	(2)	(3)	(4)	(5)
2. Development of a strong sense of team work	(1)	(2)	(3)	(4)	(5)
3 Development of a strategy for long-term customer service	(1)	(2)	3	(4)	(5)
4 Embracing of benchmarking practices within and without the organization	(1)	(2)	(3)	(4)	(5)
5 Development of programs for enabling employees to identify and solve problems	(1)	(2)	(3)	(4)	(5)
6 High collaboration of manager in administration and academics	(1)	(2)	(3)	4	(5)
7. Existence of an open communication system providing feedback to employees	(1)	2	(3)	(4)	5
8 Well developed systems for recording lessons form change efforts	(1)	(2)	(3)	(4)	(5)
9 Strong core values that support customer service	(1)	(2)	(3)	(4)	(5)
10. Development of a suitable mission and core values	(1)	2	(3)	(4)	(5)
11 Equitable provision of format training programs and opportunities to all employees	(1)	(2)	(3)	(4)	(5)
12 Constant environmental scanning	(1)	(2)	(3)	(4)	(5)

THANK YOU FOR YOUR COOPERATION

APPENDIX III: RESEARCH QUESTIONNAIRE – BOUNDARY UNITS

University name ....

INTRODUCTION

The questionnaire is designed to obtain information for purely academic research purposes from respondents in various administrative levels in both private and public universities in Kenya. The accuracy of the responses you provide will be crucial to the success of the research project. The questionnaire has four main parts, you are kindly requested to respond to each of the questions in the various section in the provided scale for each section.

SECTION 1-1: BIOGRAPHIC DATA

ADMINSITRATIVE POSITION		DURATION IN THE CURRENT POSITION	
LIAISON OFFICER	☐	0-2 YEARS	☐
CAREER DEVELOPMENT/PLACEMENT OFFICER	☐	2-4 YEARS	☐
DIRECTOR OF LINKAGES	☐	4-6 YEARS	☐
DIRECTOR OF RESEARCH	☐	6-7 YEARS	☐
OTHER (SPECIFY)		OVER 8 YEARS	☐

SECTION 1-2 : RESPONSIVENESS TO THE COUTNRY'S HRD VALUE BASE

The statements here are about important national values upon which higher education in Kenya is anchored. What is the extent to which the following priority development needs are considered important by the management of this university? Indicate your response in a scale of 1-5, where:

1 = Not Important at all ;
2 = Slight Important;
3 = Moderate Important,
4 = Important ,
5 = Most Important

		Not Important at all	Slight Important	Moderate Important	Important	Most Important
1	Linking education with work	(1)	(2)	(3)	(4)	(5)
2.	Continuing professional development beyond the bachelors degree	(1)	(2)	(3)	(4)	(5)
3.	Incorporating the influence of technology	(1)	(2)	(3)	(4)	(5)
4	Internationalization of the curriculum	(1)	(2)	(3)	(4)	(5)
5.	Shifting Higher Education objectives from socio-cultural concerns to economic issues such as the employability of graduates and accommodation of the private sector	(1)	(2)	(3)	(4)	(5)
6.	Building a knowledge based economy	(1)	(2)	(3)	(4)	(5)
7	Considering training skills development as an investment for individuals, the entire economy and the future of people	(1)	(2)	(3)	(4)	(5)
8.	Education as the primary means by which the country's human capital is preserved and increased	(1)	(2)	(3)	(4)	(5)
9	Education as the means for ensuring workforce competence, competitiveness of firms and the nation	(1)	(2)	(3)	(4)	(5)

SECTION 1-3 : RESPONSIVENESS TO INSTITUTIONAL CHARACTERISTICS

What is the extent to which the following macro environment conditions likely to have affected higher education in Kenya have been responded to by the management of this university? Indicate your response in a scale of 1-5 where :

1 = No Response at All ;
2 = Some Slight Response;
3 = Moderate Response,
4 = High Response,
5 = Very High Response

		No Response At All	Some Slight Response	Moderate Response	High Response	Very High Response
1	The Rapidly changing customer preferences	(1)	(2)	(3)	(4)	(5)
2	The frequency in which customers look for new programs a the time	(1)	(2)	(3)	(4)	(5)
3.	The demands of a very price sensitive market	(1)	(2)	(3)	(4)	(5)
4	The highly changing set of needs of new learners totally different from those of previous learners	(1)	(2)	(3)	(4)	(5)
5.	The degree of unpredictability any in this market for higher education	(1)	(2)	(3)	(4)	(5)
6	The extent to which the technology is our industry is changing rapid	(1)	(2)	(3)	(4)	(5)
7	The extent to which it is very difficult to forecast where the technology in our industry will be the next 2 to 3 years	(1)	(2)	(3)	(4)	(5)
8.	The high frequency of technological developments in this industry	(1)	(2)	(3)	(4)	(5)
9.	The cut throat competition in this industry	(1)	(2)	(3)	(4)	(6)
10	The promotional wars in our industry	(1)	(2)	(3)	(4)	(5)
11	The relative ease in which any program that one university can offer others can match readily	(1)	(2)	(3)	(4)	(5)
12	The frequency in which new competitive moves are experienced almost every w	(1)	(2)	(3)	(4)	(5)
13.	The pressure from globalization and competition	(1)	(2)	(3)	(4)	(5)
14	The state declining state funding	(1)	(2)	(3)	(4)	(5)
15	The increasing demand for a university degree	(1)	(2)	(3)	(4)	(6)
16	The Emergence of a learning society in Kenya	(1)	(2)	(3)	(4)	(6)
17	The extent to which intellectual patents and copyrights protection are enforced in the country	(1)	(2)	(3)	(4)	(5)
18	The volatile political and economic conditions in the country	(1)	(2)	(3)	(4)	(6)

SECTION 1-4 : ORGANISATION LEARNING CULTURE					
The statements here are about the existence of an organization environment that has both tangible intangible structures for supporting learning in each university. Indicate your opinion for each as guided by the following scale where : 1 = Definitely False ; 2 = False; 3 = Not Applicable. 4 = Mostly True, 5 = Definitely True.	Definitely False	False	Not Applicable	Mostly True	Definitely True
1. There is a well established culture of employee empowerment in this university	1	2	3	4	5
2. We encourage a culture of continuous learning in the university	1	2	3	4	5
3. There is a strong sense of teamwork and networking among members of staff	1	2	3	4	5
4. We have a strategy for long term customer service	1	2	3	4	5
5. There is a relentless practice of constant environmental scanning	1	2	3	4	5
6. We carry out evaluation of tasks accomplished	1	2	3	4	5
7. We have a system of sharing problems and solutions to those problems	1	2	3	4	5
8. We have an open communication system within and without the university	1	2	3	4	5
9. We encourage diversity in team work	1	2	3	4	5
10. Each manager here functions as a facilitator	1	2	3	4	5
11. Individuals receive a regular review of performance and learning	1	2	3	4	5
12. Individuals receive timely feedback on both performance and achieved learning	1	2	3	4	5
13. Managers are encouraged to identify their own learning needs	1	2	3	4	5
14. Managers are encouraged to set challenging learning goals for themselves	1	2	3	4	5
15. Managers are assisted in identifying learning opportunities in their jobs	1	2	3	4	5
16. Managers seek to provide new experiences from which others can learn	1	2	3	4	5
17. Opportunities are offered for the off the job training	1	2	3	4	5
18. Managers are encouraged to take risks so long as they try to learn form their mistakes	1	2	3	4	5
19. Managers are encouraged to review, conclude and plan learning activities	1	2	3	4	5
20. Managers are encouraged to challenge the traditional way of doing things	1	2	3	4	5

SECTION 1-6 : NATURE OF COLLABORATION

Rate the extent to which the performance of university has been achieved in the last years, where:

1 = None ;
2 = Slightly;
3 = Moderate,
4 = Good,
5 = Excellent

	None	Slight	Moderate	Good	Excellent
1. General support	1	2	3	4	5
2. Contract research	1	2	3	4	5
3. Research centers and institute	1	2	3	4	5
4. Research consortia	1	2	3	4	5
5. Industry sponsored contract research	1	2	3	4	5
6. Technology licensing	1	2	3	4	5
7. Joint research and development	1	2	3	4	5
8. Research parks	1	2	3	4	5
9. Technology transfer offices to handle patenting and licensing	1	2	3	4	5
10. Faculty consulting based on personal relationships	1	2	3	4	5
11. Professors as recruitment agents	1	2	3	4	5
12. Student practice and exchange model	1	2	3	4	5

SECTION 1-6 : LEVEL OF COLLABORATION

For collaborative programs the university has been involved in, indicate the level of involvement of the parties in each collaborative undertaking, where:

1 = Very Low;
2 = Low;
3 = Slightly Low,
4 = High,
5 = Very High

	Very Low	Low	Slightly low	High	Very High
1. The level of trust based interactions	1	2	3	4	5
2. Reciprocal contacts	1	2	3	4	5
3. Instructions for rules, norms, procedures and values governing transactions among the organizations	1	2	3	4	5
4. Similarity of resources for procedures used, the develop the to information systems links among other members	1	2	3	4	5
5. The amount of contact between organization or the number of interactions	1	2	3	4	5
6. The amount of resources in the relationship	1	2	3	4	5
7. The extent to which the resources in the transaction or relationship flow to both parties	1	2	3	4	5
8. The extent to which the terms of the transactions are mutually agreed upon with equal contributions form all organizations concerned will work on an interdisciplinary project	1	2	3	4	5

SECTION 1-7 BOTTOM LINE PERFORMANCE	Low	Slight	Moderate	Good	High
Rate the extent to which the performance of university has been achieved in the last years, where: 1 = Low ; 2 = Slightly: 3 = Moderate, 4 = Good, 5 = High					
1. The university national rating	①	②	③	④	⑤
2 The university's international rating	①	②	③	④	⑤
3. New academic programs initiated	①	②	③	④	⑤
4. The number of curriculum changes effected	①	②	③	④	⑤
5 The number of scientific conferences participate din and sponsored	①	②	③	④	⑤
6. The number of refereed journal article published	①	②	③	④	⑤
7. The number of books and chapters in books authored and published	①	②	③	④	⑤
8. The number of research grants won	①	②	③	④	⑤
9. The level of success in the financial performance	①	②	③	④	⑤
10. Number of self sponsored students	①	②	③	④	⑤
11 The sum of research spending by academic staff	①	②	③	④	⑤
12 The total number of patents granted to researchers in this department /university	①	②	③	④	⑤
13 The number of new businesses developed	①	②	③	④	⑤
14 The number of new technologies developed	①	②	③	④	⑤

SECTION 1-8 : ORGANIZAITONAL READINESS FOR CHANGE

Rate the extent to which change has been achieved in this university on organizational systems for supporting work performance in the last 5 years, where:

1 = Very Low;
2 = Low;
3 = Slightly Low.
4 = High.
5 = Very High

		Very Low	Low	Slightly low	High	Very High
1	Development of a culture of continuous learning in the department and university	(1)	(2)	(3)	(4)	(5)
2.	Development of a strong sense of team work	(1)	(2)	(3)	(4)	(5)
3	Development of a strategy for long-term customer service	(1)	(2)	(3)	(4)	(5)
4	Embracing of benchmarking practices within and without the organization	(1)	(2)	(3)	(4)	(5)
5	Development of programs for enabling employees to identify and solve problems	(1)	(2)	(3)	(4)	(5)
6	High collaboration of managers in administration and academics	(1)	(2)	(3)	(4)	(5)
7	Existence of an open communication system providing feedback to employees	(1)	2	(3)	(4)	(5)
8	Well developed systems for recording lessons form change efforts	(1)	(2)	(3)	(4)	(5)
9	Strong core values that support customer service	(1)	(2)	(3)	(4)	(5)
10	Development of a suitable mission and core values	(1)	(2)	(3)	(4)	(5)
11.	Equitable provision of format training programs and opportunities to all employees	(1)	(2)	(3)	(4)	(5)
12	Constant environmental scanning	(1)	(2)	(3)	(4)	(5)

THANK YOU FOR YOUR COOPERATION

APPENDIX IV: STATUS OF UNIVERSITIES IN KENYA

UNIVERSITY	YEAR OF OPERATION	CATEGORY	STATUS
University of Nairobi	1970	Public	CHARTERED
Moi University	1985	Public	CHARTERED
Kenyatta University	1985	Public	CHARTERED
Egerton University	1987	Public	CHARTERED
Jomo Kenyatta University of Agriculture and Technology	1994	Public	CHARTERED
Maseno University	2000	Public	CHARTERED
Masinde Muliro University of Science and Technology		Public	CHARTERED
University of Eastern Africa, Baraton	1991	Private	CHARTERED
Catholic University of Eastern Africa	1991	Private	CHARTERED
Daystar University	1994	Private	CHARTERED
United States International University	1997	Private	CHARTERED
Kenya Methodist university	1997	Private	CHARTERED
Scott Theological College	1999	Private	CHARTERED
Africa Nazarene university		Private	CHARTERED
Kabarak university	2002	Private	CHARTERED
Strathmore university	2002	Private	CHARTERED
Agakhan university	2002	Private	LIA
Kiriri Women's university	2002	Private	LIA
Great Lakes university	2006	Private	LIA
Gretsa university		Private	LIA
St.Paul's university	2007	Private	LIA
KCA university	2007	Private	LIA
PCEA university	2007	Private	LIA
Panafrican Christian university	2008	Private	LIA
Adventist university	2008	Private	LIA
ML Kenya university	2008	Private	LIA

Source: Commission for Higher Education website, 2011.

APPENDIX V: DISTRIBUTION OF RESPODENTS ACROSS THE UNIVERSITIES

UNIVERSITY	UNIVERSITY LEVELS OF ANALYSIS		
	SCHOOLS	SNR.ADMIN (Including VCs, DVCs, Principals & registrars)	BOUNDARY SPANNING (Including PR , career, placement & collaboration officers/directors)
University of Nairobi	27	14	2
Kenyatta University	12	10	7
JomoKenyatta University	9	7	2
Egerton University	8	7	2
Moi University	15	7	4
Maseno University	6	7	2
Masinde Muliro University	6	7	1
University of eastern Africa,Baraton	5	5	1
Catholic university of eastern Africa	8	4	2
Daystar university	4	4	4
United States International University	4	4	2
Scott Theological College	4	4	1
Africa Nazarene university	4	4	2
Kabarak university	4	4	2
Strathmore university	12	5	2
Agakhan university	3	3	1
Kiriri Women's university	3	3	2
St Paul's university	2	4	2
Kenya Methodist university	8	4	2
TOTAL	140	104	42

APPENDIX VI: THE POPULATION STRATA

STRATUM	POPULATION SIZE	SAMPLE SIZE	% OF TOTAL
Boundary Units	50	30	10
Snr.Administration	110	66	22
Schools/Faculties	140	84	28
TOTAL	300	180	60

APPENDIX VII: INSTITUTIONAL CONTEXT VARIABLE INDICES

| UNIVERSITY | INSTITUTIONAL CONTEXT | | | |
	NATIONAL CULTURE	HRD VALUE BASE	NATIONAL HUMAN CAPITAL NEEDS	INSTITUTIONAL CHARACTERISTICS
UON	3.46E+09	3.44E+09	1.95E+09	4.42E+09
KU	1.63E+09	1.80E+09	1.32E+09	2.75E+09
JKUAT	1.49E+09	1.54E+09	62500000	1.63E+09
Egerton	5.24E+09	5.44E+09	3.52E+09	7.23E+09
Moi	2.95E+09	3.30E+09	1.40E+09	2.81E+09
Maseno	1.46E+09	1.95E+09	1.17E+09	1.88E+09
MMUST	2.09E+09	2.31E+09	9.19E+08	2.20E+09
UEAB	1.83E+09	1.93E+09	9.10E+08	2.00E+09
CUEA	1.87E+09	2.40E+09	1.64E+09	3.52E+09
Daystar	2.51E+09	2.77E+09	1.60E+09	3.03E+09
Scott	1.82E+09	1.72E+09	1.09E+09	1.26E+09
Kabarak	1.08E+09	1.14E+09	6.49E+08	1.21E+09
Strathmore	1.30E+09	1.62E+09	1.19E+09	4.26E+09
Kiriri	1.30E+09	1.44E+09	7.79E+08	1.82E+09
St.Paul's	2.39E+09	2.71E+09	1.32E+09	3.04E+09
KEMU	7.54E+08	7.79E+08	4.29E+08	9.73E+08

APPENDIX VIII: HRD INFRASTRUCTURE VARIABLE INDICES

UNIVERSITY	HRD INFRASTRUCTURE			
	O.D NEEDS	ORGANIZATIONAL LEARNING	HRD VALUES	HRD PRACTICES
UON	3.28E+09	4.76E+09	6.74E+09	2.82E+09
KU	2.45E+09	3.41E+09	2.83E+09	1.10E+09
JKUAT	1.52E+09	1.65E+09	2.08E+09	1.28E+09
Egerton	7.18E+09	8.19E+09	6.70E+09	3.82E+09
Moi	2.97E+09	3.64E+09	3.32E+09	2.29E+09
Maseno	2.29E+09	4.52E+09	2.25E+09	1.11E+09
MMUST	1.40E+09	4.90E+09	2.93E+09	1.49E+09
UEAB	1.39E+09	2.66E+09	2.93E+09	1.34E+09
CUEA	2.16E+09	4.38E+09	2.39E+09	1.48E+09
Daystar	2.93E+09	3.86E+09	3.73E+09	2.43E+09
Scott	1.85E+09	2.81E+09	2.31E+09	1.97E+08
Kabarak	1.02E+09	4.29E+09	2.17E+09	1.97E+09
Strathmore	2.40E+09	3.35E+09	2.30E+09	1.04E+09
Kirin	4.53E+08	2.56E+08	2.55E+09	8.79E+08
St.Paul's	2.22E+09	4.85E+09	3.37E+09	1.87E+09
KEMU	1.02E+09	1.54E+08	8.04E+08	5.07E+08

APPENDIX IX: U-I-C VARIABLE INDICES

UNIVERSITY	MOTIVATION	LEVEL	U-I-C TYPE	
UON	9.18E+08	2.80E+09	1.82E+09	
KU	2.77E+09	1.26E+09	.-0-	
JKUAT	2.33E+09	1.06E+09	9.51E+08	
Egerton	8.12E+09	3.76E+09	6.32E+08	
Moi	3.68E+09	2.18E+09	9.43E+08	
Maseno	2.15E+09	1.18E+09	5.82E+08	
MMUST	3.12E+09	1.50E+08	1.21E+09	
UEAB	2.64E+09	1.35E+09	1.03E+09	
CUEA	2.52E+09	2.27E+09	7.24E+08	
Daystar	3.43E+08	2.18E+09	6.88E+08	
Scott	2.40E+09	1.08E+09	3.29E+08	
Kabarak	1.44E+09	7.07E+08	4.02E+08	
Strathmore	2.28E+09	1.02E+09	.-0-	
Kiriri	3.32E+09	1.37E+09	1.24E+09	
St.Paul's	3.78E+09	1.67E+09	1.22E+09	
KEMU	8.48E+08	4.95E+08	-0-	

APPENDIX X: UNIVERSITY PERFORMANCE VARIABLE INDICES

| UNIVERSITY | UNIVERSITY PERFORMANCE | |
	BOTTOM LINE PERFORMANCE	READINESS FOR CHANGE
UON	5.91E+09	8.76E+09
KU	1.66E+09	3.45E+09
JKUAT	2.78E+09	4.66E+09
Egerton	3.92E+09	1.20E+10
Moi	2.13E+09	5.84E+09
Maseno	1.52E+09	7.03E+09
MMUST	4.62E+09	4.92E+09
UEAB	4.11E+09	4.86E+09
CUEA	4.71E+09	5.59E+09
Daystar	3.51E+08	5.54E+09
Scott	2.08E+09	3.56E+09
Kabarak	2.69E+08	2.50E+09
Strathmore	2.09E+09	3.67E+09
Kiriri	5.70E+09	4.32E+09
St.Paul's	4.70E+09	6.17E+09
KEMU		1.50E+09

APPENDIX XI: COMPOSITE VARIABLE INDICES

UNIVERSITY	COMPOSITE INDEX FOR:			
	INSTITUTIONAL CONTEXT	HRD INFRASTRUCTURE	U-I-C	PERFORMANCE
UON	1.33E+09	1.48E+09	8.36E+08	1.47E+09
KU	7.50E+08	8.69E+08	5.12E+08	5.11E+08
JKUAT	5.29E+08	5.26E+08	5.62E+08	7.44E+08
Egerton	2.14E+09	2.21E+09	1.63E+09	1.59E+09
Moi	1.05E+09	9.93E+08	9.09E+08	7.97E+08
Maseno	6.45E+08	9.06E+08	5.02E+08	8.55E-08
MMUST	7.52E+08	9.23E+08	7.33E+08	9.54E+08
UEAB	6.67E+08	6.98E+08	6.35E+08	8.97E+08
CUEA	9.44E+08	8.93E+08	7.00E+08	1.03E+09
Daystar	9.91E+08	1.05E+09	8.73E+08	9.04E+08
Scott	5.89E+08	6.97E+08	4.01E+08	4.64E+08
Kabarak	4.09E+08	7.47E+08	2.74E+08	5.20E+08
Strathmore	8.37E+08	8.05E+08	4.34E+08	5.76E+08
Kiriri	5.34E+08	5.56E+08	6.81E+08	1.00E+09
St.Paul's	9.46E+08	1.04E+09	8.54E+08	1.09E+09
KEMU	2.93E+08	1.98E+08	1.85E+08	1.50E+08