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ABSTRACT

Assessing the Collaborative Knowledge Management of the Market Dominant Organization

by

Jacob Olusola Ogunlade

MBA., Dowling College, 2003
B.S., University of Memphis, 1991

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Applied Management and Decision Sciences

Walden University
March 2009

ABSTRACT

Dominant firms enjoy economic strengths which enable them to compete effectively in relevant markets through the use of collaborative knowledge management (CKM). While the literature is replete with general guiding principles for companies to adopt successful business strategies, there is very limited empirical research on effectively using CKM to improve company performance and market domination. The purpose of this study was to evaluate strategies for information sharing by companies to achieve better operations management and control, a wider range of customers, and stronger competitive edge in the global economy. Epistemological foundation for the study was provided by the literature on knowledge management and organizational dynamics. Data were collected by an electronically self-administered questionnaire on a convenience sample of 80 employees of three small businesses in Memphis, Tennessee. A quantitative method using Poisson regression was applied to test the hypotheses about relationships between six independent variables of value proposition, culture building, responsibilities, information technology, approaches and assessment and the dependent variable, collaborative knowledge management. Results indicate that value proposition, information technology, and building an organizational culture of responsibilities and best practices play significant roles in effective CKM. Social change implications of the study suggest that high-intensity collaborative knowledge management would produce creative leaders and workers, improved leader-worker collaboration, and more effective use of information technologies in organizational intelligence and decision making.

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DEDICATION

To my family, who make it all worthwhile and to the remnants of Metropolitan Baptist Church, Memphis, Tennessee from January 2003 to March 2009, who inspired my love of learning, and prayer warriors, who helped put my dissertation into the best position for a breakthrough.

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Help came from many directions in the writing of this dissertation. The completion of this paper would not be possible without the generous support of many people. I am particularly grateful to my advisors, Nikunja Swain, Raghu Korrapatti, and Louis Taylor, who offered numerous discussions and suggestions. Dr. Swain read countless drafts, and kindly and patiently provided constructive criticism. He often suggested better alternatives to approach the problems that arose, and helped me improve my work. For all this, I thank him. Dr. Korrapatti constantly reminded me to work harder and finish my dissertation so that I could do something else in life. Dr. Korrapatti checked the validity of the problem statement and offered numerous suggestions. Dr. Taylor praised and admired my knowledge concerning this topic and suggested many resources for assuring accuracy and correctness. Dr. Barbara Davis, University of Memphis, and Dr. Patricia McRaven, University of Missouri, read countless drafts and provided constructive criticism. In addition, special thanks to numerous friends, prayer partners, pastors, church members, cousins, uncles (both here and across the ocean) for their email, and phone calls. Thanks

Covey (1995) stated the following:

> To achieve great results, you must have motivation. Motivation is a fire from within. If someone else tries to light that fire under you, chances are it will burn very briefly. Motivation is not a product of external influence; it is a natural product of your desire to achieve something and your belief that you are capable to do it. (p. 1)

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

Today's businesses are faced with a number of economic and technological challenges because of the global nature of our new-millennium markets. Many organizations have started using knowledge management (KM), in general, and collaborative knowledge management (CKM), in particular, to address some of these problems by tapping into the cumulative and individual knowledge of all their personnel, as well as customers, suppliers, and business partners. According to Laudon and Laudon (2002), "KM is the set of processes developed in an organization to create, gather, store, maintain, and disseminate the firm's knowledge" (p. 373). CKM is a combination of sharing knowledge roles, skills, and knowledge management workers within the organizations to gain economic advantage to growth globally. There are numerous papers and books written on the topic of KM, and the KM literature is very rich, but the same is not true for CKM. Very few guidelines exist today in CKM, and there is very limited empirical research on how organizations use CKM to improve their performance and dominate the market. The study evaluated strategies and faces of collaboration that enable efficient operation management and control, achieve a wider range of customers, and raise status in the global economy. The study aimed to add to the existing knowledge on CKM. Since CKM is a combination of collaboration and knowledge management, a section of this chapter is devoted to brief discussions on these topics, with a detailed discussion of the KM and CKM literature in chapter 2.

CKM, Knowledge, and Collaboration

Importance of Collaborative Knowledge Management

In the past, corporations could compete successfully by exploiting scale and scope economies or by taking advantage of imperfections in the world's goods, labor, and capital markets. Besanko, Dranove, and Shanley (2000) defined "economies of scales as the production of a specific good or service over a range of output when average cost (i.e., cost per unit of output) declines over that range" (p. 72). Furthermore, Besanko et al. (2000) stated that "economics of scope exist if the firm achieves savings as it increases the variety of goods and services it produces" (p. 73). However, this is no longer true because collaboration and partnership are significant business trends that are influencing information systems applications (Hansen and Nohria, 2004; Whitten, Bentley, and Dittman, 2004). Collaboration of knowledge workers involves challenges and time to achieve measurable outcomes, and it needs constant evaluation, whether such workers are making the most of collaboration (Weiss, Anderson, and Lasker, 2002). In addition, CKM is called interunit collaboration, which is formed through alliance, collaboration, and partnership (Hansen and Nohria).

CKM is necessary for a company to remain competitive, adapt to a rapidly changing environment, be able to innovate, respond to the demand of e-business, fully capitalize and develop its people, and support effective relationships with suppliers, partners, and customers (Hansen and Nohria, 2004, p. 23; Smith, 2001, p. 4). According to Tollinger, McCurdy, Vera, and Tollinger (2004), at NASA, "CKM allows groups of scientists and engineers to view space in shoulder-to-shoulder collaboration to do free

form drawing and do strategic planning" (p. 30). In addition, CKM is used in the health care industry, as Guptill (2005) found:

> It is long-term, sustainable commitment to changing the culture of health care to become more collaborative, more transparent, and more proactive. Knowledge management, implemented well, will transform the health care delivery system over the next few decades, into a more cost-effective, error-averse, and accountable public resource. (p. 10)

Moreover, Guptill added that "knowledge management is more than the centralized repository of data, documents, and other information, but it encompasses the social context of other experiences and the lessons learned in the process" (p. 11). She continued, "Knowledge management should result in changed behavior as a result of knowledge sharing" (p. 12). As Logan and Stokes (2004, p. 1) phrased it, "Organizations and individuals must be competitive to collaborate, and at the same time they must collaborate to compete."

Knowledge: an Instrument for Evaluating Organization

Knowledge is the psychological result of learning, reasoning, and perception of agreement or disagreement of at least two ideas (Locke, 1894). According to Santosus and Surmacz (2002), "Knowledge management is the process through which organizations generate value from their intellectual- and knowledge-based assets" (p. 1). Collaboration is the combination of people's creativity, resources, passion, culture, innovation, and intellectual abilities to raise the standard and to gain global economical advantage.

Tiwana (2002) defined knowledge as "a fluid mix of framed experience, values, contextual information, expert insight, and intuition that provides an environment and framework for evaluating and incorporating new experiences and information" (p. 4). According to Nonaka (1998) "knowledge is the source of the highest-quality power and the key to the powershift that lies ahead. Knowledge Is Power. Knowledge is the new competitive resources and what makes the new society unique" (p. 7). Organizations that embrace knowledge, skills, attitudes, culture, and support systems create a collaborative knowledge organization. It is able to function as an intelligent system because information and knowledge are shared more quickly and effectively (Davenport & Prusak, 2000; Haag, Cummings, & McCubbery, 2004; Nonaka and Takeuchi, 1998; Tiwana, 2003). Nonaka and Takeuchi (1998) developed the spiral of knowledge of knowledge creation, which is the organizational knowledge creation, and is a continuous and dynamic interaction between tacit and explicit knowledge.

According to Nonaka and Takeuchi, this interaction is shaped by shifts between different modes of knowledge conversion, which are, in turn induced by such triggers as socialization, externalization, internalization and a combination of both. First, the organization gets involved with the community (socialization). Through socialization the members share experiences and mental models. Second, through the externalization mode, the organization is engaged in dialogue. Third, the combination mode results in networking. Finally, "learning by doing" results in internalization (Nonaka & Takeuchi, p. 70). The spiral of knowledge creation helps a manager's intuitive sense of market trends to become the catalyst for an important new product concept. The spiral of

knowledge creation helps the manager to understand the internal logic of intellectual activity in the following ways: (a) sharing tacit knowledge; (b) creating concepts; (c) justifying concepts by providing access to sources of knowledge rather than by transfer, (d) building an archetype by providing links among sources of knowledge to create a wider breadth and depth of knowledge flows; and (e) cross-leveling of knowledge through enhancement of intellectual capital by supporting the development of individual and organizational competencies. In addition, Bali (2005) stated, "The structured spiral of knowledge creation offered by Nonaka and Takeuchi has been adopted a positive perspective" (p. 108). It helps companies to be more competitive by hiring, developing, and retaining excellent managers who accumulate knowledge assets (Kazuo & Nonaka, 2007, p. 121). Knowledge assessment is an instrument for analyzing trends as well as a tool that can be used to analyze company capabilities for participation in the knowledge revolution (Malhotra, 2003, p. 1). It measures a nation's trend competencies and capabilities that are deemed essential for economic growth, competitive advantage, human development, and quality of life.

Knowledge Revolution

Tiwana (2002), Nonaka (1995), Davenport and Prusak (2000), Davenport (2005), Malhotra (2003), and other researchers have engaged in exploratory knowledge revolution. Knowledge revolution is a process that results from rapid growth information and communication technologies (ICT). Nonaka (1995) stated, "Knowledge has become the resource, rather than a resource, and is what makes the new society unique" (p. 6).

The knowledge revolution is the acceleration of technical change and the intensification of globalization. The knowledge revolution requires knowledge workers, investment in education, information infrastructure, research, and development (R&D), and intensive and constant innovation. Moreover, knowledge workers use their skills to achieve superior performance and competitive advantage, and they stay current with technology to reduce the uncertainty (Heinrichs & Jeen-Su, 2005).

Behaviorists (Skinner, 2002; Watson, 1998) termed knowledge as a "repertoire of behavior," which can be further stated as stored sequence lines of a computer program that runs later. Learning is regarded as a sign of intelligence, in contrast to the functioning of internal organs or to instinctive performances, which are classified as sub-intelligent (Skinner). Learning is a permanent change in a person's capability to execute motor skills because of practice or experience (Coker, 2004).

Collaboration and cooperation are equivalent. Collaboration refers to the humanistic process of organizations, families, cities, and nations. Collaboration shares the same mode processes with the knowledge spiral mode processes which are socialization, externalization, internationalization, and a combination of the mode processes (Nonaka & Takeuchi, 1995, p. 70).

Barriers to Collaboration

Collaborative organizations are flexible and better able to adapt to changing business conditions. Their members are able to develop greater sets of skills and competencies. Similarly, they can be used wherever within the organization skill are needed (Allen & Jarman, 1999; Logan & Stokes, 2004).

The barriers to collaboration include a reluctance to share with other unknowns others, a fear that may have already solved the problem, and a belief that collaboration may result in others having power over them. Logan and Stokes (2004) stated that "effective collaborators must possess the cognitive skills, the technical skills and the ability to communicate to be able to contribute to the collaboration process" (p. 132). Logan and Stokes (2004) found the following:

> The ideal collaborative behavior that is desired is one in which tasks and objectives are achieved not by sacrificing relationships but rather by building productive relationships that will serve one's long-term interests. Individuals act collaboratively not just for the sake of building relationships; but rather because they can better achieve their objectives with the cooperation of their colleagues who find themselves in a similar position. (p. 130)

Additional barriers to collaboration may include (a) skills that undermine action, (b) personnel and information systems that make it difficult to act, (c) bosses that discourage actions, and (d) formal structures that make it difficult to act (Olson & Singer, 2004).

According to Leslie (2006), "When it comes to joint ventures and wider collaborations crucial to the success of industry, too many conflicting views, hidden agendas and egos lead to failure" (p. 40). For example, Leslie added for the Aerospace, Defense, and Energy sectors, the most significant barriers to collaboration are:

1. Concerns over intellectual property rights;
2. Protection of competitive advantage;
3. The problem of benefits being seen to be intangible;
4. The risk of becoming involved with untested collaborative ventures; and
5. Mindsets. (p. 41)

The people who have these characteristics are reluctant to share their knowledge because knowledge is perceived as power. In addition, barriers to collaboration involve the avoidance of previously performed research or knowledge that was not originally developed within the group/institution. For example, technological barriers to online collaboration include security and proprietary software. Social barriers to online collaboration exist because people work differently.

Effective Collaboration

Since ancient times, people, and organizations have expanded their businesses in a collaborative manner as far as technology allowed. According to Logan and Stokes (2004), "computers and other forms of IT have transformed the nature of manufacturing and commerce" (p. 3). To be successful in business today, "organizations must undergo a transformation; operate effectively within a dynamic, fast-pasted, and changing economic environment" (Haag et al., 2004, p. 5). Collaborative transformation aligns values and objectives of employees and management, respects and produces a climate of mutual trust, diversifies skills, and decentralizes decision making (Logan & Stokes). In order to achieve collaboration organization activities must be visible and control by business and technology processes that focus on enforcing process discipline within the organization itself.

CKM improves the performance of teams by supporting the sharing and flow of information. In addition, it increases R&D, efficiency of mechanisms, and net profit.

Leslie (2006) found the following:

> Effective collaboration must have good coordination where people share objectives (inclusive and not exclusive), trust, and understanding of the need to advance an organization. To achieve coordination among the groups, a problem-resolution mechanism must be applied. Effective collaboration must develop good cooperation, appreciate other people, and understand the benefits that come with collaboration processes. To achieve cooperation, frequent consultation and knowledge sharing must take place between participants, there must be a clear role of definition, and the participant must use correct problem-solving methods. Effective collaboration can be achieved with the right mix of people, collaboration skills, and practice in collaborating. Collaboration is a complex people issue which means dealing head-on with people's different preconceptions, personalities, and approaches to joint working (p. 41).

Competitive Strategy

The two relationship domains between an organization's competitive strategy and its knowledge strategy are external domains (opportunities/threats) and internal domains (capabilities/arrangements). The external domain involves three dimensions: scope (what the firm must know), competencies (what the critical characteristics of the required knowledge are), and governance (how to obtain the required competencies). The scope dimensions deal with the specific domains of collaborative knowledge that are critical to the firm's survival and advancement strategies. Survival strategies aim at securing profitability, while advancement strategies aim for future profitability (Von Krogh et al., 2000). The competencies dimension focuses on the utilization characteristics of knowledge that contribute positively to the creation of new business. These characteristics include:

1. Accessibility, the extent to which organizational collaboration knowledge

is made available to its members, regardless of time or location (Buckman, 1998).

2. Transferability, the extent to which the newly acquired knowledge can be applied (Grant, 1996).

3. Appropriateness, the extent to which knowledge can be imitated.

4. Integration ability, the extent to which the newly acquired knowledge can be integrated with existing knowledge.

The governance dimension deals with the selection and use of mechanisms for obtaining the required collaboration knowledge competencies, such as hiring experts. The internal domain involves three dimensions: infrastructure, processes, and skills. Infrastructure is the basic facilities, services, and installations for the functioning of a community or society. According to Besanko, Dranove, and Shanley (2000), "The dominance of the family-run small business in 1840 was a direct consequence of the infrastructure" (p. 46). It includes those assets that firm used for production, distribution of goods and services that firm itself cannot provide, such as financing, transportation and communication systems, roads, water and power lines, and public institutions including schools, post offices, and prisons. A modern infrastructure promoted the growth of mass production, enabled business to communicate more accurately and quickly than ever before, and establishment of stock market (Besanko, Dranove, and Shanley, 2000, p. 55, Haak, 2004, p. 124, O'Dell, 2004). Processes are a series of actions or operations, changes, and functions that bringing about result. Business processes are the ways in which organizations coordinate and organize tasks that respond to business events, work activities, procedures, and rules required to produce a product or service.

They are independent of any information technology used to automate or support them (Whitten, Bentley, and Dittman, 2004, p. 27, Laudon and Laudon, 2002, p. 6). Skills are proficiency, facility, or dexterity that is acquired or developed through training or experience. It is an art, trade, and technique that particular to the pursuant using of their hands or body. Skills are developed talents or ability to carry out pre-determined results with minimum energy, such as business skills or entrepreneurship, negotiation skills and communication skills. The dominance of a firm is a direct consequence of collaboration and negotiation skills or experts.

Organizational collaborative knowledge processes are socially interaction-intensive. They involve social interactions, direct communication, and contact among individuals and among members of communities of practice. Therefore, they require the presence of social capital. Social capital is the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by a social unit (Coakes, 2003).

If knowledge is composed of a belief or indeed of any psychological materials, (such as behavior, action, pattern, and structure) then a person who has it must have at least one belief (or psychological element) for each item of knowledge. Psychological foundationalism explores how individuals must be structured psychologically if foundationalism is to give a correct account of their knowledge. Knowledge is an analyzable and justified true belief. In addition, the memory knowledge locates the justification of a memory belief in the memory impression (Audi, 2002, p. 2).

Collaboration Challenges to 19th-Century Theory

Collaboration forms itself through the challenges to 19th-century theory. An organization's challenge to redesign for collaborative work is based on both external and internal pressures. The external challenge includes difficult financial times, government mandates, changing demographics, globalization, and increasing complexity of workers.

Internal challenges include lack of research and development, shortages of skilled workers; obsolete equipment; decreases in growth; and increases in social responsibilities (Kezar, 2006). The theories about collaboration reflect human nature that has underlain the enlightenment project to explore the disjuncture between modern faith in progress and the reality of modern life. The theories contend that the accumulations of knowledge through scientific practice are supposed to better the human condition. The benefits include the achieving of greater efficiency, better effectiveness, and faster decision-making in complex conditions. Collaboration can lead to the exchange of information, culture, goals, values, and resources. The philosophers whose work reflects these assumptions include Sigmund Freud and James Strachey (as cited in Brennan, 1992), Ruth Benedict (as cited in Young, 2005), Clifford Geertz (as cited in Johnston, 2000), Claude Levi-Strauss (as cited in Henaff, 1998), Thomas Kuhn (as cited in Nickles, 2003), and Appleby, Covington, Hoyt, Latham, and Sneider (1996). O'Dell, Elliott, and Hubert (2000) stated the following:

> Organizational knowledge is valuable information in action with value being determined through the eyes of the organization and the recipient. If people don't have a context for the information or understand how to use it, the information is not valuable and therefore cannot be considered knowledge. (p. 1)

In today's competitive, knowledge-driven marketplace, employee skills are crucial to business success. From accumulated employee experience and knowledge to relationships and hard skills knowledge derives the profitability of companies across industry. However, the translation of knowledge into tangible business results enhances best decision making, improves team collaboration, creates business partnerships and alliances, and enables global reach. Fleming, Merrett, and Ville (2004) stated the following:

> The workers influence pervading economic development, social structures, and political relationships. Whether they provide the cost efficiencies and overseas contacts to drive economic growth and increased wealth or, alternatively, are a bureaucratic leviathan that use their power to extract rents from the rest of society, is a question of sustained interest and discussion. While these large companies today are well known in the world, we are far less familiar with their early development and predecessors. By investigating their evolution over the course of the twentieth century, a much closer understanding is reached of US's leading corporations, particularly the bases of their success and their role in our modern economy and society. (p.1)

Large companies hire skilled workers to bring growth to their firms. Skilled workers jointly use their knowledge to do research and develop the company. Moreover, collaborative knowledge contributes to enriched social and economic life (Rooney, Hearn, & Ninan, 2005). In addition, Heinrichs and Jeen-Su (2005) have suggested that knowledge workers use their skills to achieve superior performance and competitive advantage and that they stay current with technology to reduce uncertainty.

CKM Embraced Supply Chain Management

A supply chain management (SCM) system tracks inventory and information among business processes and across companies (Haag et al., 2004). SCM logistics includes companies, suppliers, distributors, and transportation companies. SCM software

optimizes business processes for raw material procurement through finished products. It links suppliers, customers, and distributors together.

Christopher and Gattorna (2005) found the following:

> Customers and consumers are increasingly value-driven and, consequently, less brand or supplier loyal. In this challenging world, there is a growing recognition that creative pricing strategy combined with effective supply chain management provide opportunities for significant cost reduction and increased profits. (p. 115)

Moreover, Antonioni (2005) stated, "Organizations need trusted and respected leaders who are free to make choices that contribute to the short- and long-term good of all the organization's stakeholders: the customers, shareholders, employees, and the organization's natural environment" (p. 10). However, organizations use electronic supply chains to improve business to business (B2B) processes in terms of speed, agility, real-time control, or customer satisfaction (Cagliano, Caniato, & Spina, 2005). The e-supply chain is the communications and operations backbone of the enterprise supply network that links suppliers and business partners together as one cohesive producing entity (Deise, Nowikow, King, & Wright, 2000). This network is managing collaborative relationships in a time of discontinuity (Coughlan et al., 2003).

One source of lasting competitive advantage for a market dominance organization is collaboration knowledge, but assessing the collaboration knowledge dimensions for these types of organizations is difficult. Very few managers in these organizations seem to understand the true nature of knowledge collaboration because they hold a too-narrow view of what knowledge collaboration is and what the company must do to exploit it. To

compete well in a global economy, knowledge managers and knowledge management are the tools to improve the effectiveness of the organization.

Business Drivers for Today's Information Systems

Deise et al. (2000) believes, "As a company works to integrate its business operations with those of its supply chain and demand chain partners, a host of effects occur regarding organizations and people, business processes, and information systems and technology" (p. 83). Collaboration and partnership, globalization of the economy, electronic commerce, security and privacy, knowledge asset management, and business processes are the key business drivers that, if carefully managed, can make an organization attain a market dominance of its products.

Collaboration and Partnership

Collaboration knowledge management is a business driver that greatly influences the globalization of the economy and needs to be nurtured. Collaboration and partnership are significant business trends that influence information systems application. For example, new product design involves a cross-functional team of representatives from many organizational units, such as engineering, marketing, sales, manufacturing, inventory control, distribution, and information systems.

Globalization of the Economy

The globalization of the economy "is one which customers, businesses, suppliers, distributors, and manufacturers all operate without regard to physical and geographical boundaries" (Haag et al., 2004, p. 8). Yale Global (2008, ¶ 1) referred to it as "the increasing integration and interdependence of all realms of economic life, including

trade, finance, production, and consumption." Globalization has increased international trade and cultural exchange. In addition, Whitten, Bentley, and Dittman (2004) stated the following:

> Since the 1990s, there has been a significant trend of economic globalization. Competition is global, with emerging industrial nations offering lowest-cost or high-quality alternatives to many products. American businesses find themselves with new international competitors.
> On the other hand, many American businesses have discovered new and expanded international markets for their own goods and services. The bottom line is that most businesses are forced to reorganize to operate in this global economy (p. 23).

Electronic Commerce and Business

The e-business has impacted opportunities by grabbing market shares through innovative e-business strategies. It emphasizes customers and the way companies relate to them as well as cost and benefit. Today, the Internet has driven the cost down and made it possible for commercial enterprises to turn the tables on competitors. Speed and flexibility have become top priorities in strategies (Deise et al., 2000).

Security and Privacy

Security and privacy have become the highest priority in today's economy. Businesses must protect their digital assets from outside threats. However, consumers are increasingly demanding privacy in the digital economy. Moreover, governments are regulating privacy issues, and the regulations have become more stringent because of the constant changes in technologies.

Knowledge Asset Management

Knowledge is the result of a continuum of how we process raw data into useful information. Information systems collect raw data by capturing business facts such as products, employees, and customers and by processing business transactions. Moreover, information technology facilitates new ways of communicating and storing scholarly information, new methods of research, and new forms of scientific collaboration. Information technology (IT) has significant effects on the research community, which in turn affects innovation and education in society. Moreover, many applications of IT that have been used first in the research community, such as e-mail and the World Wide Web, have major effects outside of the research community (National Science Board, 2000, p. 927). Data get combined, filtered, organized, and analyzed to produce information to help managers plan and operate the business. Ultimately, people create knowledge and expertise to refine information (Whitten et al., 2004, p. 27).

Business Processes

An American Productivity and Quality Center (APQC, 2004) study was recently conducted to determine the measures of success for virtual collaboration and the impact it would have on core business processes and their outcomes. The study has proved effective to organizations' processes in maximizing resources, developing sustainable outcomes, and providing greater community ownership and commitment in the courses of action. In addition, the effectiveness of organizations' processes provides growth and, through careful management, leads a company to be market dominant.

According to O'Dell et al. (2000), the "passport to success provides the mechanism to gauge the companies' current status, understand the components (or landmarks) of a successful initiative in a specific area and determine how to proceed within their own organization" (Preface section). Therefore, the passport to success is an assessment of collaboration knowledge management that embraces key business drivers. The successful performance of the company is based on how skilled workers share their knowledge within the company. There are two forms of knowledge: (a) tacit knowledge – which includes experience, expertise, skills, and intuition, which is most often embedded in the individual; and (b) explicit knowledge – which is information that can easily be put into words or pictures or that is easy to articulate and communicate. Both are essential to the growth of an organization and must be captured and collaboratively shared for others to benefit.

Problem Statement

In today's business environment, the identification of a distinctive and effective company emphasizes the close connections between dominant social institutions and collaborative knowledge management (CKM) as well as the interrelations between firm and market characteristics in separate business systems (Colli, 2003; James, 1997; Stewart, 2007, p. 14). The old *Antitrust Guidelines for Collaborations among Competitors* (2000) enables businesses to evaluate proposed transactions with greater understanding of possible antitrust implications, thus encouraging the pro-competitive collaborations, and deterring collaborations likely to harm competition and consumers.

Differences in major companies thus generate significant variations in how companies and markets are structured and operate (Matson & Prusak, 2003; Whitely, 1994). In addition, the inter-firm information-sharing practices are not sufficient to provide enough insights and understanding to each trading partner for optimizing its products/services (Droschl & Koronakis, 2003). Firms are seeking to collaborate with their partners to a greater extent in such areas as knowledge management to exploit the potentials of an efficient and effective organization. CKM is necessary for organizations to remain competitive and meet the challenges of global competition and emerging technologies. The problem is that many organizations do not know how to use CKM effectively, as there is very limited empirical research on effective ways of using CKM to improve the performance and market-dominating characteristics of organizations.

The present study aims to address this gap in the literature by evaluating strategies and faces of collaboration that will enable efficient operation management and control, achieve a wider range of customers, and raise status in the global economy. Survey methodology was employed in this study. The independent variables were the six business strategies: VP, CB, RR, IT, AP, and MA. The dependent variable was the market dominant organization (size, growth, and rate of return on investment) and the confounding variable is the skilled workers (job performance).

Nature of the Study

This quantitative study focused on the empirical assessments of CKM of market dominant companies, with a special focus on the question of whether and how well the CKM was organized and how it helps companies to dominate the markets (Creswell,

1998). The survey method was employed in this study to test the hypotheses and to generalize the findings of McMillan and Schumacher (1997). The study was designed to overcome the lack of reliable and valid knowledge on companies through the systematic collection, evaluation, and analysis of information. Inter-relationships between a factor, an intervening variable, and the problem under investigation or outcome have to be a triangular relationship (McMillan & Schumacher, 1997; Varkeviser, Pathmanathan, & Brownlee, 2003). With this in mind, six business strategies are the independent variables, skilled workers are the confounding variable, and a market-dominant organization is the dependent variable as shown in Figure 1. However, confounding factors can distort true relationships between business strategies and the problem under study, which is market dominance; therefore, it is critical that they be considered during the design of data analysis (Varkevisser et al., 2003). Age, education, and marital status are associated with the confounding variable. Globalization, products, size, growth, and locations are associated with market dominance. The six business strategies consisted of value proposition, culture, structure and roles/responsibilities, information technology, approaches, and measurement.

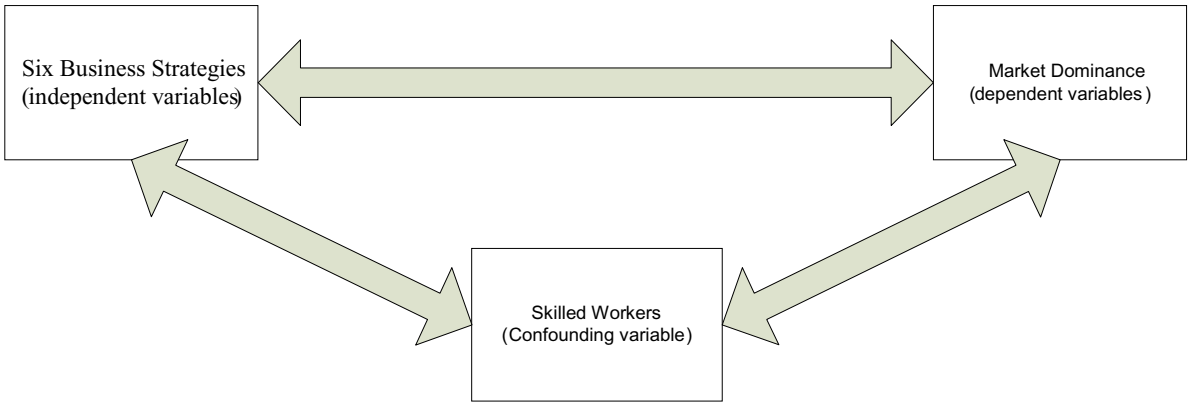

Figure 1. Inter-relationship between business strategies, skilled workers, and market dominant organization.

Research Questions

This quantitative research divided the participants into two groups based on their experience with KM, and attempted to answer the following general questions:

What are the messages being conveyed that a company that fully embraced collaboration knowledge really be market dominant with its products? What, then, should one base such a case on? What are customers saying they want you to focus on? How do you do what they desire? How should you change over time? How do you do it faster and better than anybody else does?

More specifically, the following are the six research questions:

1. What evidence is there that value proposition provides a rationale for effective knowledge transfer?

2. What happens when the community and culture are integral parts of corporate culture?

3. How do corporate manage their an explicit and institutionalized infrastructure helps in effective knowledge transfer?

4. What evidence is there that corporate are using that technology alone for effective knowledge transfer?

5. What happens when corporations identify best practices to address effective knowledge transfer?

6. What evidence is there that competitive intelligence alone is sufficient for effective knowledge transfer?

Research Hypotheses

Based on the above research questions, six hypotheses were investigated:

Hypothesis 1: Perceived Value Proposition

H_0: There is no significant evidence that value proposition provides rationale for effective knowledge transfer.

H_1: There is significant evidence that value proposition provides rationale for effective knowledge transfer.

Hypothesis 2: Perceived Culture Building

H_0: There is no significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration.

H_1: There is significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration.

Hypothesis 3: Perceived Roles and Responsibilities

H_0: There is no significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer.

H_1: There is significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer.

Hypothesis 4: Perceived Roles of Information Technology

H_0: There is no significant evidence that technology alone is sufficient for effective knowledge transfer.

H_1: There is significant evidence that technology alone is sufficient for effective knowledge transfer.

Hypothesis 5: Perceived Roles of Best Practices (Approaches)

H_0: There is no significant evidence that best practices alone are sufficient for effective knowledge transfer.

H_1: There is significant evidence that best practices alone are sufficient for effective knowledge transfer.

Hypothesis 6: Perceived Roles of Measurements (Competitive Intelligence)

H_0: There is no significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer.

H_1: There is significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer.

Purpose of the Study

The purpose of this study was to investigate whether CKM enables innovation, distribution, and exploitation of knowledge to create and retain greater value from core business competencies (Burgelman & Doz, 2001; Frery, 2006). If so, such difference would address business problems particular to a firm, such as creating and delivering better products and services for customers; managing and enhancing relationships with customers; and providing, high quality jobs, successful businesses, and more environmentally friendly work processes (Camarinha-Matos, 2002). The study provides data users with another thorough description of design and methodology used in the assessment of CKM. It will provide a basic approach to assess CKM by use of a survey instrument.

Significance of the Study

Ethnographic studies examine the ways collaborative knowledge work is done in a process-oriented environment. A knowledge worker is someone who works in a process-oriented environment with high degrees of expertise, education, or experience, and the primary purpose of their jobs involves the creation, distribution, or application of knowledge (Davenport, 2005; Tiwana, 2002). Similarly, a knowledge worker is described as someone who adds value in the workplace by processing existing information to create new information, which can be used to define and solve problems (Drucker, 1969). Knowledge workers search for ways to improve their effectiveness, and increase productivity for their employers while they rely on the ability to work collaboratively, leverage relationship capital, and deliver new solutions (Kogan & Muller, 2006). In

addition, knowledge workers form CKM in a pleasant environment. According to Kogan and Muller (2006), "Knowledge workers develop their own strategies and techniques for getting their work done for CKM in a complex, dynamic environment in which prescribed work processes serve only as reference models" (p. 1).

CKM is called "knowledge applied to tools, processes, and products" (*Harvard Business Review*, 1998). Johnston (1998) found that "a society dependent on the development and application of new knowledge; and productivity is becoming dependent on development and application of new knowledge by specialist knowledge workers" (p.1). CKM reengineers processes for better efficiency, which leads to the growth of a company. According to Smith (2001), CKM can help:

1. Support collaborative working, discussion groups, and unleash a wealth of untapped or hidden knowledge, experience, and talent.

2. Create an environment in which individuals' contributions are valued and encouraged. An environment that, through active participation, can create a real sense of involvement and belonging.

3. Create a peer-to-peer learning environment in which the knowledge, skills, and experiences that are traditionally passed on only by word of mouth are captured and shared for all to benefit.

4. Augment the learning environment by e-learning and e-skilling capabilities, delivered through the same infrastructure (p. 8).

Social Change

This study contributes to the body of knowledge of group cognition. It provides a uniquely rich opportunity to study the roles of collaborative tools in a process that demands a great deal of frequent and active collaboration. The study emphasizes the firm as a collaborative community that reconstructs trusts in the knowledge economy. It releases and fosters growth in the employees, groups, stakeholders, and organizations that make up the system. Findings are confirmed by statistical data with literature review. The study provides strategies to design CKM support functionality to analyze empirical instances of collaboration. It provided concepts involved in supporting collaborative knowledge building. The business owner benefits from the study by hiring qualified and diverse knowledge workers.

Scope and Limitation

The study has provided data users with another thorough description of design and methodology used in the assessment of CKM. The scope was limited to employees of three organizations in Memphis, Tennessee. Therefore, the study did not investigate the employees who do not belong to these organizations. Collaboration found in the three organizations is similar to group relational probability. It is a relational property, and from knowledge transferability, a task-related property based on intuition, size, ground truth, values, experience, approach, and intelligence. Therefore, the nature of the business may alter task-related properties.

Assumptions

The survey methodology used was based on the participants' responses that indicated their experience, achievements and cultural history, which shapes the review process and their belief systems. Examples range from physical and social expectations of organization or other assumptions to those that have a clear connection to hiring positions. It was assumed that respondents shared and applies the same assumptions to their tenures. While it is possible that respondents may not fit the generalization, have lied or misrepresented their views about management, there is no reason to expect that they would have any motivation to do so.

This study investigated the management beliefs of three organizations in Memphis, TN. While the results shown generalizations that may or may not be valid concerning the management beliefs held by these three organizations, the results are based on the assumption that an investigation of these three organizations' staff can help identify likely sources of variations in beliefs about management in other organizations, and can determines what an organization needs to be competitive. Moreover, it can serve as a springboard for further research in this area.

Limitations and Future Studies

This study had a number of limitations; First, It involved three small business organizations in Memphis, TN. This implies that caution will be required when attempting to generalize the results of settings.

Second, the analyses can show correlations, but not causality. Despite the fact that at least two of the independent variable preceded the acquisition of beliefs about management, it was not possible to draw conclusions about a causal relationship.

Third, the data were self-reported. While there is no reason to expect people to be dishonest in their answers, respondents reports about their beliefs may be less accurate than observations actual behavior might be.

Fourth, this work did not investigate the effects of personality or unique life experiences. These factors may have a significant effect on manage beliefs, but because they cannot be known by a typical manager, they were not considered here.

Finally, the sample population is normally distributed and has equal variances. Normal distribution will show the percentage of each of the proposed variables contributing to the market dominance organization. The samples are independent of one another. Sample data were based on smaller companies, and not enough data exist to test the differences, if any.

First Choice, Ampro, and Theraplex are health and beauty aids distributors and manufacturers. They are both listed in the Tennessee Manufacturers Directory and Dun and Bradstreet (D&B). The three companies selected have skilled and experienced employees (fewer than 30 employees) in their fields. Memphis is the distributing center for the United States. Averages of constructs for small companies are less than those for big companies, without exception, which indicates that small companies are less capable; less integrated, and have lower performances (Leedy & Ormrod, 2001, p. 140; Aczel & Sounderpandian, 2002, p. 270). Future studies can address specific strategies and

solutions for small organizations in order for them to survive and grow. In addition, future studies can attempt to develop better scales for manufacturing flow, new product development, order fulfillment, and demand management processes. The Federal Trade Commission and U. S. Department of Justice's *Competitor Collaboration Guidelines (2000),* which described an analytical framework to assist business in assessing the likelihood of an antitrust challenge to collaboration with one or more competitors, was not used. However, these guidelines could be used in a future study.

Definitions of Terms

Collaboration: the combination of people's creativity, resources, passion, culture, innovation, and intellectual abilities to help organizations raise their overall performance and to gain global economical advantage. Collaboration can lead to the exchange of information, culture, goals, values, and resources.

Collaborative knowledge management (CKM): the necessary process that helps a company to: remain competitive; adapt to a rapidly changing environment; be able to innovate; respond to the demand of e-business; fully capitalize and develop its people; and support effective relationships with suppliers, partners, and customers (Hansen & Nohria, 2004, p.23; Smith, 2001, p. 4).

Competencies dimension: The utilization characteristics of knowledge that contribute positively to the creation of new business. Examples are accessibility, transferability, appropriability, and integrability (Buckman, 1998; Grant, 1996).

Epistemology: The branch of philosophy that studies knowledge (Canfield & Donnell, 1964).

Knowledge: A fluid mix of framed experience, values, contextual information, expert insight, and intuition that provides an environment and framework for evaluating and incorporating new experiences and information (Tiwana, 2002).

Knowledge revolution: A process that results from the rapid growth of information and communication technologies (ICT). Knowledge revolution is the acceleration of technical change and the intensification of globalization. Knowledge revolutions require knowledge workers, investment in education, information infrastructure, research and development (R&D), and intensive and constant innovation (Heinrichs & Jeen-Su, 2005).

Summary

In sum, this chapter discussed the importance of CKM, knowledge as an instrument for evaluating organization, knowledge revolution, barriers to collaboration, effective collaboration, competitive strategies, collaboration challenges in the 19th century, problem statement, purpose of the study, significance of the study, nature of the study, social change, background, practical importance, research questions, the hypotheses, assumptions, limitations, and definitions of terms. Social change presents a very difficult challenge because interrelating the individual and the group does not consider the dynamic aspect of the problem.

The remaining chapters are arranged as follows: Chapter 2 will review research and literature related to the knowledge and collaboration and CKM. This chapter will explore the concepts of knowledge, using the works of an epistemologist, cognitive specialist, and behaviorist to study the theory of knowledge. Chapter 3 will include the research method, the target population and sample size, the survey instrument, and the data collection and analysis process. Chapter 4 will contain the results and analyses of the survey related to research hypotheses. Chapter 5 will include the summary, interpreting the findings, and implications, as well as a recommendation for actions and further studies.

CHAPTER 2: LITERATURE REVIEW

Introduction

This literature review is organized into eight sections, and focuses on benefits of CKM that enable economic recovery and sustained high quality of growth. It surveys change theories in the fields of history, the philosophy of science, anthropology, sociology, and management theory. It offered strategies for promoting change in organizations and communities. There are numerous papers and books written on the topic of enterprise collaboration software for KM, and the KM literature is very rich, but the same is not true for CKM.

Very few guidelines exist today in CKM, and there is very limited empirical research on how organizations use CKM to improve their performance and dominate the market. In this review, the objectives of the study are compared with both previous and current research. These eight themes form the fundamental basics and clearly establish the need for further study in assessing the CKM. The eight sections are as follows:

1. Business Trends and Competitive Advantage Based on Information.
2. Rationale for Collaborative Knowledge Management.
3. Business Strategies and Concepts of Knowledge to CKM.
4. The Collaborative Knowledge Construction.
5. Theories Related to Collaboration.
6. Building Collaborative Knowing.
7. The Faces of Collaboration.
8. The Degrees of Uncertainty in Collaboration.

Business Trends and Competitive Advantage Based on Information Systems

Business Trends That Influence Market Dominant Organizations

CKM is a very complex procedure that has stirred the 21st century business culture and is the most significant business trend to influence market-dominant organizations (Chirathivat, Suthiphand, Knipping, Henrik, and Yue, 2001). Consciously designed and nurtured CKM provides a key foundation for achieving cultural exchange; development of technology and science, and business cooperation. According to Allen and Jarman (1999), collaboration in manufacturing research and development generates the following:

1. Reducing the risk and cost involved in emerging technology investments.
2. Reducing time needed to apply new technologies.
3. Gaining exposure to new ideas.
4. Developing collaborative team business relationships.
5. Creating new businesses and business opportunities.
6. Accelerating technology adoption.
7. Leveraging collaborative research and development costs (p. 4).

CKM has improved competitiveness and increased productivity of organizations through the establishment of common policies (Daniels & Radebaugh, 2001, p. 235). These policies focused on the organizational areas of performance that include (a) sharing of information and expertise, (b) innovation, (c) flexible productions processes, (d) differentiations (i.e., more product variety, high quality and value for money), and (e)

organizational strategies based on value disciplines (Haag et al., 2004; Ichijo & Nonaka, 2007; Tiwana, 2002). According to Logan and Stokes (2004):

> The foundation of profitable business culture is characterized by a robust spirit of collaboration between: employees and management, internal departments or divisions, and the organization, its customers and its supplies. A collaborative environment best enables staff to align their professional goals with the objectives of the organization and to implement strategies and tactics to realize these objectives. (p. 14).

CKM has emerged from fundamental changes in the way that commercial, industrial, cultural, and social activities are organized, as well as from the rapid evolution of traditional supply chain and outsourcing practices (Camarinha-Matos & Afsarmanesh, 2004, p. 1). In addition, according to Camarinha-Matos and Afsarmanesh, "That collaborative network provides a basis for competitiveness, world-excellence, and agility in turbulent market conditions" (p. 4). Through these fundamental changes organization became a market leader. The market leader is dominant in its industry and has substantial share. They invest in improvement to existing products and processes do bring growth. Market dominant organizations engaged in radical innovation that concerned with exploration of new technology. They offer customer's value proposition that is superior solution to their customer's problem, and differentiated their product (Besanko, et al., 2000; Haag et al., 2004; Ichijo & Nonaka, 2007; Tiwana, 2002).

Collaboration Strategies

Online collaboration is the interconnection of personal computers and the people. "Collaboration software organizes the team work over the web so that complex information within groups and customers can be communicated" (The TechDictionary, 2004). Business-to-business collaboration has made information available any time and

anywhere. Collaboration is a key driver of business performance around the world (Microsoft, 2006). Collaboration provides a very cost effective means to gain access to some of the world's leading research (Archer, 1998). Collaboration enables efficient operation of management and control, and is one of the critical contributors to competing and winning (Cloutier, Frayret, D'Amours, Espinasse, & Montreuil, 2001).

Rationale for Collaborative Knowledge Management

Characteristics of Collaborative Organization

Logan and Stokes (2004) outlined the following characteristics of collaborative organization:

1. The values and objectives of employees and management are aligned;
2. A climate of mutual trust and respect exists;
3. The knowledge of all the staff, customers, and suppliers is shared and pooled to optimize the organization's operations and opportunities;
4. Decision-making is more decentralized than it is in most current organizations, and more stakeholders in the organization play a role in defining the direction in which the organization moves; and
5. Hierarchical structures are kept to minimum (p. 9).

Leadership in CKM Environment

According to Ulrich (2003) "As organizations grow, leaders inevitably face the challenge of making the whole more than the sum of the parts" (p. 200). Ulrich adds:

> Collaboration refers to different parties working together toward a common purpose. In an organization, these different parties may be individuals, teams,

> plants, divisions, businesses, or geographies. Each part is part; collaboration makes the whole more than the sum of the independent parts. As the organization grows, it develops more parts. While each part must stand alone and produce independent results, the whole should be more valuable than merely the sum of the independent parts. In organizations, making the whole more than the sum of the parts has been a leadership challenge for decades. (p. 201)

According to Logan and Stokes (2004), "Organizations and individuals must be competitive to collaborate, and at the same time must collaborate, need CKM" (p.1). Collaboration, innovation, and greater use of resources distinguish between a leader and a follower. Moreover, companies can expand their business through collaboration, but sometimes a company might not be able to develop the resources to grow within a reasonable time frame. When this happens, collaboration is critical to the corporate strategy. Collaboration creates strategic opportunities discussed in chapter 1 of this paper.

These opportunities contribute the area of performance that must be managed as a new application. Collaboration helps lower procurement costs, and, working with other retailers, can introduce an economy of scale. Collaboration is made of different components that work toward a common purpose. Collaboration makes the whole more valuable than the sum of the independent parts.

Professional Virtual Community

According to Camarinha-Matos and Afsarmanesh (2004), "The human collaborative relationships, based on common professional interests, approaches, and motivations, lead to a professional virtual community (PVC)" (p. 4). The PVC is beyond traditional virtual communities that have populated the Web and have distinctive elements that are mobilized to face specific challenges, such as distinctive protocols,

infrastructures, and tools that cannot be dissociated from the business ecosystem of the society due to their links with all the intellectual property and life maintenance levels.

The PVC keeps the business ecosystem alive for launching and operating dynamic virtual organizations (VO) of the future. The PVC is consisted of the knowledge worker (Employee, Individual Professional), enterprise (Small and Large Enterprise), virtual organization, virtual breeding environment, and institutions (local, national, and international). The PVC breeds the collaborative business activities performed by the members exploiting the community knowledge, allows people to meet and interact with others in a friendly way, and creates advance knowledge (Camarinha-Matos & Afsarmanesh, 2004).

Collaboration Challenges to 19th-Century Theory

Collaboration was formed because of the challenges to nineteenth-century theory. The organization's challenges to redesign for collaborative work are based on both external and internal pressures. The external challenge includes difficult financial times, government mandates, changing demographics, globalization, and increasing complexity of workers. Internal challenges include lack of research and development, shortage of skilled workers, obsolete equipment, decreased growth, and increased social responsibilities (Kezar, 2006). The theories about collaboration reflect human nature that underlies the enlightenment project's exploration of the disjuncture between the modern faith in progress and the reality of modern life. The theories contend that the accumulation of knowledge through scientific practice is supposed to better the human condition with benefits such as achieving greater efficiency, better effectiveness, and

faster decision-making in complex conditions. Collaboration can lead to the exchange of information, culture, goals, values, and resources. The philosophers whose works reflects these assumptions include Sigmund Freud and James Strachey (as cited in Brennan, 1992), Ruth Benedict (cited in Young, 2005), Clifford Geertz (as cited in Johnston, 2000), Claude Levi-Strauss (cited in Cooper, 2005), and Thomas Kuhn (as cited in Nickles, 2003, and Appleby et al., 1996).

Business Strategies and Concepts of Knowledge

Business Level Strategy

Johnson and Scholes (2002) believed that collaboration lowers the costs of purchasing and buying transactions as opposed to operating alone. Similarly, collaboration helps build switching costs through five forces framework. The five forces framework includes:

1. Buyer-seller collaboration. Component manufacturers build close links with customers to reduce lead times for delivery, to help in research and development activities, to build joint information systems and reduce stock, and to help in planning teams to design new products.

2. Collaboration to increase buying power. For example, the pharmaceutical industry and the doctors formed a collaboration, which has resulted in more coordinated buying power.

3. Collaboration to build barriers to entry or avoid substitution. Organizations collaborated to invest in research and development (R&D) to check the threat of entry of new or substitute products. For example, FDA promotes the interests of

producers by establishing and controlling generic products. Furthermore, the establishments of generic products speed up the innovation and deter the possibility of substitution.

4. Collaboration to gain entry and competitive power. For example, globalization needs collaboration with others to gain entry into new areas.

5. Collaboration to share work with customers. The public services move towards more coproduction with clients in this important trend. For example, E-commerce, a Web site, is designed to assist customers with self-services (Johnson and Scholes, 2002, p. 340).

The Concept of Knowledge

Knowledge is the psychological result of learning, reasoning, and perception of agreement or disagreement of two ideas (Locke, 1689, Book IV). Rescher (2003), defined epistemology as "the theory of knowledge that clarifies what the conception of knowledge involves, and explain why it has the features it does" (Introduction section). Rescher further stated that "knowledge paves the way for mutual understanding, communication, and collaboration" (p. 184), and that "science is the best, most thoroughly tested knowledge we have; the knowledge of everyday life pales by comparison" (p.33).

According to Canfield (2003), Heylighen (1999), and Pollock and Cruz (1999), knowledge is divided into different areas. First, knowledge is based directly upon sense perception, or perceptual knowledge. Secondly, knowledge is possessed by virtue of remembering previously acquired information. Inductive generalization comprises the

third area. Knowledge of other minds, a priori knowledge, and moral knowledge comprise other areas. Knowledge in different areas will share common features, but will exhibit important differences (Pollock & Cruz, 1999, p.15).

Knowledge Acquisition

The explosion of knowledge brings enrichment or conceptual change as a significant factor for collaboration. According to Brown and Duguid (2000), "Knowledge is a vehicle for the sharing of a cultural value. Information is machines. Knowledge is people" (p. 78). Information becomes knowledge only when it takes on a social life. Knowledge in databases is less than people (Brown & Duguid, 2000, p. 121). For all information's independence and extent, it is people, in their communities, organizations and institutions, who ultimately decide what it all means and why it matters (p.18). A viable system must embrace not just the technological system, but the social system--the people, organizations, and institutions involved (p. 60). Knowledge is something we digest rather than merely hold. It entails the knower's understanding and some degree of commitment (Brown & Duguid, 2000, p. 120). Carey, Margolis, and Laurence (1999) comment on knowledge:

> The acquisition of commonsense physical knowledge differs from the acquisition of scientific knowledge: The development of scientific knowledge involves radical conceptual change. Intuitive conceptions, in contrast, are constrained by innate principles that determine the entities of a mentally represented world, thus determining the entities about which we learn, leading to entrenchment of the initial concepts and principles (p. 459).

Collaborative Learning Environments

A collaborative learning environment fosters the growth of complexity in individual behavior and cultural levels. It promotes survival and the diffusion of

information (Tokoro & Steels, 2004). According to the National Institute for Science Education (NISE), "Collaborative learning is an educational approach to teaching and learning that involves groups of students working together to solve a problem, complete a task, or create a product" (Introduction section). In addition, Bromme, Hesse, and Spada (2005) found the following:

> Learning and instruction emphasize the relevance of collaborative learning environments in both method and instruction. Knowledge is shared when the students engage in collaborative learning activities. They engage in cooperatively solving a problem, discussion, and elaboration of the text material. When the students are working in small groups, it prepares them for life-long learning activities, the societal interaction in the process of socialization. Collaborative learning would result in specific learning outcomes that are beyond what could be achieved in individual settings (p. 15).

Leberman, McDonald and Doyle (2006) stated the following theoretical perspectives in which the collaborative learning emerges:

> Piaget's theories of cognitive development that were based on the idea that when individuals interact with the environment, socio-cognitive conflict occurs that create cognitive disequilibrium. This cognitive disequilibrium facilitates perspective taking and cognitive development. Social constructivist ideas that grew from Piaget's theories of cognitive development and Socio-cultural theory emphasized the significance of knowledge being social and constructed from co-operative efforts. Shared cognition theory focuses on environment rather than the cognitive processes (being independent of the environment) (p. 52).

A collaborative learning system can facilitate planning and problem solving. Similarly, collaboration should result in specific outcomes, such as growth, profits, and global market, while socio-cognitive is the theoretical framework. The present research used a combination of game and group dynamic theories.

Theories Related to Collaboration

The present research used a combination of three theories to study CKM. It surveyed changes theories in (a) game theory, (b) dynamic game theory, and (c) force field analysis. These theories promoted change in organizations and communities. It employed multi-person game theoretic structure (where a mixed strategy is allowed) in the three theories discussed. Multi-person business game theoretic structure drives individual value proposition (VP), culture building (CB), responsibilities (PR), and business for social responsibility (BSR), information technology (IT), approaches (AP), and competitive intelligence (CI) to involve decisions under uncertainty. Multi-person games consist of three or more players, and they differ theoretically from single- and two-person games because they involve coalitions. Kelly (2003) found the following:

> Decision-makers often have to choose independently from among alternative courses of action. Communication may be impossible or undesirable and there may be no prospect of forming a coalition. In some cases, coalitions may even be illegal or actively discouraged, as in the case of price-fixing cartels and share support schemes. The formal solution to a multi-person, non-cooperative game is based on its equilibrium points, which is the outcome that gives none of the players any cause for regret when choices of the players are revealed. Multi-person business game possesses at least one equilibrium point in pure or mixed strategies. (p. 150)

Game Theory

Game theory provides micro foundations for the study of social structure and social change. It is an interaction between agents that are governed by a set of rules specifying the possible moves for each participant and a set of outcomes. Game theory predicts interactive human behavior under all circumstances to be worthy of attention (Binmore, 2007; Heap & Varoufakis, 1995). Many competitive firms made output

decisions regardless of the likely reactions of their rivals. The decision of a single firm is usually weightless on the market price. However, the single firm aim should be to anticipate the future path of prices in the industry and maximize against it (Besanko, Dranove, & Shanley, 2000, p. 36).

McGuigan, Moyer, and Harris (1999) defined game theory as "a mathematical theory of decision making by the participants in a conflict-of-interest situation" (p. 539). In addition, Cummings and Wilson (2003) wrote that game theory applies to situations in which decision makers must take into account the different ways of reasoning that are exhibited by other decision makers. It requires the fruitful combination of anticipation, political expediency, active collaboration, private knowledge sharing, and trust. It is used for understanding human actions in the communities of practice (p. 114). According to Johnson and Scholes (2002):

> Game theory is traced back to the study of war where the general anticipates the enemy; and for the managers, competitors anticipate reactions of other competitors. The core assumptions are that the competitor will behave rationally, that is, the competitors will try to win their own benefit. The competitor is in an independent relationship with other competitors. The key principle for the strategists as game theorists is the need to put themselves in the position of the competitor and competitors in such a way that they can take and be informed. (p. 341)

Cummings and Wilson (2003) stated that "game theory encourages managers to ask what is in everyone's best interest." (p. 115). Besanko et al. (2000) argue that, "game theory concerned with the analysis of optimal decision making when all decision makers are presumed to be rational, and each is attempting to anticipate the actions and reactions of its competitors." (p. 37). In addition, it is the main tool that economist use to analyze strategic behavior.

Group Dynamic Theory

When a group is more than the collection of its members, it has a force that is unlike that of an individual, and it has problem-solving aids that come up with new ideas. This is the mechanics of group therapy and its effect on behavior. A dynamic adaption manipulates a business process in its IT infrastructure run-time environment while maintaining the availability of services (Qui, 2007). In social psychology, it is called group dynamics (Landy, 1987).

Kenny, Nesselroade, and Eye (1985) argued that linking individual development and social change presents a very difficult challenge because interrelating the individual and the group does not consider the dynamic aspect of the problem; the focus is on the level analysis (p.343). Newman and Newman (1995) felt that group identity is an aspect of an individual's self-theory that focuses on membership in and connection with social groups; it is an extension of the ego system's sense of "we". Group identity is an elaboration of the sense of trust by which an infant establishes a foundation of social connection through which both self and others are defined (p. 449).

Concerning sociology, Baum (1990) stated, "The stages in organizational socialization resemble stages in group development" (p. 63). The media tend to polarize the group because the intervention of the media affects individual attitudes through group polarization (Kenny et al., 1985, p. 355). Tuckman (1965) reviewed studies of therapy groups, human relations training groups, natural groups, and laboratory groups and found four typical stages, the first three of which correspond to the three stages of organizational socialization:

1. People initially come together for some purpose (forming stage).

2. When they realize they will stay together, they actively promote their own interests in a struggle over collective aims (storming).

3. As they resolve these conflicts, they come to agreements on what they will do and how they will do it (norming)

4. Finally, they work (performing).

The psychological reasons for individual and group development form a basis for collaboration. Collaboration is the change process in which those involved are affected by the strategic agenda and the strategic decision-making process (Johnson & Scholes, 2002, p. 545). This research will explore the role of an individual's knowledge-sharing behavior from a socio-psychological perspective driven by the game theory. The study explored the group theory role trust plays in knowledge-sharing processes by exploiting the CKM assessment alignment model. Explicit and implicit knowledge are passing and /or accepting knowledge proposed to be key elements in collaboration.

Force-Field Analysis

Force-field analysis is the analysis of management forces that affect an individual and group responsibility. It is management theory that promotes changes in organizations and communities. According to Johnson and Scholes (2002),"a force-field analysis provides an initial view that changes problems that need to tackled by identifying forces for and against change" (p. 544). Collaboration requires detailed analyses of situations. It needs to ask the questions, what aspects of the current culture might aid change in the desired direction? Moreover, how might these is reinforced? What aspects of the current

culture would block such change? And how can these are overcome? In addition, what needs to be introduced or developed to aid change? The combination of force-field and strengths, weaknesses, opportunities, and threats (SWOT) analysis can be applied to collaboration analyses of situations. Both methods will help firms to achieve a more detailed analysis of collaboration situations. In addition, Malin (2006) argued that SWOT analysis will help a firm to "shape a strategic vision for focusing attention and creating a competitive advantage that many manufacturers look at their businesses from the supply chain view" (p. 55).

Social involvement develops overtimes, driven by shared activities and affiliations of members, by similarity of individuals' attributes, and by the closure of short involvement cycles. When people are put together into a situation, such as learning new skills from other people from another company, people will react in one of two ways. Some will try to persuade others to see the strength of their ideas. Others will opt for a softer approach and try to learn new skills by being prudent.

This situation identifies forces for and against decisions. Force-field analysis deals with pros and cons of decisions and, after analyses, strengthens the forces supporting a decision, and reduces the impact of opposition. For example, when the organizations collaborate, the management might decide to install new computer systems. In Table 1, the forces for and against the new computer systems are analyzed.

Table 1

Forces Against New Computer Systems

Forces for new system	Forces against the new computer system
1. Reduce the cost of updates	1. More expenses for new application
2. More computability method	2. More production time to learn new
3. More adaptability	3. Increase in security level
4. Increase in productivity/ Efficiency level	4. Increase in support level

Malin (2006) reveals the following SWOT analysis for a hospital's acute supply chain services similar to new computer systems:

Strengths

1. Newly renovated patient rooms; emotionally uplifting environment.
2. Strong list of physicians affiliated with the hospital.
3. Low patient-to-nurse ratio, great services, and individualized attention.
4. High patient satisfaction across the board.

Weaknesses

1. Aging diagnostic equipment.
2. Declining occupancy rates.
3. Dependence on the emergency department's perceived customer satisfaction performance.

Opportunities

1. Loss of acute care patients because of ED inefficiencies.

2. Excess capacity; possible use for long-term care (e.g., palliative care or assisted living).

3. Offer of more substantive care: rehabilitation, recurrent patient assessment, or clinical treatment for limited time.

Threats

1. Rising labor costs forcing staffing cuts.

2. Hospital stays continually shortened or converted to outpatient (p. 55).

Building Collaborative Ways of Knowing

Elements of Social Theory of Collaboration

The element of constraint such as culture determines the mode of social collaboration. In a free society individual liberty must be subject to certain constraints.

Tacit and explicit environments offered significant potential for supporting guided exploratory learning. Collaborative knowledge sharing needs strong motivators to guard knowledge and insights. Stahl (2006) argued:

> There are many ways in which learning can take place: over short and long time periods, in solitude, and socially, formally and informally, tacitly and explicitly, in practice and in theory. There are many ways in which people collaborate and learn: by teaching each other, viewing from different perspectives, dividing tasks, pooling results, and brainstorming, critiquing, negotiating, compromising, and ageing. All these illustrate aspects of learning and collaboration that are relevant to CSCW and CSCL. (p. 305)

According to Stahl (2006), building collaborative ways of knowing involves a group of people coming together and inventing knowledge and skills that no one person

would likely have constructed alone. Collaboration takes place within other activities of learning and cooperation, such as individual meaning making and social enculturation. The key stage in collaboration is seen as an individual act of creativity, and is wrapped up in an abstract concept like synergy, which names without analyzing it. Collaborative achievement is a key to comprehending collaboration, for it dramatically sets apart collaboration from individual learning (Stahl, p. 305).

International Business Collaboration Strategies and Social Changes

International business collaboration develops from such designated strategies as export, global, transnational, multinational, and international (Haak, 2004, p. 12).

Export Strategy

According to Haak (2004), "An export strategy is the marketing of finished products or services across borders. It lends itself to exploiting economies of scale when a domestic market has reached saturation point" (p. 12). Tougher competition, high import in domestic markets, reduced trade barriers, and changing buyers lead to increases in export of goods. Export strategy is important in collaboration to reduce the pressure of culture with other countries. However, exporting very complex goods and systems can make it necessary for engineers and managers to work abroad (Haak, 2004, p. 13).

Globalization Strategy

Competition with firms leads to exploration of global strategy to achieve competitive advantages. Examples of company-developed global strategy are General Motors and Toyota. They formed a joint venture called New United Motor Manufacturing Incorporation (NUMMI). The reasons for NUMMI include using of local

resources, adopting of distribution methods of other nations around the world, and sharing design knowledge, production methods, and distribution of vehicles and parts. Collaboration increased productivity and improved efficiency through globalization strategy (Haak, 2004, p. 13).

Transnational Strategy

Transnational strategy enables firms to provide effective work groups using e-commerce and exploring the best use of technologies for effective learning for disadvantaged companies. The transnational strategy in collaboration helps to identify strengths and weaknesses of parties involved. According to Haak (2004), transnational strategy makes learning processes involving all the organizational units in the business possible. “Certain capabilities can be concentrated at selected locations to exploit advantages of cost or expertise and maintained centrally as individual units cooperate to use them as needed” (p. 17). An example of transnational corporation is IBM.

Multinational Strategy

Haak (2004) argued that “The multinational company pursues a multinational or country-specific strategy rather than an international strategy dominated by a headquarters or the home-country (p. 14). Multinational strategy hunts for the potential economies of information, that is, to provide universal access and perfect information. This is important where foreign markets differ from one another, and deviate from domestic markets. However, the cultural and legal differences must be considered. An example is low-wage economies.

Processes for Managing Global Complexity

Lane, Maznevski, Mendenhall, and McNett (2004) contended that because of high performance in a global environment, there is a need for conceptual and behavioral skills that will result in accurate assessment of the context in which a firm finds itself. Furthermore, Lane et al. defined the following critical four types of processes for managing global complexity:

1. Collaboration is the establishment of relationships characterized by community, flexibility, respect, trust, and accountability. The advantages include seeing the reality, implications of multiplicity, synergy, and exploration of different ambiguity. Because of these advantages of collaboration, "the relationships provide a continuing strength to confront dynamic complexity and provide a foundation for action." (p. 20)

2. Discovering is about learning and creating. This includes the transformations that lead to new knowledge. Constantly discovering new knowledge helps the organization to keep up with new technology and be unchallenged in the marketplace.

3. Designing is the process of aligning and balancing. The careful design of processes unites the different parts of the organization, thereby providing a platform for coordinated responses to global complexity.

4. System thinking is the ability to see the interrelationships among components and levels in a complex system and to anticipate the consequences of changes in and to the system. (p. 20)

Global context requires leaders that will collaborate and work effectively with stakeholders. Stakeholders are from different backgrounds, and they play a key role in the global arena. Dealing with a high level of complexity requires visionary leadership that has an overarching appeal that will allow for integration of different perspectives (Haak, 2004).

Collaboration and Global Competencies

A collaboration competency is the intensity of a systematic knowledge gap within CKM organizations in the global economy. It is an approach that is based on the knowledge transferred on the instructional design, and the development of specific competencies in the area of performance of an organization (Haak, 2004; Haag et al., 2004; Ichijo & Nonaka, 2007; Nonaka & Takeuchi, 1995). According to Haag et al., "it is the ability to extend a company's reach to customers anywhere where there is an Internet connection, and at a much lower cost" (p. 522).

Bird and Osland (2004) provided the following case study that reinforces the element of collaboration in the global economy:

> A few years back French and German managers met on a sunny day to discuss a possible joint venture between their two companies. After a productive morning spent identifying possible synergies as well as delineating key issues and concerns, they developed an agenda to guide further discussions and then adjourned for lunch. Over lunch, one of the French managers commented on the beautiful weather and suggested that the group take the rest of the afternoon off and head out to a local soccer match. The Germans politely declined, and so the group returned to the office to continue discussions. However, the progress of the morning soon disappeared as the French managers raised one concern after another. By the end of the day, little progress had been made, and both groups left with serious doubts about the possibility of a joint venture. What had started out on such a positive note now seemed headed for failure. (p. 8)

Despite all efforts for new joint ventures, the real work still has to be done by managers who must rely on their knowledge and skill to get the job done. There must be a distinguishing between expert and novice global managers. There must be a dynamic model that reflects how managers function, and the skills, attitudes, and behavior stated for effective global management (Bird & Osland, 2004).

Collaboration Communication for Global Management

Effective intercultural communication must be established for global collaboration. There must be mindful observation, listening, identity confirmation, and collaborative dialogues. Thomas and Osland (2004) presented the following necessary elements for collaboration communication for global management:

1. Mindful observation involves an analytical sequence of observing, describing, interpreting, and suspending evaluation when we encounter new behavior. It must rely on descriptions of cultural behavior that are different from one's own and are reflected in and often evaluated about this behavior.

2. Mind listening refers to hearing more than just the words that are said. It involves checking for accurate perception and paraphrasing the speaker's message into one's own words.

3. Identity confirmation means addressing people by their preferred titles, labels, and identities, and using inclusive rather than exclusive language.

4. Collaborative dialogue means suspending one's assumptions about culturally different people and refraining from imposing one's view on them; engaging in collaborative dialogue is what has been called an "ethno-relative perspective."

5. Willingness to communicate includes perceiving and decoding the intercultural situation and identifying appropriate behavioral responses to that situation.

Effective Global Collaboration

An effective communication of any form in any organization will help to result in effective collaboration. Communication channels in an organization include e-mail, bulletin boards, phone calls, face-to-face/interpersonal, and written. The intentions of these communications are to inform other employees about applications and processes that run with the organization. If there is no distortion of the messages, the result can be an increase in collaboration. Srikanth (n.d.) stated that "Collaboration as a methodology was originally touted to encompass areas like project management, human resources, and knowledge management within an organization" (p. 1).

In addition, Srikanth argued that efficient collaboration between business lines and processes will make a company stay competitive and operate at optimum production level. A company information system resides in its enterprise portal, and enterprise application integration is designed to bring systems together and share their applications. Effective collaboration brings about good customer support, quality of work performed, and consistency in service and products. Moreover, "collaboration is achieved when applications integrate with processes, projects, and information" (Srikanth, n.d., p. 1).

Taylor and Taylor (2004) presented the following ways to collaborate effectively with the information technology (IT) staffs:

1. Create a project plan and provide the staff with a "shopping list" of what the project needs.

2. Involve IT staff from the beginning, when you are seeing their role as an integrated part of the project, and not as a separate entity.

3. Share information related to the IT staff (p. 26).

Strategic Benefits Alliances

An alliance is a connection based on common interest, and is an organization of people involved in a pact treaty to achieve a particular aim. Several studies (Austin, 2000; Bleeke & Ernst, 1993; Johnsen, 2008; Siegel, 2007) argued that most companies form corporate partnerships with well-constructed corporations to help partners pool expertise, enter new markets, share financial risks, and get products and services to market faster. In contrast, according to Allmendinger Fabris (1999), president of Harbor Research Inc. (Boston), "Many American businesses are far too reluctant to end an alliance because breaking up is considered a failure" (p. 1).

Friedli, Kurr, and Camp (2006) argued that," Despite the potential benefits of collaboration in dynamic business environments, many manufacturing organizations find it extremely difficult to build alliances successfully" (Abstract section). An alliance can be for nourishment of soul as in the case of professional nursing (Nursing, 2005), and for easy use of technology in health care (Clark, 2006). Rigsbee (2000) reported the seven general areas in which organizations can profit from building alliances: (a) products, (b) access, (c) operations, (d) technology, (e) strategic growth, (f) organization, and (g) finance (p. 1). The objective of this study is to look at the genesis of corporate foresight, major working areas, and benefits for the company.

Success Factors for Collaboration and Specific Examples

Many organizations develop and send their employees to teamwork classes and team fences to increase the synergy across organization units. According to Tjosvold and Tsao (1989), researchers have argued that collaboration is a key to organizational success (as cited in Kanter, 1983; Porter, 1983) (p. 1). However, values, tasks, shared vision, supportive culture, group tasks, and rewards affect interaction in organization. Furthermore, Tjosvold and Tsao (1989) state "In cooperation, people believe their goals are positively linked; one's goal attainment helps others reach their goals. Alternatively, mistrust, individual tasks, and win/lose rewards induce competition. Competitors believe their goals are negatively correlated so that one's goal attainment makes it more difficult for others to attain their goals" (p. 189). The skilled workers who cooperate with others in an organization have more success than those in competition.

The companies hire skilled workers with high intensity of interactivities with other associates, internally, and externally, within the company guidelines. Teamwork strengthens morale, commitment to the organization, and productivity. Moreover, Tjosvold and Tsao (1989) argued that the positive experiences of working together lead employees to believe they have gained a great deal from the organizations; they explore issues and make decisions that make them more productive, especially on the complex tasks that benefit from sharing information (as cited in Johnson et al., 1981). Teamwork binds employees to each other and to the organization (Parker, 2003; Tjosvold, Andrews, & Jones, 1983, p. 189).

Collaboration: The Critical Behaviors for Competing and Winning

Collaboration is one of the critical behaviors for competing and winning. Collaboration makes efficient products and services and eliminates demanding customers, relentless change, and intense competition that create tough trading conditions. Collaborative behavior ends future companies' uncertainty in surviving other businesses, and enables them to adapt and grow. The leading performance improvement and corporate transformation research program examines why some companies win new business, build customer relationships, create and exploit expertise and manage change while others stagnate. Research teams compare the approaches and practices of the most and least successful to isolate critical success factors for competing and winning (Strategic Direction, p. 3).

Fortune (2006) identified the most admired companies, the best companies to work for, and the fastest-growing companies, and found them to be companies that collaborate in the most categories. Examples of such companies include GE, FedEx, Southwest Airlines, Wal-Mart, IBM, Microsoft, Toyota Motors, Starbucks, and Procter & Gamble. Wal-Mart collaborates with Vanity Fair (manufacturer of Lee and Wrangler jeans) to provide retailers with only the best-selling styles and lines (Haag et al., 2004, p. 25). According to Haag et al., "When a customer buys a pair of Wrangler jeans at a Wal-Mart store on a Wednesday, that information is sent that night to Vanity Fair, via computer. If Vanity Fair has a replacement pair in stock, it is immediately sent out on Thursday and arrives at Wal-Mart on Saturday" (p. 25). Collaboration between the two retailer stores makes 3 days' inventory replenishment outstanding and possible with the

use of technology. Collaborative commerce enables business integration between Wrangler jeans and the Wal-Mart store. Collaborative commerce enables suppliers (Wrangler) and distributors (Wal-Mart) to share information with one another in standard business language, benefiting all members of the supply chain. Concerning collaboration, Coulson-Thomas (2005) suggested:

> Do not try to do everything yourself or resist new and external ideas. Work with colleagues to foster winning attitudes and behaviors. Balance strategy with capability and think holistically. Ensure all the pieces of the jigsaw puzzle required for successful transformation and sustained competitiveness are in place (p. 2).

Success Factors in Industry-University Collaboration

The rapid explosion of technology has strengthened the industry-university collaboration, because organizations' fiscal year budgets often cannot cope with new technology. Over years, collaborative relationships between industry and universities have produced innovations that have made the industries grow globally and make profits. According to Landry, Traore, and Godin (1996), "The industries and universities collaboration focuses on three dimensions (a) the institutional arrangements, (b) the obstacles to collaboration, and (c) the assessment of benefits and successes deriving from collaborative projects" (p. 285). The institutional arrangement consists of the structural level (i.e. the interaction) and the coordinating level, in which behavioral rules govern the actual interactions taking place among the parties.

The Faces of Collaboration

Access to Facilities and Work Opportunities

The faces of collaboration are many and are based on industry products and services. The emerging of strategic alliance leverage, the competence of each partner and creation of two-way values are evidence, among others, of the collaboration between the United Negro College Fund (UNCF) and Merck. UNCF is the largest and oldest minority educational assistance organization in the United States, and Merck is a leading global pharmaceutical company. In 1995, UNCF and Merck launched the UNCF-Merck Science Internship. The UNCF-Merck Foundation has established scholarship awards for outstanding African American students pursuing studies and careers in the field of biomedical research. The UNCF-Merck Science Initiatives awards include 15 at undergraduate level, 12 at the graduate level and 10 at the postdoctoral level to achieve the complementary goals of national economic competitiveness and social diversity.

Collaboration provides key principles for structuring, staffing, and managing complex multi-organizational collaborations to accomplish what a single organization cannot achieve alone. An example is the joint efforts of Deere and Company, with several of its dealers and two technical colleges, to develop and sustain programs for training service technicians (Mankin & Cohen, 2006, Abstract section).

Changing Technology

The expansion of knowledge has led to new inventions, which have made life easier and better. Through the new inventions, firms can produce better and more efficient products. These firms increase their budgets on R&D annually so that they can

stay in business and compete. A high-technology product is complex and needs knowledgeable staffs. Meade, Rabelo, and Jones (2006) argued that constant changing of technology makes "it extremely challenging to develop and implement successful product strategy" (Abstract). Changing technology makes even knowledgeable workers' skills obsolete and creates a need to update workers with diversity of knowledge or skills. In addition, according to Abboud (2006), firms may launch programs to convince workers to leave the company voluntarily by supporting entrepreneurial projects (Abstract section). The complex interactions of markets, government policy, technological change, and resource quality have all affected the state of Washington's sawmill industry and the lumber industries (Mittelhammer, Blatner, Weiner, & Carroll, 2005). Due to unsteady technology, it is difficult for firms to survive; therefore, collaboration is among the options to continue in business.

Service Trends

The 21st -century expansion of technology has changed the types of computers. The inventions of 8008 processor computers to Pentium to Indium processors have made computer systems more available for nearly every household. The increased use of computers and cell phones (telecommunication equipment) leads to greater diversity of jobs. The changes in employment in the service category of computer and data processing are increasing with business and producer services.

Trends are more in the cities, where workers use computers for their employers (Kirschner, 2005). Service trends might force a company to collaborate with another company to be more efficient, competitive, and profitable. Samiee (1999) argued that "An examination of the trends in the international marketing of services in the leading nations permits a better understanding of strategic forces behind their success" (p. 327).

Collaboration Strengthens Legal Compliance

Forced labor often occurs with other labor violations, such as excessive overtime, harassment, and wage violations. Business for Social Responsibility (BSR) takes steps to eradicate forced labor, and, therefore, can support efforts that lead to the elimination of related forms of human rights and labor rights violations (BSR, 2006). Collaboration strengthens legal compliance. The IMF, World Bank, and WTO collaborate "to enhance the coherence of global economic policy," as well as the policies of facilitating a return to more orderly financial markets and exchange rate stability, and the policies that are combined with "sound macroeconomic fundamentals, appropriate social safety nets, and nondiscriminatory trade requirements for recovery." A collaborative and mutually supportive approach is based on the principle embedded in a key ingredient for international economic recovery and sustained high quality of growth (Moore, 1998).

Cost Savings

Austin (2000) reported that cost-cutting collaborations are intended to eliminate duplicate costs and excess capacity through shared facilities, services, or activities (p. 9). Today, the electronic invoicing and bill presentment (EIBP) is making business electronically to be much more cost-effective. According to Avivah Litan, an analyst at

Gartner Inc. in Stamford, Conn., business-to-business invoices sent electronically were expected to rise from 20% to 62% in 2005 caused by collaborative applications (Trombly, 2002). The collaboration among the logistics service providers has achieved annual cost savings (Young, 2005).

Economies of Scales and Scope

Other economically driven alliances are designed to achieve economies of scale or scope. These economies can be achieved through combination of similar organizations' markets, client bases, or purchaser input. Economies of scale are realized from the resulting volume increased and through partners' visibility, and sphere of impact improves the image and the credibility of an organization. Collaboration would result in a more efficient delivery system and "enhanced breadth of services can increase convenience and utility for, and thus attract more, clients, increasing the use of combined facilities" (Austin, 2000, p. 9).

Synergies Benefits from Collaboration

Synergy is a concept that benefits from effective integrated strategy. Synergy is another benefit the organizations realize from collaboration with another organization. Organizations form complementary capabilities with another organization to accomplish more together than they can separately. In 1997, CARE Canada extended its commitment to the global relief community by launching Information to Knowledge (I2K), a Web-accessible knowledge base of best practices. Among the aims is to share common experiences in the field through "a mechanism for documentation and sharing which radically alters how workers approach an emergency situation," and to gain faster access

to data, and improve communications with support personnel and reuse of lessons learned that translate to lives saved (KMWorld, 1999). They use integrated collaborative environments (ICE) to schedule meetings, manage e-mail, and build custom applications. IBM/Lotus and Microsoft Exchange are the most popular examples of ICE, and represent another synergy (Mahowald & Levitt, 2001).

Vail (2002) revealed the benefits of collaboration in his studies from the Pentagon's Joint Chiefs of Staff and Virginia Housing Development Authority to illustrate the value of linking KM and enterprise architecture (EA). Vail found the following benefits:

1. Gaining maximum reuse of existing capabilities and reducing time and cost of satisfying user needs.
2. Avoiding development of stand-alone or stove-piped applications through each and continual involvement of users and technologist.
3. Achieving a more disciplined approach to investment in new technology, allowing for investments that will immediately support specific user needs, avoiding the 'building it and they will come' trap that so often leads to wasted effort and resources. (Vail, p. 8)

Types of Synergies in Collaboration

Dyer, Kale, and Singh (2004) stated that collaboration is an option when a firm is pursuing growth strategy. Consequently, the firms must consider factors such as resources and synergies, market uncertainty, and levels of competition (p. 112). Managers of the firm should weigh each factor in accordance to the need of their firm before entering into collaboration. The synergy types considered under the collaboration are modular, sequential, and reciprocal.

According to Dyer et al. (2004), modular synergies are formed when firms manage resources independently and pool only the results for greater profits (The synergies are modular because modularly interdependent resources generate them). An example is found in the airline and hotel collaboration in which both benefit (p. 111). Second, firms derive sequential synergies when a company completes its tasks and passes on the results to a partner to do its bit. According to the authors, the resources of the two firms are sequentially interdependent. An example is found in the biotech firm that specializes in discovering new drugs. Such firms want to work with pharmaceutical companies that have experience with FDA approvals. Biotech companies must complete their tasks efficiently on the drug before seeking FDA approval; in this case the companies are seeking sequential synergies. Third, "companies generate reciprocal synergies by working closely together and executing tasks through an interactive knowledge-sharing process." An example is found in the Exxon and Mobil collaboration. Exxon and Mobil collaborated and became more efficient in almost every part of the chain, from research and oil exploration to marketing and distribution (Dyer et al., 2004, p. 112).

The Degrees of Uncertainty in Collaboration

Existence of Uncertainty

Many risks are involved between companies that collaborate. According to Dyer et al. (2004):

> When companies can assess the probability distribution of future payoffs, the wider the distribution, the higher the risk. Uncertainty exists when it isn't possible to assess future payoff. Companies are forced to decide how to team up with other

> firms, especially small ones, without knowing whether there will be payoffs, what they might be, or when the benefits might come their way (p. 113).

Culture Building

Embracing culture at various levels is very important for corporations because the community is now an integral part of corporate culture and an umbilical cord for collaboration. Through "Blending Cultures, Building Strength," corporations can improve the condition of the world (Pusch, 2005). In addition, a depth of understanding of culture is important to the study of information technologies. Culture can influence the successful implementation and the use of technology. It plays a key role in managerial processes that may directly, or indirectly, influence information technology (Leidner & Kayworth, 2006, Abstract section).

Unity and Power

Collaboration includes sharing, capturing, and delivering knowledge. Austin (2000) stated that the "community involvement is an attraction to potential employees," and the organizations who support community service activities and clean environment will enhance employee motivation, morale, and good health, thereby developing strong organizational loyalty and retention. In addition, Austin reported, "a study of 188 companies found employee morale to be three times higher in firms heavily involved in their communities. And employee involvement in the community services and activities illuminates individuals' capabilities, values, and attitudes; thereby an employer can conduct much more accurate employee assessments (p. 13).

Moore (1999) recalled the commitment of membership for elements of cooperation between the World Trade Organization (WTO) and the United Nations

Environment Programme (UNEP). Moore amplified the agreement:

> A global arrangement between the Secretariat of the World Trade Organization and the United Nations as a whole was agreed between the Secretariats in an exchange of letters between the Director-General of the WTO and Secretary-General of the United Nations on 29 September 1995. In accordance with the mandate given to the Secretariat of the WTO and the mandate given to the Secretariat of the United Nations Environment Program (UNEP), recognition is given to the importance of cooperation and collaboration between the two Secretariats with respect to their work on issues of mutual interest. (p. 1)

Summary

CKM is a very complex procedure that has stirred the 21st-century business culture and is the most significant business trend that influences market-dominant organizations (Chirathivat et al., 2001). CKM improved competitiveness and increased productivity of organizations through the establishment of common policy (Daniels & Radebaugh, 2001, p. 235). CKM emerged from fundamental changes in the way that commercial, industrial, cultural, and social activities are organized. Moreover, CKM emerged from the rapid evolution of traditional supply chain and outsourcing practices (Camarinha-Matos & Afsarmanesh, 2004, p. 1). Based on the information presented in this literature review, chapter 3 of this study will consist of the research methodology that was used to gather and analyze the required data to investigate the problem statement.

Chapter 3 discusses the methodology selected for this study in more detail. Specifically, it outlines the research procedures, method used to determine the setting and sample size. In addition, it outlines the instrument and materials, data analysis, and measurement outcomes.

CHAPTER 3: RESEARCH METHODOLOGY

Introduction

CKM is a complex procedure that has stirred the 21st-century business culture with business trends. These trends have influenced various aspects of the market-dominant organizations, which need better understanding of these trends to be successful in today's markets. However, there is a lack of empirical research on how organizations use CKM to improve their performance and dominate the market. By surveying employees of selected organization in Memphis, TN, this study evaluated strategies and facets of collaboration that enable efficient operation management and control, achieve a wider range of customers, and raise the status in the global economy. This chapter will present the research design and approach, dependent and independent variables, setting and sampling, the data collection and processes, the validity and reliability, and data analysis tools and procedures.

Research Design and Approach

This study utilized a quantitative research approach and surveys to get a sense of general trends across the randomly selected companies to capture the need for development of new management benefits of CKM that will enable economic recovery and sustained high quality of growth. A quantitative method was used to answer questions about relationships among six proposed variables. The measure variables (value proposition, culture building, responsibilities, information technology, approaches and assessment) were used to explain, predict, and control market dominance organization. According to McMillan and Schumacher (1997), "In survey research the

investigator selects a sample of subjects and administers a questionnaire or conducts interviews to collect data" (p. 38).

Moreover, surveys are used frequently in educational research to describe the frequency of demographic characteristics or traits held, explore relationships between different factors, and delineate the reasons for market dominance organization practices (McMillan & Schumacher, 1997, p. 38; Singleton & Straits, 2005). Although IT is central to the CKM, other social and economic factors that are widely used by social scientists in both the public and private sectors are used in CKM. The survey included questions on all of these. The survey provided information on the perceived six business strategy roles including value proposition (VP), culture building (CB), responsibilities (PR), information technology (IT), best practices (BP), and competitive intelligence (CI) that define CKM concerning market dominance organizations.

Since the main goal of this particular research is to understand the effect of the above-mentioned business strategies on CKM, regression analysis was used in chapter 4 to identify influential business strategies. In chapter 5, appropriate recommendations for future research will be provided. These are based on the analysis results of chapter 4 used to reject or fail to reject the null hypotheses.

A quantitative design was chosen because of the nature of the study. It could better address the problem by testing the research hypotheses through multiple regression analysis. In addition, since surveys were administered electronically, they are the best tool to reach geographically-distributed participants. The other benefits of surveys are cost effectiveness, easy management, lack of time constraint, and anonymous responses.

One of the drawbacks of surveys is low response rate. This can be addressed by using techniques such as (a) explaining to the participants about the researcher, (b) identifying the significance and impact of this research, (c) designing easy to understand questions, and (e) assuring confidentiality.

An alternative research design and approach could be to conduct a qualitative research with multiple case studies. These case studies could be used to collect data through observations, interviews, and appropriate written documents, which would be proposed to be used to explore more CKM of the market dominance organization. Finally, because a case study method of data analysis includes categorization and interpretation of data in terms of common themes, synthesis into an overall portrait of the CKM of the market dominance organization (Leedy & Ormrod, 2001) is possible.

However, this approach does not guarantee collecting the appropriate data to investigate the addressed problem, since the number of top and middle level managers in each company is limited. In addition, conducting face-to-face interviews would require permission from the company and scheduling of individual interviews. This would consume lots of time and effort. In addition, the data collected through face-to-face interviews would be handled in a subjective manner and might introduce bias.

Sampling Technique

The population of this study was selected employees in three companies in Memphis, TN. According to Leedy and Ormrod (2001), “The researcher believes that his observations should be free from any perceptions, impressions, and biases in order to strive to be objective. By maintaining objectivity, researchers hope to maximize their

chances of determining the ultimate Truth" (p. 147). Federal Express, First Choice, Ampro Industry, and Theraplex were consulted for the study. All are companies in Memphis, TN (A world distributing center). Federal Express's legal department denied the request despite the fact that the researcher is one of their employees. First Choice, Ampro Industry, and Theraplex agreed to the study. The employees in each company were divided into two group categories and were solicited for participation.

Haleblian and Finkelstein (1993) stated that a "top management team can be considered the information-processing center of an organization in its relationship with its environment" (p. 845). Accordingly, the first group category represented top management with their demographic characteristics of the ages, organization tenures, functional backgrounds, educations, and the other distributional properties. This team included the chairman or owner, vice president (VP), chief financial officer (CFO), and manager director (MD). The second group category represented middle level management, including senior managers and managers that form up to 75 % of exempt management. The first and second groups have interplaying roles such as defender, prospector, analyzer, and reactor. Defenders, prospectors, and analyzers all show competence in general and financial management, while reactors' are less apparent (Snow & Hrebiniak, 1980). A minimum of 100 participants from the upper and middle level management were solicited from the three companies (First Choice, Ampro Industry, and Theraplex Company). By using 95% confidence level and 5% confidence interval, then based on Creative Research Systems (2003) sample size calculator, the appropriate size is 80, as represented in Figure 2.

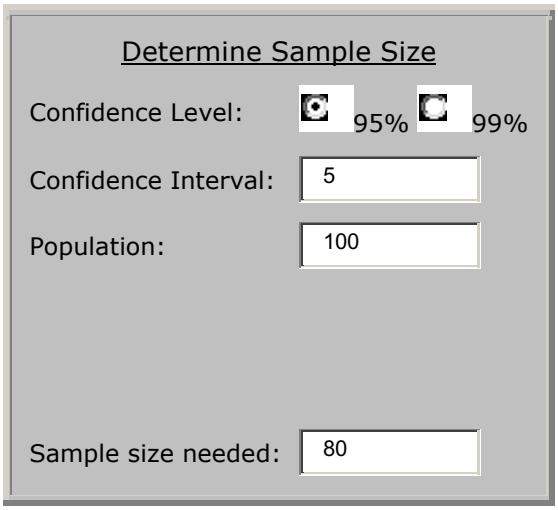

Figure 2. Creative research systems sample size calculator

A sample size is critical because it provides a basis for the estimation of sampling error (Leedy & Ormrod, 2001; McMillan & Schumacher, 1997; Singleton & Straits, 2005). Moreover, McMillan and Schumacher (1997) contended that "The determination of size should take into consideration several factors – the type of research, research hypotheses, financial constraints, the importance of results, the number of variables studied, the methods of data collection and the degree of accuracy needed" (p. 176).

McMillan & Schumacher (1997) summarized the impact of these factors below:

1. The type of research. Correlation research should have a minimum of 30 participants, and in research comparing groups there should be at least 15 participants in each group (some highly controlled experiments will contain as few as eight to ten subjects in each group). In survey research studies there should be about 100 subjects for each major subgroup that is analyzed and twenty to 50 subjects in subgroups.

2. Research hypotheses. If the research expects to find small differences or slight relationships, it is desirable to have as large a sample as possible. The effect would be undetectable in studies with small numbers of subjects.

3. Financial constraints. The cost of conducting a study will limit the number of subjects included in the sample. It is best to estimate these costs before beginning the study.

4. Importance of results. In exploratory research a smaller sample size is acceptable because the researcher is willing to tolerate a larger margin for error in the results.

5. Number of variables studied. A larger sample is needed for studies that have many independent or dependent variables, or for studies in which many uncontrollable variables are present.

6. Methods of data collection. If methods of collecting information are not highly accurate or consistent, a larger sample will be needed to offset the errors inherent in the data collection.

7. Accuracy needed. The accuracy of the results (the degree of confidence that can be placed in statements that the sample data are the same as for the population) is greater as the sample size increases.

8. Size of the population. As the size of the population increases, the research can take a progressively smaller percentage of subjects from the population (McMillan & Schumacher, p. 177).

The study used a stratified sampling design because it provides greater sampling efficiency (precision) when the stratifying variable is related to the variable one is estimating (Singleton & Straits, 2005, p. 143). Moreover, according to McMillan and Schumacher (1997) "in a simple random sampling/stratified random sampling, the population is divided into subgroups, or strata, because of variables chosen by the researcher, such as gender, age, or level of education" (p. 168). In support, Leedy and Ormrod (2001) stated, "In the simple stratified random sampling design, all the strata of the population are essentially equal in size" (p. 215).

Variables

The independent variables used in this study are business strategies that included: value proposition (VP), culture building (CB), responsibilities (RR), information technology (IT), approaches (AP), and measurement/assessment (AS) that define CKM concerning market-dominance organizations. The dependent variable was performance, which was measured by quality, growth, profit, competence, and brand. The confounding variable (skilled workers) was measured by participants' performance ratings and education level. The mediating effect of collaboration integration between capabilities and performance was analyzed. To test the six individual hypotheses and overall validity of the assessments, multiple regressions were used.

The Survey Instrument

Drawing on Existing Instruments

The survey instruments developed by APQC's study of and with best practice organization knowledge management audit questionnaire (O'Dell, Elliott & Hubert,

2000; Hasanali & Leavitt, 2003; O'Dell & Leavitt, 2004; Hasanali, Leavitt, Lemons & Prescott 2004) consisted of many survey questions for the study of knowledge management and for CKM and are closely related to some of the questions posed in the Appendix B of this study. The survey instrument used in this study was developed using ideas from the APQC study. This study also used *Fortune* Magazine's (2007) results of American's Most Admired Companies in innovation, quality of management, people management, and financial soundness, use of corporate assets, long-term investment, social responsibility, and product/service quality to compare the study results.

Validity and Reliability

Validity reliability take different forms, depending on the nature of research problem, the general methodology the researcher uses to address the problem, the nature of data collected, and the strengths and weaknesses of the questionnaire. The strengths of questionnaires include: economy, anonymity, standard questions and uniform procedures, easy scoring, and allowance of time for subjects to think about responses. However, the weaknesses include low response rate, inability to probe and clarify, scoring open-ended items, faking and lack of social desirability, restriction to subjects who can read and write, and biased or ambiguous items (Leedy & Ormrod, 2001; McMillan & Schumacher, 1997; Singleton & Straits, 2005).

A survey research is the most appropriate method of data collection for the purpose of this study. However, it is difficult to get articulated statement of need that goes from specific use cases to correlating collaborative patterns inside the CKM organization with the functionality needed to empower it and enable it. For example,

market power may result from generation of market dominance. Market power is the distribution of market shares in the relevant market. However, the market dominance does not specify any thresholds in terms of market shares. Thus, it is up to the researcher to use the discretion of competition to decide to what extent evaluation of potential competition affect the assessments of the market dominance organizations (Besanko et al., 2000, p. 227). In addition, McMillan and Schumacher (1997) argue several factors that should be considered in interpreting reliability assessments: (a) the more heterogeneous a group is, the higher the reliability, and (b) the more items there are in instrument, the higher the reliability (p. 243). Pilot study, factor analysis and Cronbach's Coefficient Alpha were used to check validity, internal consistency and reliability of the survey instrument. .

Validity –Pilot study and Factor Analysis

A pilot study was used to check whether all operational parameters are in check, and generally the goal of the study was to replicate the full scale experiment, but only on a smaller scale (Aczel & Sounderpandian, 2006). The pilot study was limited to a few participants who had strategic roles, were available, and could quickly critique the survey questions. The companies' CEOs provided their e-mail addresses. All 6 participants identified for the pilot study responded with their comments. The comments were significant and were used in the final design of the survey questions. The results revealed an idealized portrait of how they (employees) like to be seen by others (belief system). The measurement instrument yields consistent results with the characteristic being measured.

The principal factors represent the greatest proportion of the variance of the variables in the possible dimensions. Factor analyses identified variables that explain the pattern of correlations within a set of observed variables for VP, CB, RR, IT, AP, and MA. Communalities are estimates of the variance in each variable accounted for by the entire selected principal variables. For principal factors extraction, this is equal to 1.0 for correlation analyses. Extraction communalities are estimates of the variance in each variable accounted for by the components. The higher communalities indicate that the extracted components represent the variables well. If any communality is very low in principal components extraction, we may need to extract another component. The patterns of the factor loadings were fairly identical for both study samples.

Reliability – Cronbach's Coefficient Alpha

Researchers must demonstrate instruments are reliable since without reliability, research results using the instrument are not replicable, and replicability is fundamental to the scientific method. Reliability is the correlation of an item, scale, or instrument with a hypothetical one which truly measures what it is supposed to. Since the true instrument is not available, reliability is estimated in one of four ways: (a) Internal consistency: Estimation is based on the correlation among the variables comprising the set (typically, Cronbach's alpha); (b) Split-half reliability: Estimation is based on the correlation of two equivalent forms of the scale (typically, the Spearman-Brown coefficient); (c) Test-retest reliability: Estimation is based on the correlation between two (or more) administrations of the same item, scale, or instrument for different times, locations, or populations, when the two administrations do not differ on other relevant variables (typically, the Spearman

Brown coefficient); and (d) Inter-rater reliability: Estimation is based on the correlation of scores between/among two or more raters who rate the same item, scale, or instrument (typically, intraclass correlation, of which there are six types discussed below). These four reliability estimation methods are not necessarily mutually exclusive, nor need they lead to the same results. All reliability coefficients are forms of correlation coefficients, but there are multiple types discussed below, representing different meanings of reliability and more than one might be used in single research setting. One common way of computing correlation values among the questions is a survey instrument is by using Cronbach's Alpha (0.7 – 0.9). In short, Cronbach's alpha splits all the questions in the instrument every possible way and computes correlation values for them all.

Scale reliability using Cronbach's Coefficient Alpha was used to assess the consistency and homogeneity of items ((Field, 2000; Gorsuch, 1983; Pett, Lackey, & Sullivan, 2003). Reliability coefficients were computed for the principal factors of the questionnaire. Furthermore, in order to ensure that the data was statistically reliable and valid, the internal consistency method was employed using Cronbach alpha reliability coefficient. Based on Table 38, the two constructed subscales (factor and communalities) demonstrated adequate internal consistency with Cronbach's Alpha of variance extraction in the range of 0.66 and 0.89 for selected principal variables.

Data Collection

The data for this study were collected by surveying participants electronically and using a self-administered questionnaire. The questionnaire for data collection is shown in Appendix B. Table 2 shows the questionnaire modules for diagnoses of: VP, culture

building (CB), structure and roles / responsibilities (RR), information technology (IT), approaches (AP), and measurement / assessment (AS). Table 2 shows the two types of categories, which are the first and second category. The first category is divided into three columns: (a) independent, (b) dependent, and (c) control variables and has six levels of strategies. In addition, the first category has corresponding questions under each section of the second category. For example, Question 9 (Q9), measures of quality, was selected as an independent variable (to change), Question 34 (Q34) indicates stakeholders' initiatives as a dependent (to observe), and Question 20 (Q20) indicates planning as organization's core business process, as a control variable (to keep the same) under the value proposition level of strategy (McMillan & Schumacher, 1997, p. 312).

Table 2 may be called a contingency table. This contingency table is 6 x 3, since there are six rows of cells and three columns. There are 18 cells. There are 18 (n=18) categorical variables randomly selected to be aligned with six (n=6) organization business strategies for this study.

Table 2
Questionnaire Modules

	First classification category			
Second classification category	Independent Variable (What I change)	Dependent Variables (What I observe)	Controlled Variables (What I keep the same)	Total
VP	Q9	Q34	Q20	3
CB	Q1	Q7	Q18	3
RR	Q1	Q15	Q21	3
AP	Q2	Q6	Q9	3
IT	Q1	Q3	Q4	3
AS	Q1	Q5	Q6	3
Total	6	6	6	18

Figure 3 shows how each strategy is aligned with organization business strategy.

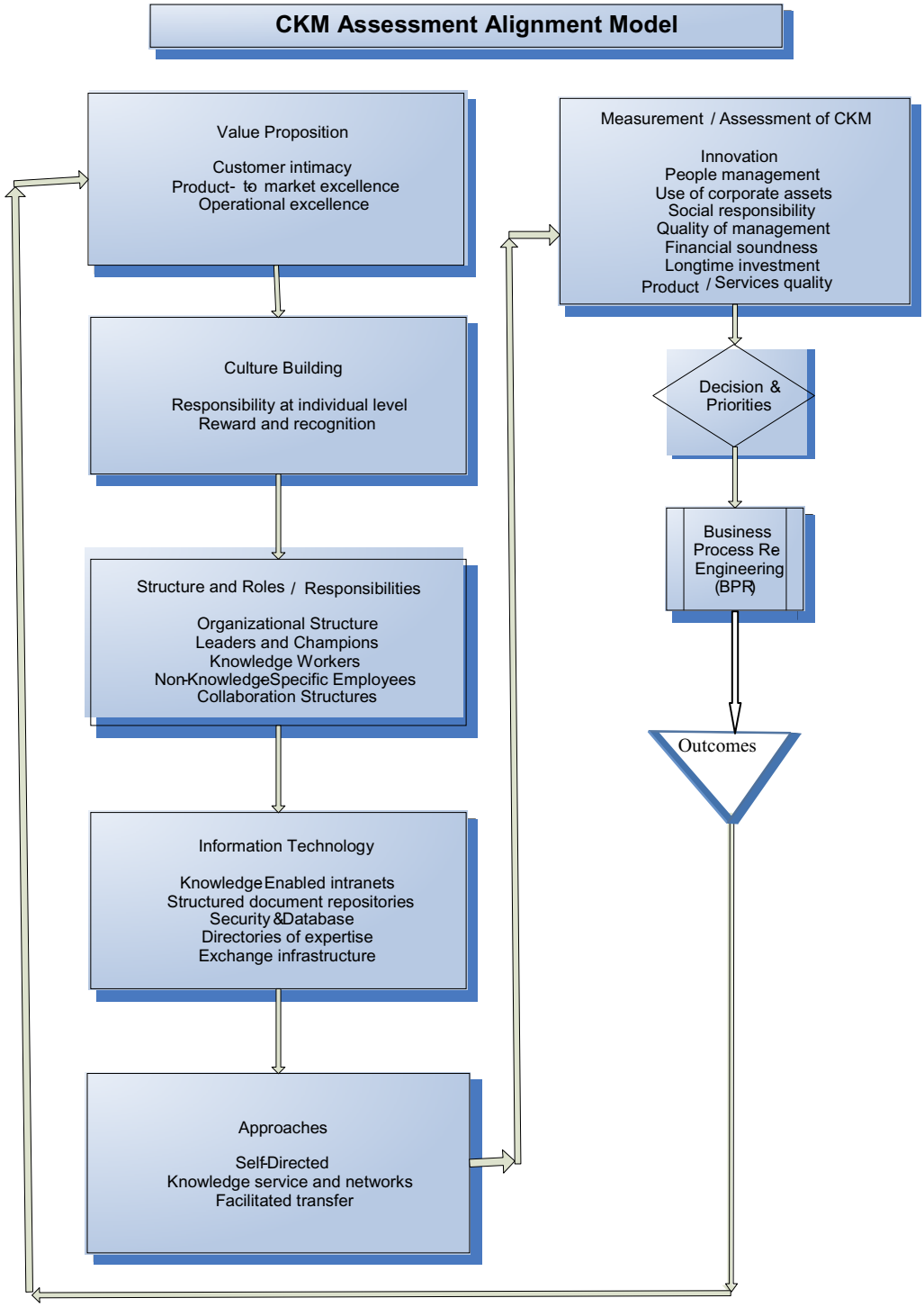

Figure 3. Collaborative knowledge management assessment alignment model

Data Analysis

The standard model for count data and contingency tables is the Poisson regression model, which is a nonlinear regression model. Poisson involves mixtures of the Poisson and the binomial. A Poisson regression model is called a log-linear model when used to model contingency tables. For example: Given *n* be the actual (or true) count process taking nonnegative integer values with $E[n] = \mu$, and $V[n] = \sigma^2$. Let B_1, $B_2 \ldots B_n$ be a sequence of *n* independent and identically distributed Bernoulli trials, in which each B*j* takes one of only two values, 1 or 0, with probabilities π and $1-\pi$, respectively. The count variable $Y = \sum_{i=1}^{n} B_i$. For *n* given, Y follows a binomial distribution with parameters n and π. Poisson regression models are generalized linear models (GLM) with the logarithm as the link function, and the Poisson distribution function. In addition, a generalized linear model (GLM) can be used to fit a Poisson regression for analysis of count data. The Poisson model is related to the models for analyzing counted data in the proportions or ratios of counts obtained by grouping data (Cameron & Trivedi, 1998, p. 8; Dobson, 2001).

The scale item for this study is the Likert scale. A Likert scale is an ordinal response, widely used, and in a form that contains a question or statement followed by a scale of potential responses. According to McMillan and Schumacher (1997), "A scale is a series of gradations, levels, or values that describe various degrees of something. Scales are used extensively in questionnaires because they allow fairly accurate assessments of beliefs or opinions" (p. 256). Moreover, a true Likert scale is one in categories of strong agree, agree, uncertain, disagree, and strongly disagree (McMillan & Schumacher, 1997,

p. 257; Singleton & Straits, 2005, p. 273). In the present study respondents were asked to indicate their level of agreement on a 5-point continuum ranging from *strongly agree* (5) to *strongly disagree* (1).

The investigation was based on the following hypotheses:

Hypothesis 1: Perceived value proposition

H_0: There is no significant evidence that the value proposition provides rationale for effective knowledge transfer.

H_1: There is significant evidence that the value proposition provides rationale for effective knowledge transfer.

Hypothesis 2: Perceived culture building

H0: There is no significant evidence that community and culture are integral parts of corporate culture or an umbilical cord for collaboration.

H1: There is significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration.

Hypothesis 3: Perceived roles and responsibilities

H0: There is no significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer.

H1: There is significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer.

Hypothesis 4: Perceived roles of information technology

H0: There is no significant evidence that technology alone is sufficient for effective knowledge transfer.

H1: There is significant evidence that technology alone is sufficient for effective knowledge transfer.

Hypothesis 5: Perceived roles of best practices (approaches)

H0: There is no significant evidence that best practices alone is sufficient for effective knowledge transfer.

H1: There is significant evidence that best practices alone is sufficient for effective knowledge transfer.

Hypothesis 6: Perceived roles in measurements (competitive intelligence)

H0: There is no significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer.

H1: There is significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer.

Description of CKM Assessment Module

Value Proposition

According to O'Dell et al. (2000) "Value Proposition provides unique business rationale for embarking on a knowledge-enabled change journey, and it enables organizations to ensure that they devote valuable resources to high-payoff areas, that the 'right' knowledge is managed and transferred, and that they get management's attention and funding" (p.11). Deise, Nowikow, King, and Wright (2000) argue, "the three value propositions for moving to e-procurement are: employee compliance with prenegotiated contracts, improved leverage with suppliers, and improvement" (p. 22). O'Dell et al.

focused on the area of: (a) customer intimacy, (b) product-to-market, and (c) operational excellence (p. 11).

Culture Building

Embracing culture at various levels is very important for corporations because the community is now an integral part of corporate culture and an umbilical cord for collaboration. Through "Blending Cultures, Building Strength," corporations can improve the condition of the world (Pusch, 2005). In addition, a depth of understanding of culture is important to the study of information technologies. Culture can influence the successful implementation and the use of technology. It plays a key role in managerial processes that may directly, or indirectly, influence information technology (Leidner and Kayworth, 2006, Abstract section). According to Deise et al., (2000) "The cultural business model should identify and map specific roles, the integration of roles, the links between the organization and the individual, and the skill sets of individuals to the organization's strategy and business model" (p. 39)

Structure and Roles/Responsibilities

According to O'Dell et al. (2000), "Successful organizations cannot manage or transfer their knowledge unless they have an explicit and institutionalized infrastructure in place. Without a structured process, and people with well-defined roles within that process, an organization's knowledge will not be used to its full potential (p. 25). In addition, individual roles and responsibilities are foundational to organization. Without effective combination of responsibilities and roles, accountability variance can occur and result in disorder. Nonaka and Takeuchi (1995) found that "The central feature of the

Japanese military organization was its strict conformity to bureaucracy" (p. 163).

Information Technology

IT is an important organization strategy whose nature involves collaboration knowledge management. IT effectively uses groupware and Internet/intranet/extranet technologies to share knowledge and practices. Moreover, people play a major role in technology success; if they do not use it, it serves no purpose. Technology is necessary, but not sufficient, to make knowledge transfer happen.

Approaches

Just as the content of knowledge and the best practices are important to successful collaboration knowledge management, so is the approach taken to move this knowledge throughout the organization. However, transfer of knowledge and best practices does not happen just because it makes good sense or because management says it should. Using the right approach(s) is critical to ensuring the success of implantation and change (O'Dell et al., 2000, p. 41).

Measurements

Measurements indexes indicate competitive intelligence characteristics. Indentifying and managing the possible CKM organizations challenges ensure the success of the CKM systems. Enforce the change management policy and set metrics that can be used to measure the success of implementation. Output and outcome measures the track of the transfer of knowledge. The output and outcome measurement indicates the impact variations of the business objectives such as efficiency, reduction in cost of poor

quality, and time to repair. Impact measures include: end-of-job average time to repair and lost of income (O'Dell, 2004, p. 98).

CKM Assessment Procedure

1. Identify CKM applications/components.
2. Place them into common categories to establish the elements of CKM spectrum.
3. Explain how the placement of each application was made.
4. Add the enabling technologies.

Common categories to establish CKM spectrum are:

1. Competitive Intelligence
2. Collaboration of Knowledge Management as a Business Strategy
3. Transfer of Collaboration knowledge and Best Practices
4. Customer-Focused Collaboration Knowledge
5. Business Social Responsibilities
6. Intellectual Asset Management
7. Innovation and knowledge Creation
8. Product Leadership
9. Operational Excellence
10. Culture and Communication Building

Competitive Intelligence Function Characteristics

Competitive intelligence products are critical for developing strong relationships in ways such as synthesis strategy and thrusts of organization. Competitive intelligence

functions report to senior executives. Competitive intelligence functions provide strong cultural awareness. Competitive intelligence products are customized rather than standardized. The attributes are effectiveness, flexibility, trust of skilled workers, willingness to share information, and current skilled workers (Hasanali et al., 2004, p. 64)

CKM as a business strategy shows that collaboration lowers the costs of purchasing and buying transactions as opposed to operating alone. Similarly, collaboration helps build switching costs through five forces framework. The five forces framework includes:

1. Buyer-seller collaboration. Component manufacturers build close links with customers to reduce lead times for delivery, to help in research and development activities, to build joint information systems and reduce stock, and to help in planning teams to design new products.

2. Collaboration to increase buying power. For example, the pharmaceutical industry and a group of doctors formed a collaboration, which resulted in more coordinated buying power.

3. Collaboration to build barriers to entry or avoid substitution. Organizations collaborate to invest in research and development (R&D) and to check the threat of entry of new or substitute products. For example, FDA promotes the interests of producers by establishing and controlling generic products. Furthermore, the establishment of generic products speeds up the innovation and deters the possibility of substitution.

4. Collaboration to gain entry and competitive power. For example, globalization needs collaboration with others to gain entry into new areas.

5. Collaboration to share work with customers. The public services move towards more co-production with clients in this important trend. For example, E-commerce, a website, is designed to assist customers with self-services (Porter, 1998, p. 340).

Culture and Communication Building

According to Buckman (2004), "If an organization is going to take advantage of the productivity improvements that are possible today, then it must make a dramatic change in outlook at all levels of organization" (p. 242). Embracing culture at various levels is very important for corporations because the community is now an integral part of corporate culture and an umbilical cord for collaboration. Through "Blending Cultures, Building Strength" corporations can improve the condition of the world (Pusch, 2005). In addition, a depth of understanding of culture is important to the study of information technologies. Culture can influence the successful implementation and the use of technology. It plays a key role in managerial processes that may directly, or indirectly, influence information technology (Leidner & Kayworth, 2006, Abstract). Attributes include:

1. Training
2. Visible business goals and missions
3. Promotional materials to target clients in hard copy or electronically
4. Rewards and recognition for individuals who provide intelligence

5. Intelligence audit to get individuals to focus on their important intelligence issues

6. Location of potential clients and scheduling one-on-one discussions to heighten their sensitivity to the value of competitive intelligence (Hasanali et al., 2004, p. 14).

Business Social Responsibilities

Business for Social Responsibility (BSR) is a global network of membership organizations that focus on corporate social responsibility. It helps member companies achieve success in ways that respect ethical values, people, communities, and the environment. BSR provides information, tools, training and advisory services to make corporate social responsibility an integral part of business operations and strategies. BSR promotes cross sector collaboration and contributes to global efforts to advance the field of corporate social responsibility. BSR takes proactive measures against trade restrictions related to poor labor practices, reduces risk of legal action, manages reputation risk, and reduces the likelihood of negative campaigns and boycotts.

The questionnaire used in this study was based on inputs from various sources and was modified to fit the research questions. Such sources include Fortune 500, Global 500, O'Dell and Leavitt (2004), Hasanali and Leavitt (2003), Inter-University Consortium for Political and Social Research (ICPSR), National Science Foundation (NSF), and the World Bank. According to O'Dell et al. (2000), the factors that influence the increasing proliferation of collaboration knowledge management are market factors such as:

1. The need for speed and cycle-time reduction.
2. Revenue growth.
3. Competition for customer relationships.
4. Lost knowledge from turnovers, hiring, downsizing, and restructuring.
5. The fact that knowledge has a higher margin than product.
6. Globalization.

Other reasons for managing knowledge have to do with infrastructure capabilities, including:

1. The rise of powerful network, communication, database, and collaborative technologies.
2. The understanding of tacit and explicit knowledge.
3. Changing management and process skills (O'Dell et al., p. 2).

Six Major Strategies for Collaboration Knowledge Management Measurement

The "why" factor was explored with the First Choice Sales and Merchandising, Inc., Ampro Industries, Inc and Theraplex Company in Memphis, TN, to achieve the following six major strategies for collaboration knowledge management:

1. Collaboration Knowledge Management as a Business Strategy
2. Transfer of Collaboration knowledge and Best Practices
3. Customer-Focused Collaboration Knowledge
4. Personal Responsibilities for Collaboration Knowledge
5. Intellectual Asset Management
6. Innovation and knowledge Creation

Descriptive Analytical Tools

The questionnaire was administered to a sample of respondents to collect information and to assess the six strategies of the CKM of market dominance organizations. The study data were analyzed using a generalized linear model. A generalized linear model (GLM) is used to fit a Poisson regression for the analysis of count data and contingency table. Poisson regressions provided a categorical variable information (table of factors) used for the design model. GLM allows covariate-by-covariate and covariate-by-factor interactions, thus, a test of the homogeneity (goodness-of-fit). The incident of the dependent variables then modeled as occurring at a Poisson rate given the values of the predictor, and the resulting model help the estimable functions that correspond to the hypothesis test for each effect in the model.

Measurement Outcomes

It was anticipated that the measurement results would indicate the impact of CKM adoption on companies' value propositions, culture buildings, roles, information technology, approaches, and innovations. In addition, the results would discern how the level of transfer activities within users has helped them achieve business objectives. Example: To be the best in every activity and produce the best products at lowest cost and maximize profitability and shareholders' values. The results of Collaborative Knowledge Management (CKM) would be used in ranking of companies in such areas as:

1. Admired (Most Admired would have highest rank)
2. Increase in sales (i.e., sales per salesperson would be up 51 percent)

3. Positive operating profit
4. The speed of response to customers would be hours, not days or weeks
5. Growth of talented people would be increased, since employees are immersed in high intensity projects
6. The quality of response would have risen all over the world.

Criteria

All data of the components shown in Figure 3, the Collaborative Knowledge Management assessment alignment model (value proposition, culture building, roles, information technology, approaches, and innovations) of participating companies were classified in accordance with the 2002 North American Industry Classification System (NAICS), U.S. Office of Management, and Budget. This classification allows a direct comparison of economic data between participating companies and such big companies as FedEx, IBM, GE, GM, UPS, and others that have dominated the markets of their products. Establishments are classified into industries based on their primary activity. The following classifications criteria will enable CKM organizations to streamline processes to capture classify and disseminate content; increase the productivity of collaborative work; provide easier, faster access to information; and improve decision making:

Competitive Intelligence Characteristics of the CKM Organizations

1. Number of customers
2. Customer retention rates
3. Number of calls handled per day

4. Number of calls resolved in the first sitting
5. Cross-selling penetration
6. Revenue from existing customers; and

Product Leadership

1. Revenue from commercialization of new products
2. Percentage of revenue from new products
3. Time-to-market cycles
4. Ratio of successful to not-successful product launches
5. Number of launches per year; and

Operational Excellence

1. Cost per unit
2. Productivity and yields
3. Number of defects/poor quality
4. Production cycle time
5. Inventory carrying costs; and

Business Strategy Support

1. Employee Participation
2. Knowledge Sharing/Competition based on competencies
3. Service quality/ Brand development; and

Innovation

1. R&D
2. BPR

3. Recognition/Awards
4. Skills and competencies; and

Culture and Communication

1. Recognition/Awards
2. Benefits

Summary

Measurements indexes indicate competitive intelligence characteristics and collaboration global competencies. Researcher utilized a quantitative research approach and surveys to get a sense of general trends across the randomly selected companies. In addition, researcher used a quantitative research to capture the need for development of new management benefits of CKM that will enable economic recovery and sustained high quality of growth. A quantitative method was used to answer questions about relationships among six proposed variables. The independent variables (value proposition, culture building, responsibilities, information technology, approaches and assessment) were used to explain, predict, and control market dominance organization.

The Institutional Review Board (IRB) approved the application for the study and the approval number is 04-18-08-285935. Since the main goal of this particular research is to understand the effect of the above-mentioned business strategies on CKM, regression analysis as outlined in chapter 4 was used to identify influential business strategies. In chapter 5, appropriate recommendations for future research are provided. These recommendations are based on the analysis results of chapter 4 used to reject or fail to reject the null hypotheses.

CHAPTER 4: RESULTS

Introduction

This study evaluated strategies and facets of collaboration that enable efficient operation management and control, achieve a wider range of customers, and raise status in the global economy. Based on the research methodology explained in chapter 3, the statistical analysis and the results are presented in this chapter. The collection and analysis of data focused on the empirical assessments of CKM of market-dominant companies, with a special focus on the question of whether and how well the CKM was organized and how it helps companies to dominate the markets (Creswell, 1998).

Data Collection Procedures

Description of the Survey and Procedure

A survey was created using the following six sections. A detailed description of the survey can be found in Appendix B.

Section 1: Measurement items for value proposition – This section consisted of questions 1 through 6 and questions 7 through 34. Questions 6 through 34 are a modified version of APQC's (2000) passport to success on knowledge management.

Section 2: Measurement items for culture building- This section consisted of questions 1 through 20, a modified version of APQC's passport to success on knowledge management.

Section 3: Measurement items for roles and responsibility - This section consisted of questions 1 through 21, which are a modified version of APQC's passport to success on knowledge management.

Section 4: Measurement items for approaches - This section consisted of questions 1 through 9, which are a modified version of APQC's passport to success on knowledge management.

Section 5: Measurement items for information technology (IT) - This section, consisting of questions 1 through 20, is a modified version of APQC's passport to success on knowledge management.

Section 6: Measurement / assessment - This section consisted of questions 1 through 9, which are a modified version of APQC's passport to success on knowledge management.

E-mails with a link to the Web site for the survey questionnaires were sent to the targeted participant. The survey was administered by SurveyMonkey.com. SurveyMonkey.com gives the tools to create a survey, sends e-mail invitations, sends out links to surveys via e-mail, or posts the link on a website. The company collects and tracks responses, and sends follow-up reminders to those who have not responded.

Problems Encountered

There were no major problems encountered with the data collection procedures. However, there were slow responses. Hard copy had to be provided by mail to some on the road, and little time was available for the Internet access participants and non-Web-user participants. Follow up letters containing the questionnaire and stamped return-addressed envelopes were sent to non-respondents.

In addition, follow up e-mails and listserv postings were sent as reminders to non-respondents who were potential participants. Some participants did not answer some questions. The responses to questions in this survey were treated as confidential and anonymous.

Participation

While the researcher wanted to get as many participants as possible, he did not want to alienate those who did not reply to the survey invitations. Researcher mailed the survey to the participants' address. Participation in the survey was voluntary (see Appendix A). The data collection took longer than expected. Although we intended to do the survey for approximately 4 weeks, the data collection took approximately 8 weeks, because of low and slow response from the participants.

Response Rate

Surveys were administered to 120 participants. Survey response total was 80 participants (67% of those administered) and survey non-response was 40 participants (33% of administered). No incentives were provided. A total of 80 participants started the survey, and 70 completed it, representing a response rate of 87.5%. After reviewing the completed surveys, it was found that 70 participants completed all questions. A total of 80 surveys were retained for the final data set. Moreover, data reduction-factor analysis was used to identify the categories' principal components.

SPSS (2008) stated the following:

> Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance that is observed in a much larger number of manifest variables. Factor analysis can be used to generate hypotheses

> regarding causal mechanisms or to screen variables for subsequent analysis. Data for which Pearson correlation coefficients can sensibly be calculated should be suitable for factor analysis. Factor analysis model specifies that variables are determined by common factors (the factors estimated by the model) and unique factors (which do not overlap between observed variables). The computed estimates are based on the assumption that all unique factors are uncorrelated with each other and with the common factors. (Introduction section)

Data Analysis

As reported in chapter 3, the data collection instrument was used properly (confidentiality agreement) in the final survey as designed. Survey data were obtained and reported clearly with established standard procedures. The data collected are based on the characteristics of the six firms proposed and indicated in Figure 3. The survey provided information on the perceived six business strategy roles, including value proposition (VP), culture building (CB), responsibilities (RR), information technology (IT), best practices (AP), and competitive intelligence (AS) that define CKM concerning market-dominance organizations.

Coding Topics and Categories

McMillan and Schumacher (1997) suggested the following five methods researchers can use for classification systems to organize data:

1. The research question and foreshadowed problems or sub-questions
2. The research instrument such as interview guide
3. Themes, concepts, or categories used by other researchers in prior studies
4. Prior knowledge of the researcher
5. The data itself (p. 509).

Adopting this method, the researcher segmented data into categories and broke them down into smaller subcategories. The strategies were combined, using predetermined categories and adding discovered new categories. First, a sentence, a phrase, or single word that was significant or of interest to the study was analyzed. Second, all dimensions/properties to which the data and the imagined opposite situation can be compared were identified. Finally, the codes were developed (see Appendix A).

Participant Survey Results

The sample consisted of 30 female and 50 male employees at three small health and beauty aids (HBA) companies (Ampro Industries, First Choice, and Theraplex) based in Memphis, TN. All participants were volunteers who had responded to a survey questionnaire via mail and e-mail through SurveyMonkey.com. Because a sample of convenience was used, generalizations to the population were avoided. Therefore, "no answers" were omitted from the computations, and deductive reasoning was used to address each of the six hypotheses. The population parameters were estimated by sample statistics - a numerical value of the estimator obtained by sampling (Aczel & Sounderpandian, 2002, p. 213). The significant p – value (confidence level) of less than the specified level (normally 5%) was used. Although there were 80 respondents each table total might not equal 80 because some participants chose not to respond to all parts of the question. Several questions represent multiple measures as explained in the coded transcripts of CKM (see Appendix C).

The study data were analyzed and categorized using quantitative descriptive statistical tools. Descriptive statistical tools were used to summarize the collected data in a clear and understandable format. The researcher used combinations of graphical and numerical methods (Poison regression) to explore possible patterns and data characteristics. Tables and figures were presented in proper titles, with captions to show clear, self-descriptive, and informative displays of the results. The chapter concluded with a discussion of how the results of the study correspond to the hypotheses presented in this study.

Respondent Demographic Data

The participants were asked to provide information about age, gender and title in their organization. The results of the survey data from the study describing demographic characteristics are presented in Table 3. The participants' comparison of demographic characteristics is presented in Table 4. This study showed that fewer females (n=4) with bachelor's degrees and aged 51-60 years old are employed as analysts, while more males (n=6) between the ages of 18-40 with bachelor's degrees are analysts. However, from this population study (male=50 and female = 30), more female (n=9) who have bachelor's degrees are analysts than males (n=8) of the same conditions (i.e., the same age categories and employees of HBA companies). These results are inconclusive.

Table 3
Demographic Characteristics of the Participants

Characteristics	Number	Percent
Age		
18-30	11	14.30
31-40	19	24.70
41-50	17	22.10
51-60	21	27.30
60 over	9	11.70
Gender		
Female	50	63.30
Male	29	36.70
Current education level		
High School	12	15.20
Associates	12	15.20
Bachelor's	29	36.70
Master's	23	29.10
Doctorate	3	3.80
Current Title in the organization		
Engineer/Analyst	28	38.40
Manager	29	39.70
Senior Manager	5	6.80
Manager Director	5	6.80
V.P Plus	6	8.20

Table 4
Participant by Age, Gender and Rank in Organization

Age	Female	Bachelor & Analyst	Male	Bachelor & Analyst
18 – 30	2	2	9	3
31 – 40	4	1	15	3
41 – 50	9	2	8	0
51 – 60	12	4	9	0
60 over	2	0	2	0
Non respondent	1	0	3	2
Total	30	9	46	8

Research Questions

The research was guided by six questions:

1. What evidence is there that value proposition provides a rationale for effective knowledge transfer?

2. What happens when the community and culture are integral parts of corporate culture and umbilical cords for collaboration?

3. How do corporations manage their own explicit and institutionalized infrastructure helps in effective knowledge transfer?

4. What evidence is there that corporations are using that technology alone is sufficient for effective knowledge transfer?

5. What happens when corporations identify best practices to address effective knowledge transfer?

6. What happens are the thoughts and feelings of competitive intelligence to effective knowledge transfer?

Research Question 1

The first research question was concerned with the significant evidence that value proposition provides a rationale for effective knowledge transfer. In our analysis, researcher used Statistical Package for the Social Sciences (SPSS) graduate pack 16.0 for Windows. To obtain a more precise and objective analysis we used factor analysis (as explained in Response rate section) to identify variables that explain the pattern of correlations within a set of observed variables for value propositions. Communalities for the value proposition of the selected principal variables are shown in Table 5. Initial communalities are estimates of the variance in each variable accounted for by the entire selected principal variables. For principal factors extraction, this is equal to 1.0 for correlation analyses. Extraction communalities are estimates of the variance in each variable accounted for by the components. The higher communalities indicate that the extracted components represent the variables well. If any communality is very low in principal components extraction, we may need to extract another component. The variables selected and identified are business strategy (VP question 7); education (VP question 3); experience (VP question 4); position (VP question 5); best practices around operational excellence (VP question 33); collaborative knowledge management enhances brand (VP question 13); collaborative knowledge management enhances competence (VP

question 12); collaborative knowledge management enhances growth (VP question10); profit (VP question 11); and quality (VP question 9). The results account for variance shared among observations rather than among variables. Table 6 shows the factor score coefficient (betas predicting factors from variables) found in the component score coefficient matrix that may be used for further analysis.

Table 5
Value Proposition Communalities Variables

Variable	Initial	Extraction
VP3	1.00	0.97
VP4	1.00	0.63
VP5	1.00	0.65
VP7	1.00	0.73
VP9	1.00	0.63
VP10	1.00	0.82
VP11	1.00	0.79
VP12	1.00	0.86
VP13	1.00	0.75
VP33	1.00	0.70

Table 6
Value Proposition Component Matrix

	Component			
	1	2	3	4
VP3	0.14	0.12	0.25	0.93
VP4	0.25	0.46	0.55	-.25
VP5	0.12	0.51	0.60	-.11
VP7	0.06	-.72	0.45	0.03
VP9	0.78	0.03	0.08	-.10
VP10	0.90	-.03	-.05	0.05
VP11	0.87	-.20	-.07	0.02
VP12	0.90	-.22	0.04	0.04
VP13	0.83	0.04	-.18	-.15
VP33	0.28	0.66	-.40	0.15

Tests of Hypothesis for VP

The null and alternate hypotheses for VP are:

H0: There is no significant evidence that value proposition provides rationale for effective knowledge transfer.

H1: There is significant evidence that value proposition provides rationale for effective knowledge transfer.

To address the first hypothesis, the researcher used a complex samples hypothesis tests - generalized linear model (GLM) that can be used to fit a Poisson regression for the analysis of count data. Poisson regression test procedure tabulates a variable into categories and computes a chi-square statistics. This goodness-of-fit test compares the observed and expected frequencies in each category to test that all categories contain the same proportions of values. The larger values of the sample statistics $\chi 2$ results indicate greater differences between the proposed probability distribution. Asymp. Sig. of obtaining chi-square values have expected frequencies less than 5, and that each category contains researcher's selected proportion of values for value proposition.

Using Poisson to Analyze Business Strategy

Factor analysis identified principal variables. The model information is as following:

Dependent Variable: VP33

Model: (Intercept), VP3, VP12, VP10, VP11

Probability Distribution: Poisson

Link Function: Log

Table 7 shows the processing procedure and case- processing summary. Table 8 shows the summary measures for categorical data/ categorical variable information. Categorical variable information shows the frequency of the variable. Table 8 reveals that only 28.9% agreed to value proposition question 3 (VP3), 64.5% agreed to VP12 (CKM enhances competence) and VP10 (CKM enhances growth), and 56.6% agreed to VP11 (CKM enhances profit).

Table 7
Value Proposition Case Processing Summary

	N	Percent
Included	76	95.00%
Excluded	4	5.00%
Total	80	100.00%

Table 8
Value Proposition Categorical Variable Information

Factor		N	Percent
VP3	5	2	2.60%
	4	22	28.90%
	3	28	36.80%
	2	12	15.80%
	1	12	15.80%
	Total	76	100.00%
VP12	5	11	14.50%
	4	49	64.50%
	3	15	19.70%
	1	1	1.30%
	Total	76	100.00%
VP10	5	12	15.80%
	4	49	64.50%
	3	14	18.40%
	1	1	1.30%
	Total	76	100.00%
VP11	5	13	17.10%
	4	43	56.60%
	3	18	23.70%
	1	2	2.60%
	Total	76	100.00%

The goodness of fit statistic (Table 9) provides measures for comparing competing models. Additionally, the Value/*df* for the Deviance (=.21) and Pearson Chi-Square statistics (.18) gives corresponding estimates for the scale parameter. These should be near 1.00 for a Poisson regression; the fact that they are less than 1.0 indicates that fitting is dispersed model and is reasonable (Aczel & Sounderpandian, 2002, p. 151; SPSS Guide, 2007). The omnibus test indicated that a likelihood-ratio chi-square of the goodness-of-fit statistics (Table 9) provides measures for comparing competing models. The omnibus test indicated that a likelihood-ratio chi-square of 16.93, with a 12 degree of freedom and a significance value of .15 more than 0. 05 indicate that the model did not surpass the null model performance. When each of the models is tested for effect on another, they did not contribute to the model for significance values is more than 0.05.

Table 9
Value Proposition Goodness of Fit

	Value	*df*	*Value/df*
Deviance	13.00	63	0.21
Scaled Deviance	74.07	63	
Pearson Chi-Square	11.06	63	0.18
Scaled Pearson Chi-Square	56.00	56	
Log Likelihood	-129.22		
Adjusted Log Likelihood	-736.08		
Akaike's Information Criterion (AIC)	284.45		
Finite Sample Corrected AIC (AICC)	290.32		
Bayesian Information Criterion (BIC)	314.75		
Consistent AIC (CAIC)	327.75		

Dependent Variable: VP33
Model: (Intercept), VP3, VP12, VP10, VP11

Table 10 shows each term in the model is tested for whether it has any effect. Terms with significance values less than 0.05 have some discernible effect. Each of the main-effects terms contributes to the model. Therefore, each term in the model has significant evidence that value proposition provides a rationale for effective knowledge transfer.

Table 10
Value Proposition Tests of Model Effects

	Type III		
Source	Wald Chi-Square	*df*	*Sig.*
(Intercept)	329.59	1	0.00
VP3	3.23	4	0.52
VP12	3.18	2	0.20
VP10	3.82	2	0.15
VP11	7.31	3	0.06

The researcher used the chi-square distribution (non-parametric tests) to test goodness of fit hypothesis. The Chi-square test procedure tabulates a variable into categories and computes a chi-square statistic. This goodness-of-fit test compares the observed and expected frequencies in each category to test that all categories contain the same proportions of values. The larger values of the sample statistics $\chi 2$ results indicate

greater differences between the proposed probability distribution. Asymp. Sig. of obtaining chi-square values have expected frequencies less than 5, and each category contains researcher's selected proportion of values for value proposition.

Results and Interpretation

The overall test results of a test statistic (Wald Chi-Square) of F =7.31 were obtained with 3 degrees of freedom, and .06 test of proportion (p), and 80 the population size (N) (Wald Chi-Square (F) =7.31; $df = 3$; $p>.06$; N=80). Hypothesis H0 is rejected. There is no significant evidence that value proposition provides a rationale for effective knowledge transfer. Thus, H1 is accepted. There is significant evidence that value proposition provides a rationale for effective knowledge transfer.

Research Question 2

The second research question investigates the evidence that community and culture are integral parts of corporate culture and umbilical cords for collaboration. Factor analysis identified variables that explain the pattern of correlations among the set of variables studied for cultural building. Table 11 shows the identified culture building communalities.

Table 11
Culture Building Communalities

Factor	Initial	Extraction
CB19	1.00	0.82
CB11	1.00	0.78
CB3	1.00	0.80
CB2	1.00	0.65

Tests of Hypotheses

Hypothesis 1 tests indicated that there is no significant evidence that value proposition provides a rationale for effective knowledge transfer. To analyze Hypothesis 2, perceived culture building, Poisson regression was used.

Using Poisson regression to analyze CB components.

Factor analysis identified principal component factors shown in Table 12, which were used to conduct Poisson regression. The model information is as follows:

Dependent variable: CB Question 19

Model: (Intercept), CB Question 2, CB question 3, and CB Question 11.

Probability distribution: Poisson

Link function: Log

Table 12
Culture Building Component Matrix

	Component	
	1	2
CB2	0.70	0.41
CB3	0.51	0.73
CB11	0.81	-.36
CB19	0.77	-.45

Table 13 shows the case-processing summary. The case-processing summary shows that 33 (41.20%) of the participants were included and 47 (58.80%) participants were excluded from the culture building analysis. A total of 80 participants consisting of 30 women and 50 men responded to the survey questionnaire.

Table 13
Culture Building Case Processing Summary

	N	Percent
Included	33	41.20%
Excluded	47	58.80%
Total	80	100.00%

Poisson regression tests quantify categorical variable information. Categorical regression quantifies categorical data by assigning numerical values to categories that result in optimal linear regression equation for the transformed variables. Categorical variables separate groups of cases, and the technique estimates separate sets of parameters for each group. The estimated coefficients reflect how changes in the predictors affect the response. Prediction of the response is possible for any combination of predictor values (Aczel & Sounderpandian, 2002; McMillan & Schumacher, 1997). Table 14 shows the culture-building categorical variable information.

Table 14
Culture Building Categorical Variable Information

		N	Percent
CB2	5	8	24.20%
	4	19	57.60%
	3	2	6.10%
	2	4	12.10%
	Total	33	100.00%
CB3	5	5	15.20%
	4	19	57.60%
	3	7	21.20%
	2	2	6.10%
	Total	33	100.00%
CB11	5	1	3.00%
	4	20	60.60%
	3	1	3.00%
	2	6	18.20%
	1	5	15.20%
	Total	33	100.00%

The goodness of fit statistics Table 15 provides measures that are useful for comparing competing models. The dependent variable used is CB Question 19, and the model (Intercept) is CB Question 2, CB Question 3, and CB Question 11. The full log likelihood function is displayed and used in computing information criteria. The adjusted log likelihood is based on an estimated scale parameter and is used in the model fitting omnibus test. Table 15 shows the culture building goodness-of-fit. Additionally, a Pearson regression shows that the *Value/df* for the Deviance (=.14) and Pearson Chi-Square statistics (=.14) show that the models are underdispersed (<1).

The omnibus test is a likelihood-ratio chi-square test that compares the fitted model against the intercept-only model/the current model versus the null (in this case, intercept) model. The following information is used for case processing:

Dependent Variable: Employee collaborates and builds others', ideas recognized and rewarded (CBQ19).

Model: (Intercept), organization is team-based (CBQ2), employee receptive to learning opportunities (CBQ3), and manager encourages, and respects different opinions and suggestions for improvement (CBQ11).

The omnibus test indicated Likelihood Ratio Chi-Square (= 91.21) at degree of freedom (*df*= 10.00) and significant level (sig =.000). The significance value of less than 0.05 indicates that the current model out-performs the null model. Additionally, when each term in the culture building (model) was tested for any effect, the terms with significance values less than 0.05 have a discernible effect.

Table 15
Culture Building Goodness of Fit

	Value	*df*	*Value/df*
Deviance	3.02	22	0.14
Scaled Deviance	22.03	22	
Pearson Chi-Square	3.00	22	0.14
Scaled Pearson Chi-Square	22.00	22	
Log Likelihood	-50.14		
Adjusted Log Likelihood	-367.54		
Akaike's Information Criterion (AIC)	122.28		
Finite Sample Corrected AIC (AICC)	134.85		
Bayesian Information Criterion (BIC)	138.74		
Consistent AIC (CAIC)	149.74		

Results and Interpretation

The tests of model effects indicated the manager encourages and respects different opinions and suggests for improvement (CBQ11). These results have Wald Chi-Square (F = 56.670), and four degrees of freedom (df = 4), and significance value less than 0.05 with 80 population sample size (Wald Chi-Square (F) = 56.67; df = 4; $p < .05$; N = 80). Since the CBQ11 has a discernible effect, then hypothesis H0 is accepted. There is no significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration. Thus, H1 is rejected. There is significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration.

Research Question 3

Is there significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer?

Factor analysis identified the variables that explained the pattern of correlations within the set of selected variables for the roles and responsibilities. Table 16 shows the roles and responsibility communalities.

Table 16
Role and Responsibility Communalities

Factor	Initial	Extraction
RR8	1	0.94
RR9	1	0.74
RR10	1	0.55
RR16	1	0.17

Tests of Hypotheses

Hypothesis 2 tests indicated that there is no significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration. To analyze hypothesis 3 the perceived roles and responsibilities Poisson regression was used.

Using Poisson regression to analyze roles and responsibilities.

Factor analysis identified the principal component factors shown in Table 17. In addition, Table 18 shows the roles and responsibilities case processing summary. Table 18 indicated that 68 of 80 participants completed the survey questions (included) but 12 participants did not answer and are, therefore, excluded from the analysis of roles and responsibilities. In addition, the participants' answers to Question 9 (RR9) indicated that the teams are more strongly the primary champions of collaborative knowledge management (n = 8) than the senior management leader, as indicated in answers to

Question 10 (RR10) (n = 4) and the individuals (RR Question 8) (n = 3) (see Table 19). In contrast, as shown in Table 19, more individuals strongly disagree (n=4), and one senior management leader strongly disagrees (n=1). While many non-disagree among the teams that teams are the primary champions of collaborative knowledge management (n=0), the results are inconclusive, and more studies are needed to ascertain the findings. Additionally, Table 20 shows the goodness of fit in the differences (heterogeneity) among the tested models (RR8, RR9 and RR10) in the Poisson and binomial distribution. The results show that the observed variance is higher than the variance of a theoretical model; that is, the estimated scaled deviance is overdispersed (*Value/df* < 1.0) and being overdispersed is the more common practice (Schabenberger & Pierce, 2001, p. 356, & MacKenzie, Nichols, Pollock, Royle, Bailey, & Hines, 2006, p. 80).

Table 17 shows the summary of Poisson Regression Analysis for variables predicting perceived roles and responsibilities in CKM (N = 80).

Table 17
Perceived Roles and Responsibilities Component Matrix

	Component	
	1	2
RR 8	0.22	0.94
RR9	0.78	-.35
RR10	0.74	0.04
RR16	0.40	0.10

Note: RR number means roles and responsibility answers to the question number indicated.

The model information is:

Dependent variable: RR16

Model: (Intercept), RR8, RR9, RR10

Probability distribution: Poisson

Link function: Log

Table 18
Roles and Responsibilities Case Processing Summary

	N	Percent
Included	68	85.00%
Excluded	12	15.00%
Total	80	100.00%

Table 19
Roles and Responsibilities Categorical Variable Information

Factor		N	Percent
RR8	5	3	4.40%
	4	31	45.60%
	3	24	35.30%
	2	6	8.80%
	1	4	5.90%
	Total	68	100.00%
RR9	5	8	11.80%
	4	32	47.10%
	3	19	27.90%
	2	9	13.20%
	Total	68	100.00%
RR10	5	4	5.90%
	4	26	38.20%
	3	20	29.40%
	2	17	25.00%
	1	1	1.50%
	Total	68	100.00%

Table 20
Roles and Responsibilities Goodness of Fit

	Value	*df*	*Value/df*
Deviance	6.43	56	0.12
Scaled Deviance	57.02	56	
Pearson Chi-Square	6.31	56	0.11
Scaled Pearson Chi-Square	56.00	56	
Log Likelihood	-115.11		
Adjusted Log Likelihood	-1021.21		
Akaike's Information Criterion (AIC)	254.21		
Finite Sample Corrected AIC (AICC)	259.89		
Bayesian Information Criterion (BIC)	280.85		
Consistent AIC (CAIC)	292.85		

Table 21 shows the roles and responsibilities tests of model effects: a list of all the assumptions used in analyzing the results of the CKM that constitutes a statistical model for the roles and responsibility. The observed result is consistent with the model.

Table 21
Roles and Responsibilities Tests of Model Effects

	Type III		
Source	Wald Chi-Square	*df*	*Sig.*
(Intercept)	897.43	1	0.00
RR8	4.01	4	0.41
RR9	12.65	4	0.01
RR10	3.65	4	0.46

Results and Interpretation

The overall test results reflected: the Wald Chi-square statistic (3.65), the degrees of freedom for F-tests (4), and the p-value for the Wald Chi-square (.46) (Wald Chi-Square (F) =3.65; *df* = 4; *p*>.46; *N*=80). In the case of perceived roles and responsibilities, our research hypothesis is π □ .46 and the model is a binomial population with π = .46. If our sample result showed a result inconsistent with this model in such a way that the researcher believes π □ .46, we conclude that the treatment was effective; If not, that is, if we were to conclude that $\pi \leq 0.46$ is reasonable, we would be forced to conclude that the treatment is either not effective or counterproductive.

Thus, for this test H0 is rejected. There is no significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. Thus, H1 is accepted. There is significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer.

Research Question 4

The fourth research question concerned the possibility that technology alone is sufficient for effective knowledge transfer. The previous research question indicated that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. Factor analysis identified the variables that explain the pattern of correlations within a set of variables for the information technology. Table 22 shows the information technology communalities.

Table 22
Information Technology (IT) Communalities

Factor	Initial	Extraction
IT5	1.00	0.32
IT14	1.00	0.78
IT17	1.00	0.42
IT13	1.00	0.80

Tests of Hypotheses

Hypothesis 3 tests indicated that there is significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. To analyze hypothesis 4 perceived roles of IT Poisson regression was used.

Using Poisson regression to analyze Information Technology (IT)

The model information is:

Dependent variable: IT13

Model: (Intercept), IT5, IT14, IT17

Probability distribution: Poisson

Link function: Log

Table 23 shows the IT case processing summary; 66 participants completed the survey questions (included) and 14 did not answer the questions (excluded) on the IT category out of the total 80 participants surveyed. Table 24 shows that the responding participants agree that organization processes stimulate, encourage, and assist people in implementation of projects (IT14) (n=41) while 41 participants agree about customer care (IT17), and 21 participants agree that organization IT platform is user friendly and has scalability for the future. As shown in Table 25, goodness of fit shows the differences (heterogeneity) among the tested models (IT5, IT14, and IT17) in the Poisson and binomial distribution, and the results show the estimated scaled deviance is overdispersed ($0.05 < 1.0$).

Table 23
IT Case Processing Summary

	N	Percent
Included	66	82.50%
Excluded	14	17.50%
Total	80	100.00%

Table 24
IT Categorical Variable Information

Factor		N	Percent
IT5	5	5	7.60%
	4	21	31.80%
	3	27	40.90%
	2	11	16.70%
	1	2	3.00%
	Total	66	100.00%
IT14	5	5	7.60%
	4	41	62.10%
	3	15	22.70%
	2	3	4.50%
	1	2	3.00%
	Total	66	100.00%
IT17	5	5	7.60%
	4	40	60.60%
	3	16	24.20%
	2	3	4.50%
	1	2	3.00%
	Total	66	100.00%

Table 25
IT Goodness of Fit

	Value	*df*	*Value/df*
Deviance	2.70	53	0.05
Scaled Deviance	57.07	53	
Pearson Chi-Square	2.51	53	0.05
Scaled Pearson Chi-Square	53.00	53	
Log Likelihood	-105.77		
Adjusted Log Likelihood	-2236.01		
Akaike's Information Criterion (AIC)	237.54		
Finite Sample Corrected AIC (AICC)	244.54		
Bayesian Information Criterion (BIC)	266.01		
Consistent AIC (CAIC)	279.01		

Table 26 shows the maximum likelihood effects of the models (as an independent variable) for a statistically significant relationship with a dependent variable. The full log likelihood function used in the computation information criteria, and adjusted log likelihood, is based on estimated scale parameter and is used in the model-fitting omnibus test. When comparing the fitted model against the intercept-only model, the omnibus tests' likelihood ratio Chi-Square is 221.55 with 12 degrees of freedom and .00 significance. Table 26 shows the IT tests of model effects.

Table 26
IT Tests of Model Effects

	Type III		
Source	Wald Chi-Square	*df*	*Sig.*
(Intercept)	533.76	1	0.00
IT5	1.02	4	0.91
IT14	112.14	4	0.00
IT17	5.78	4	0.22

Results and Interpretation

The overall test results were (Wald Chi-Square (F) = 5.78; *df* = 4; *p* >.22; N = 80). Thus, H0 is accepted. There is no significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. There is no significant evidence that technology alone is sufficient for effective knowledge transfer. Thus, H1: There is significant evidence that technology alone is sufficient for effective knowledge transfer is not supported.

Research Question 5

The fifth research question concerns the evidence that best practice alone is sufficient for effective knowledge transfer. The previous discussions determined that technology alone is not sufficient for effective knowledge transfer. Factor analysis identified variables that explain the pattern of correlations within a set of observed variables for best practices (approaches). Table 27 shows the results.

Table 27
Approaches Communalities

	Initial	Extraction
AP1	1.00	0.69
AP2	1.00	0.61
AP3	1.00	0.71
AP4	1.00	0.49
AP5	1.00	0.62
AP6	1.00	0.55
AP7	1.00	0.81
AP8	1.00	0.21
AP9	1.00	0.62

Tests of Hypotheses

Hypothesis 4 indicated that there is no significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. To analyze hypothesis 5, approaches, Poisson regression was used.

Using Poisson regression to analyze approaches.

Factor analysis identified principal variables. The model information is as follows:

Dependent variable: AP7

Model: (Intercept), AP1, AP3, and AP9

Probability distribution: Poisson

Link function: Log

Factors with high scores (AP7, AP9, AP3, and AP1) were selected. Table 28 shows the case processing summary. Table 29, Approaches Goodness of fit, shows that AP7 have deviance = .072 and Pearson Chi-Square = .070. The Likelihood Ratio Chi-Square based on estimated scale parameter is 178.441; degrees of freedom are 12 which is less than .05 significant (*Sig*. =.000) when comparing the fitted model against the intercept (AP1, AP3, AP9). Table 30 shows approaches tests of model effects.

Table 28
Approaches Case Processing Summary

	N	Percent
Included	69	89.20%
Excluded	11	13.80%
Total	80	100.00%

Table 29
Approaches Goodness- of- Fit

	Value	*df*	*Value/df*
Deviance	4.04	56	0.07
Scaled Deviance	57.89	56	
Pearson Chi-Square	3.90	56	0.07
Scaled Pearson Chi-Square	56.00	56	
Log Likelihood	-109.94		
Adjusted Log Likelihood	-1577.14		
Akaike's Information Criterion (AIC)	245.88		
Finite Sample Corrected AIC (AICC)	252.50		
Bayesian Information Criterion (BIC)	274.92		
Consistent AIC (CAIC)	287.92		

Table 30
Approaches Tests of Model Effects

	Type III		
Source	Wald Chi-Square	*df*	*Sig.*
(Intercept)	283.54	1	0.00
AP1	18.19	4	0.00
AP3	8.19	4	0.07
AP9	14.18	4	0.01

Results and Interpretation

The overall test results were Wald Chi-square (14.18), with the degree of freedom (4), and p-value for the Wald Chi-square (.01) (Wald Chi-Square (F) =14.18; df = 4; $p <$ .01; N=80). Thus, H0 is accepted. There is no significant evidence that best practices alone is sufficient for effective knowledge transfer. Thus, H1: There is no significant evidence that a best practice alone is sufficient for effective knowledge transfer is rejected.

Research Question 6

The sixth research question concerns the evidence that competitive intelligence alone is sufficient for effective knowledge transfer. The previous discussions determine which approach to use for transfer of knowledge.

Factor analysis identified specific variables among the set of variables studied for competitive intelligence. The variables explain the pattern of correlations within a set of all observed variables for competitive intelligence. The identified variables are listed in Tables 31 and 32 using the extraction method.

Table 31
Measurement and Assessment Communalities

Variable	Initial	Extraction
AS1	1.00	0.48
AS2	1.00	0.55
AS3	1.00	0.53
AS4	1.00	0.58
AS5	1.00	0.62
AS6	1.00	0.58
AS7	1.00	0.73
AS8	1.00	0.63
AS9	1.00	0.65

Table 32
Measurement/Assessment/ Competitive Intelligence Component Matrix

Factor	Component
AS1	0.69
AS2	0.74
AS3	0.73
AS4	0.76
AS5	0.78
AS6	0.76
AS7	0.85
AS8	0.79
AS9	0.81

Tests of Hypotheses

Hypothesis 5 tests indicated that there is no significant evidence that best practices alone is sufficient for effective knowledge transfer. To analyze hypothesis 6, perceived roles of competitive intelligence, Poisson regression was used.

Using Poisson to analyze competitive intelligence.

Poisson regression was conducted to determine the importance of people skills relative to educational requirements in the competitive intelligence professional. The researcher used people skills as a dependent variable (AS8). In addition, the researcher

used organizations providing a process for the competitive intelligence (AS2), having clearly defined roles and responsibilities (AS3), and seeking skills that matched the process (AS7) as factors.

The model information is:

Dependent variable: AS8

Model: (Intercept), AS2, AS3, AS7

Probability distribution: Poisson

Link function: Log

Table 33 shows the measurement/assessment case processing summary; 61 participants completed the survey questions (included), and 18 did not answer the questions (excluded) on the measurement/assessment category out of the total 80 participants surveyed.

Table 33
Measurement/Assessment Case Processing Summary

	N	Percent
Included	61	77.20%
Excluded	18	22.80%
Total	79	100.00%

Table 34 shows that the responding participants (n = 8) strongly agree that organization function has clearly defined roles and responsibilities (AS3), and responding participants (n = 5) strongly agree that organization function determines the process skills it seeks (AS7); while responding participants (n= 4) strongly agree that organization has a policy for innovation and competitive intelligence (AS2).

Table 34 shows the categorical variable information. Note that 54.10 % of the surveyed participants “Agree” and 3.3% “Strongly Disagree” that functions has a process for how competitive intelligence providers will operate (AS2). In addition, 6.6% Strongly Agree that that functions has a process for how competitive intelligence providers will operate (AS2) and functions have clearly defined roles and responsibilities (AS3).

Table 34
Measurement/Assessment Categorical Variable Information

			N	Percent
Factor	AS2	5	4	6.60%
		4	33	54.10%
		3	18	29.50%
		2	4	6.60%
		1	2	3.30%
		Total	61	100.00%
	AS3	5	8	6.60%
		4	32	52.50%
		3	13	21.30%
		2	7	11.50%
		1	1	1.60%
		Total	61	100.00%
	AS7	5	5	8.20%
		4	33	54.10%
		3	17	27.90%
		2	4	6.60%
		1	2	3.30%
		Total	61	100.00%

Table 35 compares the goodness-of-fit statistics to the competing models (AS2, AS3 and AS7). Additionally, the *Value/df* for the Deviance and Pearson Chi-Square statistics estimates for the scale parameter is (0.08). Less than 1.0 indicates that fitting under dispersed model. Additionally, the omnibus test is a likelihood-chi-square test of the current model versus the null (in this case, intercept – AS2, AS3, and AS3)) model. - The Likelihood Ratio Chi-Square of 166.355 with degree of freedom (*df* = 12) have less than 0.05 significance (*sg*. = 0.00) which indicates that the current model outperforms the null model (accept). Table 36 shows the tests of model effects.

Table 35
Measurement/ Assessment Goodness of Fit

	Value	*df*	*Value/df*
Deviance	3.63	48	0.08
Scaled Deviance	48.61	48	
Pearson Chi-Square	3.61	48	0.08
Scaled Pearson Chi-Square	48.00	48	
Log Likelihood	-98.02		
Adjusted Log Likelihood	-1304.51		
Akaike's Information Criterion (AIC)	222.04		
Finite Sample Corrected AIC (AICC)	229.78		
Bayesian Information Criterion (BIC)	249.48		
Consistent AIC (CAIC)	262.48		

Table 36
Tests of Model Effects

	Type III		
Source	Wald Chi-Square	*df*	*Sig.*
(Intercept)	275.52	1	0.00
AS2	5.62	4	0.23
AS3	3.01	4	0.56
AS7	63.27	4	0.00

Results and Interpretation

The overall test results were: The Wald Chi-square statistic (63.27) has 4 degrees of freedom, and p-value for the Wald Chi-square is 0.5 (Wald Chi-Square (F) =63.27; *df* = 4; $p<.05$; N=80). Thus, H0 is accepted. There is no significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer. Thus, H1: There is significant evidence that a competitive intelligence alone is sufficient for effective knowledge transfer is rejected.

Summary

Research methods are concerned with data collection procedures and statistical analysis. The data collection focused on the empirical assessment of CKM of market-dominant companies. Surveys were administered to 120 participants. Survey response

total was 80 (67% of administered), and survey non-response was 40 participants (33% of administered). No incentives were provided. A total of 80 participants started the survey, and 70 completed the survey, representing a response rate of 87.5%. After reviewing the completed surveys, it was found that 70 participants completed all questions. A total of 80 surveys were retained for the final data set. In Chapter 5, the findings of the study are summarized. The conclusions from the analyses, the contributions of this study to the field of management science, and the implications for social change are presented. Specific recommendations for further research are presented.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this chapter is to summarize and discuss the research, conclusions, recommendations, and implications for social change. This study attempts to provide support that (a) CKM helps organizations to tap into the cumulative and individual knowledge of all their personnel, including customers, suppliers, and business partners and that (b) CKM is necessary for organizations to remain competitive and meet the challenges of global competition and emerging technologies. This study was conducted on three health and beauty aids distributors and manufacturers in Memphis, Tennessee: First Choice, Ampro, and Theraplex.

The results of this study contribute important new insights to the field of management science. The findings build on the literature in chapter 2; on the resource-based view of the firm and frameworks substantiating the CKM strategies; and on the faces of collaborative knowledge management that enable efficient operation management and control to achieve a wider range of customers, and raise status in the global economy. The game theory, group dynamic theory, and force-field analysis were employed.

Passport to Success, an instrument adopted by the American Productivity & Quality Center (APQC), was used by the investigator to examine and learn from First Choice, Ampro, and Theraplex CKM practices. Passport to Success provides a mechanism to gauge the companies' current status, understand the components (or landmarks) of a successful initiative in a specific area, and determine how to proceed

within their organization. Passport to Success consisted of four series of studies: Content management, competitive intelligence, the executive's role in knowledge management, and knowledge management. The identification and measurement of the CKM strategies are important for philanthropic organizations that focus on improving the material, social development, and spiritual welfare of humanity, especially through charitable contribution. According to Stein (n. d.), "Government organizations [collaborate] with peers in the public sector and partners in the no-profit and private sector to deliver improved services at lower costs evolving ecosystem" (Introduction section).

The identification and measurement of the key resource capabilities, or critical knowledge areas, are essential steps in assessing the collaborative knowledge management of the market-dominance company and determining strategy, particularly for market dominance enterprises. The value proposition is another critical factor for the enterprise that provides a unique business rationale for embarking on a knowledge-enabled change journey. According to O'Dell et al. (2000), "It enables enterprises to ensure that they devoted valuable resource to high-payoff areas that right knowledge is managed and transferred and that they get management's attention and funding" (p. 11).

APQC has studied and worked with organizations in a variety of functional areas. APQC has drawn on its experience and knowledge to produce APQC's Passport to Success book series - an instrument for the best practice processes. The instrument is modified and used in assessing the collaborative knowledge management of the market-dominance enterprise. The designed instrument consisted of 113 statements to which respondents were asked to indicate whether they strongly disagree, disagree, are neutral,

disagree, or strongly disagree. Values between 1 and 5 were assigned to the response categories, with a 5 representing strong agreement. The instrument is divided into six categories of hypothesis questions. The categories are (a) value propositions (VP), which consisted of 34 questions; (b) culture building (CB), consisting of 20 questions; (c) roles and responsibilities (RR), consisting of 21 questions; (d) approaches (AP), which consisted of 9 questions; (e) IT, consisting of 20 questions; and (f) measurement/assessment (AS), consisting of 9 questions. An individual's responses to these 113 questions were added together to produce a single scale score.

Summary of Findings

The purpose of this study was to investigate whether CKM enables innovation, distribution, and exploitation of knowledge to create and retain greater value from core business competencies, and the effect that six independent variables (value proposition, culture building, roles and responsibilities, information, technology, best practices, and competitive intelligence) may have on those perceptions. The differences and relationships that emerged may assist businesses with information that might help their decisions for future business planning.

Results from Hypothesis 1: Perceived Value Proposition.

There is significant evidence that value proposition provides rationale for effective knowledge transfer. This finding is consistent with other research in which organizations have more than one value proposition that leads them to knowledge management and sharing best practices (O'Dell et al., 2000, p. 15). O'Dell et al. noted, "Michael J. Burtha, director of knowledge networking at Johnson & Johnson, uses

knowledge networking to support the creation and delivery of new products and services to benefit its customers, as well as to support company growth and innovation" (p. 15). Porter (1980) devised the "five-forces" model, which provided an understanding of the structure of an industry and how it changes, by examining five competitive forces (entry barriers, bargaining power of buyers, bargaining power of suppliers, threat of substitute products or service, and rivalry among existing competitors) and supports the rationale for effective knowledge transfer. Drucker (1993) argued that businesses are entering "the knowledge society," in which "the basic economic resource" is no longer capital, or natural resources, or labor, but "is and will be knowledge," and where "knowledge workers" will play a central role" (p. 7).

Results from Hypothesis 2: Perceived Culture Building

There is no significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration. The finding is consistent with other research with similar findings. According to Nonaka and Takeuchi (1995), "Many Western firms preoccupied with the 'scientific' quantitative approach to strategy making and inflicted with the 'analysis paralysis' syndrome began to lose their dynamism and competitiveness in the early 1980s" (p. 42). Peters and Waterman (1982) observed that "excellent companies" promote the sharing of values among employees and create their own unique corporate culture that determines how a company thinks and behaves.

Schein (1985) argued, “There has to be enough shared experience to have led to a shared view, and this shared view has to have worked for long enough to have come to be taken for granted and to have dropped out of awareness. Culture, in this sense, is a learned product of group experience” (p. 7).

Nonaka and Takeuchi (1995) found the following:

> Organizational culture shed light on the organization as an epistemological system; in addition, they have underscored the importance of such human factors as value, meanings, commitments, symbols, and beliefs, and paved the way for more elaborate research on tacit aspects of knowledge. Furthermore, they have recognized that the organization, as a shared meaning system, can learn, change itself, and evolve over time through the social interaction among its members and between itself and the environment. (p. 42)

Chi-Square Tests for culture building indicate that all variables tested have significant evidence that community and cultures are integral parts of corporate culture and umbilical cords for collaboration (Asymp. Sig. (2-sided) is less than 5).

Results from Hypothesis 3: Perceived Roles and Responsibilities

There is significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. This finding is consistent with other research that found that successful organizations cannot manage or transfer their knowledge unless they have an explicit and institutionalized infrastructure in place. Studies and projects (e.g., O’Dell et al., 2000) discovered that knowledge management in best-practice organizations is usually described as a management responsibility, supported by a shared infrastructure. This infrastructure may include:

1. One or more knowledge champions, who provide the coordination, develop the shared vision, and offer facilitation and encouragement.

2. A common information technology platform.

3. Space-physical, cognitive, and social - to encourage sharing.

4. A corporate repository, such as library or a database (p. 25).

The analyst and upper management are the champions of collaborative knowledge management in the organization. Without a structured process and people with well-defined roles within that process, an organization's knowledge will not be used to its full potential. Thus, there is significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer.

Results from Hypothesis 4: Perceived Roles of Information Technology

There is no significant evidence that technology alone is sufficient for effective knowledge transfer. This finding is consistent with other research in which O'Dell et al. (2000) discovered that "Technology is necessary, but not sufficient to make knowledge transfer happen. Your goal should be 'Build it so they will come'" (p. 33). Davenport and Prusak (2000) asserted:

> Technological development and innovations have the potential to change market dynamics dramatically. But there are many pitfalls and limitations using information technology for knowledge work - trying to force fluid knowledge into data structures, for example, or focusing too much on the system and not enough on content. (p. 45)

Teece (1987, citing Polanyi, 1966) argued that "In the absence of intimate human contact, technology transfer is sometimes impossible" (p. 86). Thus, there is no significant evidence that technology alone is sufficient for effective knowledge transfer.

Results from Hypothesis 5: Perceived Roles Best Practices (Approaches)

There is no significant evidence that a best practice alone is sufficient for effective knowledge transfer. This finding is consistent with other research in which value proposition, culture, IT, and best practice are integral tools for effective knowledge transfer. The finding is consistent with O'Dell et al. (2000). According to O'Dell et al.:

1. A well-chosen transfer approach should include self-directed approach. The self-directed approach to a knowledge infrastructure essentially presents people with the technology and then sets them free to use it.

2. A well-chosen transfer approach should provide, in addition to self-directed components, a variety of knowledge management services and organized networks to assist in the transfer process.

3. A well-chosen transfer approach should provide all previous activities and services, plus it designates specific people to stimulate, encourage, and help with the transfer of knowledge and best practices, and often to even assist in implementation (p. 41).

Results from Hypothesis 6: Perceived Roles Measurements (Competitive Intelligence)

There is no significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer. This finding is consistent with other research that found that if an organization wants to know whether knowledge transfer efforts are achieving their objectives, they have to identify the business results that match their original value proposition and measure those.

According to O'Dell et al. (2000), "A practical approach to measurement is to measure the success of the projects and business processes that are being improved through the transfer of knowledge and best practices" (p. 81). Thus, competitive intelligence alone is not sufficient for effective knowledge transfer.

Conclusion

Based on the review of the literature and results of the study, several conclusions can be made. First, based on the current study sample, the investigator found significant evidence that value proposition provides a rationale for effective knowledge transfer. The APQC has studied and worked with more than 100 organizations that have defined clear value propositions for their business. They found that VP was linked to the growth through customer intimacy, product-to-market excellence, and operational excellence. According to George (2003):

> Authentic companies preposition value, and operate in democratic and collaborative manners. They value the importance of stewardship to the people they serve - customers, employees, shareholders, and communities. They measure their success by the extent to which they fulfill the needs and desires of these diverse constituencies. They are inclusive, welcoming talented people from highly diverse backgrounds and recognizing the strength and stability of differing opinions and diverse life experiences (p. 71).

Secondly, based on the current study sample, the investigator found that there is no statistically significant evidence that community and culture are integral parts of corporate culture or umbilical cords for collaboration. George (2003) argued that "values-centered cultures achieve peak performance, and succeed in the market against 'win at any cost' competitors" (p. 76). United Nations Educational, Scientific and Cultural Organization (UNESO) found that cultural diversity is a driving force of development,

not only in respect of economic growth, but as means of leading a more fulfilling intellectual, emotional, moral and spiritual life. Japanese, Chinese, German cultures help to build unbeatable products (cars) (Nonaka & Takeuchi, 1995).

Third, based on the current study sample, the investigator found significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. According to George (2003), "Medtronic founders Earl Bakken and Glen Nelson have been masters at getting to leading-edge physicians, understanding their innovative designs that convert their working with them to create the innovative designs that convert their ideas into unique products" (p. 134). This implies a dominant market.

Fourth, based on the current study sample, the investigator found that technology alone is not sufficient for effective knowledge transfer. Teece (1987, citing Polanyi, 1966) argued: "In the absence of intimate human contact, technology transfer is sometimes impossible" (p. 86).

Fifth, for this study, best practice alone is not sufficient for effective knowledge transfer. George (2003) stated, "A crucial element of a great organization is its diversity, not only in race and gender, but also in background and experience" (p. 97).

Finally, competitive intelligence alone is not sufficient for effective knowledge transfer. Nonaka and Takeuchi (1995) stated: "Creating new knowledge is not simply a matter of learning from others or acquiring knowledge from the outside. Knowledge has to be built on its own, frequently requiring intensive and laborious interaction among members of the organization" (p. 10). This applies to the collaborative knowledge

management (CKM) doctrine to build unique products, care for the customer, make a profit, and dominate the market.

Table 37 summarizes the results and interpretation of hypothesis testing. There is no significant evidence that value proposition provides rationale for effective knowledge transfer. There is significant evidence that community and culture are integral parts of corporate culture and an umbilical cord for collaboration. There is no significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer. There is significant evidence that technology alone is sufficient for effective knowledge transfer. There is no significant evidence that a best practice alone is sufficient for effective knowledge transfer. There is no significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer.

Table 37
Summary of Results and Interpretation of Hypothesis Testing

Research Hypotheses	Research Questions	Null Hypothesis	Alternative Hypothesis
Perceived Value proposition	Is there significant evidence that value proposition provides rationale for effective knowledge transfer?	Reject	Accept
Perceived Culture building	Is there significant evidence that community and culture are integral parts of corporate culture and umbilical cords for collaboration?	Accept	Reject
Perceived Roles and Responsibilities	Is there significant evidence that having an explicit and institutionalized infrastructure helps in effective knowledge transfer?	Reject	Accept
Perceived Information technology	Is there significant evidence that technology alone is sufficient for effective knowledge transfer?	Accept	Reject
Perceived Approaches	Is there significant evidence that best practices alone is sufficient for effective knowledge transfer?	Accept	Reject
Perceived Measurement	Is there significant evidence that competitive intelligence alone is sufficient for effective knowledge transfer?	Accept	Reject

Table 38. Summary Item Statistics of Reliability

Factor	Reliability (Cronbach's Alpha)	Variance extracted	Correlation variance
VP	.749	.017	.113
CB	.665	.186	.030
RR	.323	.025	.015
IT	.739	.011	.040
AP	.895	.002	.002
AS	.830	.005	.021

Implication for Social Change

The implication for social change for CKM is the effective way of driving change, managing knowledge, resources and commitment for results. CKM help to develop global business partnerships, spurred in part by the emphasis on collaboration and consensus on financing. These initiatives have crucial impact in research, evaluation and closing of company. CKM embraces a paradigm shift, a model of social change that allows researchers to isolate data, elaborate theories and determine strongly supported business strategy.

Lessons learned in participation/involvement, and coordination/collaboration among business partners is another implication for social change. The use of technology for collaborative work tasks, knowledge-sharing documentation management and e-learning will help develop strategic value proposition in support of and promoting organizational goal. Another implication of social change is the dynamic of social interaction. It ensures that the right people are in the right place to bring about needed changes and embraces the perspectives or expertise of consultants.

Recommendations

Assessing the CKM of the market-dominance organization seems counter-intuitive, but is a fundamental principle for success in a knowledge economy. In addition, according to Logan and Stokes (2004), “competition is inevitable, but organizations that do not master the art (and science) of collaboration are destined to extinction” (Introduction section). Based on the result of this study, several recommendations may be made.

First, this study was conducted using three small businesses (First Choice, Ampro, and Theraplex) and their employees and customers. For the results discovered in the study to have greater generalizability, other studies should be conducted using populations from other big companies as well. It would be beneficial for future studies to draw conclusions from a wider range of companies (e.g., healthcare, colleges, and government). An experimental study may be undertaken to determine what contributes to employee retention.

Second, multiple replication of this study is recommended to establish the basis for cross-case analysis and potential for even more compelling evidence and conclusions. In addition, multiple case studies ensure availability of data with an unlimited number of points at multiple locations. The documentation of detailed analysis operations of assessing the CKM of the market-dominance organization is thorough and can contribute to reliable repetition of the research methodology.

Third, research is recommended with not-for-profit organizations to determine how the identity and measures of a critical CKM area can be used to enhance the social contribution of such organizations. The research design may require adjustment to accommodate the competitive advantage implications.

Fourth, further research is recommended to develop a consulting model, approach, or practice to assist organizations in identifying and measuring a critical CKM area as well as using this information in management decision making.

Fifth, additional research is recommended using different business strategies for a critical CKM area and creation of a theoretical foundation for a business formula to identify a measurable return on critical CKM.

In summary, the results of these recommendations would be expected to build upon the theoretical foundation. This additional research would extend and enrich the findings and conclusions from this initial exploratory case study.

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APPENDIX A: SURVEY COVER LETTER AND CONSENT FORM

Letter of Cooperation from a Community Research Partner

Greg Cobbige
3380 Pearson Road
Memphis, TN 38118

January 7, 2008

Dear Mr. Ogunlade,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "Assessing the Collaborative Knowledge Management of the Market Dominance Organization" within the Theraplex Company. As part of this study, I authorize you to invite members of my organization, whose names and contact information I will provide, to participate in the study as interview subjects. Their participation will be voluntary and at their own discretion. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,
Greg Cobbie
President
Theraplex Company
Authorization Official
3380 Pearson Road
Memphis, TN 38118

CONSENT FORM

You are invited to take part in a research study of Assessing the Collaborative Knowledge Management of the Market Dominance Organization: In the new millennium markets, new technologies and emerging applications are constantly changing and, as a result, there are numerous mergers, acquisitions, and alliances. These advances have led to the increased production and distribution of knowledge in all areas and applications and collaborative knowledge sharing and management activities for better performing organizations. You were chosen for the study because you are Vice President. Please read this form and ask any questions you have before agreeing to be part of the study.

This study is being conducted by a researcher named Jacob Ogunlade, who is a doctoral student at Walden University, Minneapolis, MN. I am concerned with strategies and faces of collaboration at organization level at Theraplex Company.

Background Information:
The purpose of this study is to evaluate strategies and faces of collaboration that enable efficient operation and control that further enable wider range of customers, and raise the status in the global economy.

Procedures:
If you agree to be in this study, you will be asked to:

- Complete a questionnaire that will be e-mailed to you.
- They will be anonymously reported and would take about 20 minutes to fill out.
- The study will take about one month to complete.

Voluntary Nature of the Study:
Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the study. No one at the Survey Company will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. If you feel stressed during the study you may stop at any time. You may skip any questions that you feel are too personal.

Risks and Benefits of Being in the Study:
Findings of this study will impact social change and provide recommendations for changes to achieve a wider range of customers, and raise status in the global economy.

Compensation:
Thanks - you gifts will be mailed to you at the end of the study.

Confidentiality:
Any information you provide will be kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in any reports of the study.

Contacts and Questions:
The researcher's name is Jacob Ogunlade. The researcher's faculty advisor is Dr. Nikunja Swain, dissertation chair. You may ask any questions you have now. Alternatively, if you have questions later, you may contact the researcher via phone: (901) 743-2565 and email: ladecomputer@msn.com or the advisor at (803) 347 7679, and email: kswain@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

The researcher will give you a copy of this form to keep.

Statement of Consent:

☐ I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study.

Printed Name of Participant _____

Participant's Written or Electronic* Signature _____

Researcher's Written or Electronic* Signature _____

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

APPENDIX B: SURVEY INSTRUMENT

Collaborative Knowledge Management Survey

Purpose:

This survey examines issues surrounding collaborative knowledge management and organization performance. Your participation is critical to the success of the study. All responses will be kept anonymous and are not traceable to individual respondents. There are no right or wrong answers to the following questions. We are only interested in your assessment of your organization's activities. PLEASE COMPLETE THE ENTIRE QUESTIONNAIRE. If you have questions, please contact Jacob Ogunlade at jogun001@waldenu.edu

Confidentiality:

Responses to the questions in this survey are confidential and anonymous. Therefore, please do not write your name on this survey. The results from these surveys will be reported in aggregate form only (i.e. overall scores). To ensure the highest level of anonymity, the researcher will not use your information for any purposes outside of this research project. In addition, the researcher will not include your name or anything else that could identify you in any reports of the study.

Contacts and Questions:

The researcher's name is Jacob Ogunlade. The researcher's faculty advisor and chair is Dr. Nikunja Swain You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone: 901-743-2565 and ladecomputer@msn.com or the advisor at 803-347-7679 and nkswain@waldenu.edu if you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone is 1-800-925-3368, extension 1210

Thank you in advance for your participation!

1. Measurement Items for Value Proposition

1. What was your age on your birthday?

- 18-30
- 31-40
- 41-50
- 51-60
- 60 Plus

2. What is your gender?

- Female
- Male

3. What is your education level of your degree program?

- High School
- Associates
- Bachelors
- Master(s)
- Doctorate

4. How many years have you been with the company?

- 0-1
- 1-3
- 4-10
- 11-15
- 16-20
- 20 Plus

5. What is your title in the organization?

- Engineer/Analyst
- Manager
- Senior Manager
- Manager Director
- V.P Plus

6. Your firm's industry

- Transportation/Distribution
- Retail/Wholesale

- Service
- Healthcare
- Other

7. What is your organization's business strategy?
(Please circle the number of the response that best reflects your opinion to the following statements.)

- Quality
- Growth
- Profit
- Competence
- Brand

8. Are improvement projects under way to address these business strategies?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

9. Collaborative knowledge management could valuable enhance quality if they were accessible or used.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

10. Collaborative knowledge management could valuable enhance growth if they were accessible or used.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

11. Collaborative knowledge management could valuable enhance profit if they were accessible or used

- Strong Disagree
- Disagree
- Neutral

- Agree
- Strong Agree

12. Collaborative knowledge management could valuable enhance competence if they were accessible or used.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

13. Collaborative knowledge management could valuable enhance brand if they were accessible or used.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

14. The competitors/suppliers/customers engaged in Collaborative knowledge management.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

15. We contact competitors/suppliers/customers whose improvement project posters interest us

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

16. Our team feels very much a part of company strategies.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

17. We feel we have wasted a learning opportunity if we do not exchange improvement experiences with other team members.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

18. Our team tries to meet as many people as possible during expo/show cases, meetings, and seminars.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

19. There appear to be more differences than similarities between our organization and others in the CKM.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

20. Planning is your organization's core business process.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

21. Implementation is your organization's core business process

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

22. Design is your organization's core business process.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

23. Are improvement projects under way to address these functions and processes?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

24. Could valuable CKM enhance these processes if they were accessible?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

25. Are improvement projects under way to address these functions and processes?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

26. Could valuable CKM enhance these processes if they were accessible or used in growth?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

27. Could valuable CKM enhance these processes if they were accessible or used in profit?

- Strong Disagree
- Disagree

- Neutral
- Agree
- Strong Agree

28. Could valuable CKM enhance these processes if they were accessible or used in competence (IT)?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

29. Could valuable CKM enhance these processes if they were accessible or used in brand?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

30. Is CKM already explicitly part of those processes?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

31. Does your organization want to transfer knowledge and best practices around customers, their needs, and their expectations?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

32. Does your organization want to transfer knowledge and best practices around products/services, the speed of innovation, and speed to market

- Strong Disagree
- Disagree
- Neutral

- Agree
- Strong Agree

33. Does your organization want to transfer knowledge and best practices around operational excellence, improving internal processes, and employee skills and competencies?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

34. Stakeholders feel for the CKM initiatives?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

2. Measurement Items for Culture Building

1. Most percentage of people in your organization understand and appreciate the importance of sharing and transferring knowledge to your business strategy?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

2. Is your organization team-based?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

3. Employees receptive to learning opportunities?

- Strong Disagree
- Disagree
- Neutral

- Agree
- Strong Agree

4. Does the organization make a point to hire intellectually curious employees?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

5. Do employees feel their job is no less secure by sharing information and revealing mistakes made?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

6. Do employees identify more with the company than with their individual professional?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

7. Is the opportunity to explore new and innovative ideas a part of each employee's workday?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

8. Are employees given time to teach each other? Is teaching and mentoring a factor in promotions?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

9. Are settings to identify mistakes and lessons learned separate from individual evaluations?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

10. Do the major works through the organization enable employees to frequently interact?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

11. Do managers encourage and respect different opinions and suggestions for improvements?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

12. Do employees feel as if no business topic is too sensitive to discuss?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

13. Do employees feel that they can approach any level of manager within the organization?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

14. Do business units recognize that relevant information may come from other units and external sources?

- Strong Disagree

- Disagree
- Neutral
- Agree
- Strong Agree

15. Do manager encourage their employees to help employees in other units?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

16. Does senior management understand the reason for differences in values among units and subgroups?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

17. Do employees understand the long-term benefits to sharing what they know?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

18. Are employees who provide innovative ideas recognized or rewarded?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

19. Are employees who collaborate and build off others' ideas recognized or rewarded?

- Strong Disagree
- Disagree
- Neutral

Agree

Strong Agree

20. Are team-based performance and accomplishments recognized before individual accomplishments?

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

3. Measurement Items for Roles and Responsibilities

1. Analyst is the primary champions of collaboration knowledge management in your organization.

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

2. Publisher is the primary champions of collaboration knowledge management in your organization.

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

3. A network member is the primary champions of collaboration knowledge management in your organization.

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

4. Knowledge manager is the primary champions of collaboration knowledge management in your organization.

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

5. A knowledge organizer is the primary champions of collaboration knowledge management in your organization.

Strong Disagree
Disagree
Neutral
Agree
Strong Agree

6. IT is the primary champions of collaboration knowledge management in your organization.

Strong Disagree
Disagree
Neutral
Agree
Strong Agree

7. Staff in networks is the primary champions of collaboration knowledge management in your organization.

Strong Disagree
Disagree
Neutral
Agree
Strong Agree

8. Individual is the primary champions of collaboration knowledge management in your organization.

Strong Disagree
Disagree
Neutral
Agree
Strong Agree

9. Teams are the primary champions of collaboration knowledge management in your organization.

Strong Disagree
Disagree
Neutral
Agree
Strong Agree

10. A senior leader is the primary champions of collaboration knowledge management in your organization.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

11. Senior leaders share vision and provide coordination to champion collaboration knowledge management.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

12. Senior leaders facilitate and encouragement to champion collaboration knowledge management.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

13. The more value they see in their involvement, the more they tend to participate.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

14. Members in your organization are typically functional counterparts from various parts of the organization.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

15. Members in your organization sharing best practices and lessons learned to improve the individual and collective subject matter expertise of the group.

- Strong Disagree

- Disagree
- Neutral
- Agree
- Strong Agree

16. People in your organization interact with others in face-to-face meeting, group e-mail, intranet, project, and conferences and workshop.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

17. People in your organization assisted and intervened with others to make transfers happen and get results in a timely manner.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

18. The infrastructure addresses problems with the flow and implementation of knowledge.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

19. Our organization has human network systems that support all aspect of collaboration knowledge management (e.g., capturing, sharing, and transferring)

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

20. Our organization use designated people, such as facilitators or internal consultants, to support knowledge management initiatives.

- Strong Disagree

- Disagree
- Neutral
- Agree
- Strong Agree

21. Help desks information is widely known and publicized within the organization.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

4. Measurement Items for Approaches

1. Collaboration knowledge management is important to our organization strategy?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

2. Our organization develops tools to disseminate intelligence products services and practices?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

3. Our organization activated information technology as the conduit of intelligence distribution?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

4. Our organization focus attention and effort on current customers to maximize their satisfaction

- Strong Disagree
- Disagree

Neutral

Agree

Strong Agree

5. Our organization provide guidance and suggestions on the use of the purchased product or service to our customers.

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

6. Our organization analyze customer feedback and respond quickly to customer questions and complaints.

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

7. Our organization relay information concerning customers' perceptions of value shared with those responsible for designing a product or service.

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

8. Our organization put efforts to improve external service quality emphasize effective recovery from service errors in addition to providing a service right the first time?

Strong Disagree

Disagree

Neutral

Agree

Strong Agree

9. Our organization use cross-functional teams composed of individuals with varied background in the company to more innovative decisions than an individual acting alone.

Strong Disagree

Disagree

- Neutral
- Agree
- Strong Agree

5. Information Technology

1. The technology group is supporting your organization CKM initiatives.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

2. Our organization has an IT model that supports our CKM initiatives.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

3. Our organization has technology that links all the employees of the organization to one another and to all relevant internal and external data and information.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

4. Our organization has common IT platforms, navigation tools, security, and protocols.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

5. Our organization IT platform has the greatest ease of use and scalability for the future.

- Strong Disagree
- Disagree

- Neutral
- Agree
- Strong Agree

6. Our organization allows the off-the-self applications.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

7. Our organization IT users provides a standard process taxonomy for sharing and transferring knowledge and best practices.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

8. In our organization, people contribute to and use the system.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

9. In our organization, people responsible for monitoring the inputs in to the systems.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

10. CKM is important to your organizational strategy

- Strong Disagree
- Disagree
- Neutral
- Agree

- Strong Agree

11. In our organization explicit knowledge (formal/codified) is best transferred through technological solution, while tacit knowledge (informal/un-codified) is often best transferred via people.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

12. In our organization, the knowledge worker link person to information from their desktops

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

13. In our organization the process or the content (e.g. work of project teams, peer information exchange, new product ideas, and technical tips) fit the way we work

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

14. In our organization, the process and the content of information stimulate, encourage, and assist people in implementation.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

15. In our organization, management recognized employee for good performance.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

16. We asked thoughtful and open-ended questions to uncover in-depth, high-quality information from the customer.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

17. Gaining agreement on what the customer has said by listing important points, pulling together related issues, summarizing the customer's statements, and checking for the customer's agreement.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

18. In our organization, we provided information about yourself and your organization to create a positive image of our organization, its products, and its services.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

19. We provided to the customer clear recognized products/services benefits that address his or her previously expressed needs.

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

20. CKM is important to your organizational strategy

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

6. Measurement /Assessment of CKM

1. Does your function have one or more senior-level executives to act as a key competitive intelligence champion?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

2. Does your function have a process for how competitive intelligence providers will operate?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

3. Does your function have a clearly defined roles and responsibilities?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

4. Has your organization defined competitive intelligence and determined whom it will serve?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

5. Does your function have a seamless intelligence communication strategy within the organization?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

6. Has your function determined the types of knowledge that are more valued?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

7. Has your function determined the process skills it seeks?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

8. Has your function determined the importance of people skills relative to educational requirements in its competitive intelligence professionals?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

9. Has your function identified the roles of champions, networks, IT support, and training relative to competitive intelligence?

- Strong Disagree
- Disagree
- Neutral
- Agree
- Strong Agree

CODED TRANSCRIPTS OF CKM

Value Proposition implies sustainability, reuse of existing component, and engagement with end users)

Sustainability factors

VP	{ Measurement items value proposition Section 1: Questions 1 – 34}
VP3	{ education level of your degree program}
VP4	{ years you have been with the company}
VP5	{ title in the organization}
VP7	{ organization's business strategy}
VP9	{ collaborative knowledge management enhances quality}
VP10	{ collaborative knowledge management enhances growth}
VP11	{ collaborative knowledge management enhances profit}
VP12	{ collaborative knowledge management enhances competence}
VP13	{ collaborative knowledge management enhances brand}
…	
VP33	{ organization transfer knowledge and best practices around operational excellence}
CB	{ Measurement items for culture building Section 2: questions 1 – 20}
CB2	{ organization is team-base}
CB3	{ employee receptive to learning opportunities}
CB11	{ manager encourage and respect different opinions and suggestions for improvement}
CB19	{ employee collaborate and build others' ideas recognized and rewarded}

RR	{ Measurement items for roles and responsibilities Section 3: Questions 1- 21}
RR8	{ individual is the primary champions of collaborative knowledge management}
RR9	{ teams are the primary champions of collaborative knowledge management}
RR10	{ senior leader is the primary champions of collaborative knowledge management}
RR16	{ employee interact with others from other organization at conferences}
IT	{ information technology Section 4: Questions 1- 20}
IT5	{ organization IT platform is user friendly and has scalability for future}
IT 13	{ organization process match the mission}
IT14	{ organization processes stimulate, encourage and assist people in implementation}
IT17	{ Customer Care}
AP	{ Measurement items for approaches Section 5: Questions 1-9}
AP1	{ collaborative knowledge management is important to organization strategy}
AP2	{ organization develop tools to disseminate intelligence products, service and practices}
AP3	{ organization activated IT as the conduit of intelligence distribution}
AP4	{ Organization focus attention and effort on current customers to maximize their satisfaction}
AP7	{ organization shared customers' perceptions of value with designing team}
AP9	{ organization involving the right people in developing the work group's strategy}

AS { Measurement/Assessment of CKM Section 6: Questions 1-9}

AS2 { Organization has policy for innovation and competitive intelligence}

AS3 { function has clearly define roles and responsibilities}

AS7 { function determined the process skills it seeks}

AS8 { organization recognized, rewarded and matched people skills relative to education achievement}

Reuse of existing component

BPOE { best practices around operational excellence VP33}

XIE { exchange improvement experiences with other team members VP17}

Engagement with end users

ECKM { engaged in collaborative knowledge management VP14}

CCSC { contact competitors/ suppliers whose improvement project interest us VP15}

TMMP { team meet as many people during seminars VP18}

APPENDIX C: LIST OF ACRONYMS

Benefits (BE)
Best practice (BP)
Business for Social Responsibility (BSR)
Causal factor (C)
Chief financial officer (CFO)
Collaborative knowledge management (CKM)
Competitive intelligence (CI)
Knowledge management (KM)
Knowledge Management and Organization Learning (KMOL)
Manager Director (MD)
National Science Foundation (NSF)
New United Motor Manufacturing Incorporation (NUMMI)
North American Industry Classification System (NAICS)
Responsibilities (PR)
United Nation (UN)
Value proposition (VP)

CURRICULUM VITAE

Jacob Olusola Ogunlade

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Objective

Seeking a position where I can utilize my educational background and work experience to manage a defined business plan for greater efficiency.

Education

January 2004– August 2009	Walden University Ph. D. Information Systems Management.	Minneapolis, MN
August 2007- April 2008	University of Memphis M. Sc Mechanical Engineering	Memphis, TN
June 2002 – August 2003	Dowling College MBA General Management Certificate Information Systems Management	Long Island, NY
1987 – 1991	University of Memphis B. Sc. Mechanical Engineering.	Memphis, TN
1978 – 1980	State Technical Institute Associate Degree Mechanical Engineering. Associate Degree Industrial Engineering	Memphis, TN

Experience

August 2007 – May 2008 **University of Memphis** Memphis, TN
Internship-Lab Instructor
Mechanical Engineering Department: Teacher Assistant

- Teach methods, media designed to reach mechanical, and civil engineering students to allow each student the opportunity to master the objectives of the Fluids Mechanics course
- Teach form and style format according to APA and MLA guides
- Divide into groups and assign experiment to the groups
- Grade the Lab reports and feedback to the students

- Maintain control of the class
- Award grades and submit grade to college

Jan 2000 – **Present** **First Choice Sales & Merchandising Co.** Memphis, TN
Computer Support

- Design, install, and support networking & systems management
- Design user interface in software programs that incorporate easy-to-follow logical progression of steps
- Analyze vast amounts of data into relevant financial statistics
- Research a detailed marketing study, help to refocus annual marketing plan
- Operate a variety of software programs including most major authoring systems, SPSS, SQL, Access, Excel, Word, Power Point, accounting packages

July 1999–Present **Federal Express** Memphis, TN
Flight Dispatch Report Scheduler/Memphis International Airport - Hub

- Hub Agent- assure the correctness of FDRs and other management issues around the inbound and outbound flights
- Train employees
- From Control Room using CINCS to find the earliest inbound gate assignments, and container, printed it and send it to the crew assigns for the task.
- Cons Tags Runner
- Scanning the Master Container Tags from the inbound aircraft

Gate Captain/ Material Handler/ Sr. Manager's Office Assistant

- Safety audits the offloading and outbound of aircraft conducted by offloading teams.
- Prevention of aircrafts strikes and unsafe acts that may occur doing this process of offloads.
- Making sure all employees are following all safety rules of the ramp.
- Provide audit forms on nightly basis to support this procedure.
- Prepare flights over parameters recaps and First Express reports for my senior for senior managers meeting and control room.
- Type promotion letters and the team manuals for the managers.
- Design forms and database for reports.
- Train new employees

August 1993- present **Lade and Company** Memphis, TN
Computer Consultants (Self employed)

- Designing and building computers for company and personal needs at reliable cost.
- Reduce or eliminate Avoidable Costs
- Installing, configuring, and troubleshooting hardware(s) and software.

- Resell general business hardware & pre-packaged software and providing computer contracts services.
- Design, install, and support networking & systems management.
- Implemented training course for new computer users — speeding profitability.

August 1991-June 2001 **After Effects Beauty Supplies** Memphis, TN
Administrative Assistant

- Manage staffs of ten employees.
- Prepare payroll, order supplies, answer question about products, and implementing training for new recruit and sales representatives.
- Database administrator.(analyze, weekly and monthly sales and reports)
- Expanded sales to include mass market accounts.

December 1991-December 1993 **National Civil Rights Museum** Memphis, TN
Laser Operator

- Operating and maintaining the Skylight 200 laser machine.
- Provide technical assistance for operation of the audiovisual equipment for the museum.

January 1985-June 1991 **Glasteel TN Inc** Collierville, TN
Mechanical Engineering

- Design molds for corrugated and reinforced fiberglass laminates.
- Computer based mechanical design and AutoCAD for drafting.
- Testing products and developed new ones.
- Quality control.
- Computer color matching, and supervise the tooling department.
- Responded to customer's questions concerning the engineering of the product materials.

January 1980-June 1983 **Southeastern Plastic Container Co** Arlington, TN
Industrial Engineering

- Evaluate tool changes and establish tool schedules.
- Prepare necessary tool stop- work orders.
- Design new tools or change.
- Establish new methods and operation sheets.
- Evaluate time – standard changes and implement new standards as required

Certification

- Microsoft Certified Professional (MCP),
- A+,
- Certification of Engineering Technicians, and
- The American Institute of Industrial Engineers
- Ground Services Equipments (GSE) Operator's Permit (1999)
- Combined B-727 / MDD GSE (2000)
- Airbus GSE Differences (2000)
- B-727 Transfer Vehicle Nosedock

Computer Skill

- Engineering Design- AutoCAD

Programming

- Operating Systems
- C ++, Pascal, Unix, Microsoft SQL,
- Statistics/Research- SPSS, SAS, DB, Excel
- Software Engineering - Object Oriented (OO), Assembly Language, and Complier principles
- Microsoft Office Professional Suite 2003- Word, Excel, Access, Power Point, Publisher, and Outlook
- **Management -**Microsoft Project 2003

- Research Writing and Publication - APA Style Writer v.5.1, Endnotes, Reference Manager v. 11