

THE RELATIONSHIP BETWEEN RETURN ON PROFITABILITY AND COSTS OF
OUTSOURCING INFORMATION TECHNOLOGY TECHNICAL SUPPORT

By

Segun Odion

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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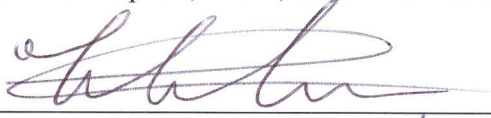
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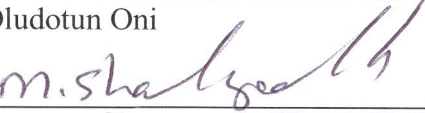
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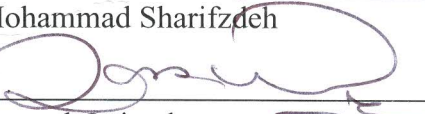
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ABSTRACT

The purpose of this quantitative correlational research study was to examine the relationship between costs of operation and total return on profitability of outsourcing information technology technical support in a two-year period of outsourcing operations. United States of America list of Fortune 1000 companies' chief information officers (CIO) was e-mailed to participate on online survey questionnaires. Out of 77 participants, 40% had outsourced to reduce cost. Forty-nine percent of 77 respondents have had two or more years of outsourcing experience. Six sets of hypotheses were formulated and tested using Pearson's correlation coefficient to test the correlation between costs of operation and total return on profitability. The results indicated a positive relationship between cost of operation (CP) and total return on profitability (TROP).

DEDICATION

I dedicate this dissertation to my family, and friends particularly my wife Bolatito M. Odion for her prayers, patience, support and understanding even as I spent most times away from her while I complete my doctoral assignments, And to my son Emmanuel Oluwaseyi Odion, for his words of inspiration. I am grateful to God without whom I would not have accomplished academic goals, and for giving me the strength and grace to overcome and complete my research.

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Chapter 1: INTRODUCTION

Globalization caused American businesses to send high-paying jobs to outsource countries (Hira & Hira, 2005, p. 1), and outsourcing was one method implemented to further this cause of action. A 2004 report predicted that 830,000 jobs was lost due to outsourcing to outsource countries, with about \$151 billion in salaried jobs (i.e., approximately 3.5 million jobs) to be affected by outsourcing by the year 2015 (Hira & Hira, 2005). Because globalization changed the way the economy of the world operates, United States business corporations used this phenomenon to justify outsourcing Information Technology related jobs to foreign countries like India, Mexico, and China. With outsourcing becoming a global trend for economic reasons, it was very crucial to examine the relationship between return on profitability and the cost of operations when corporations in the United States of America outsourced Information Technology.

Engardio (2003) described a picture of a man dressed in a business suit on a cover of business week magazine hanging on to a cargo on a ship for dear life because his job was to be shipped to a foreign country that provided cheaper labor, the article then asked the question, “Is your job next?” (p. 1). Dr. Gregory Mankiw, one of President George W. Bush’s economic advisers, was asked during a debate “if outsourcing is good or bad for the economy.” Dr. Mankiw answered that the practice of outsourcing of American jobs to a lower paid workforce would be good for American business organizations in the long run. Dr. Mankiw’s response caused such enthusiasm in the corporate business world that corporate America suddenly became interested in the idea of exporting well-paid American jobs overseas, ignoring the American workers, and their future because of employer’s decision to outsource (Hira & Hira, 2005).

According to LaCava, Rothhaar, and Saudargas (1999), it was necessary to identify all types of IT work that could be operated locally, effectively and internally, rather than from an outsource location, so that companies could reduce costs, increase savings, and remain competitive in the global economy. Datz (2004) remarked that a survey of 101 chief information officers (CIOs) showed that 86% of business organizations had already participated in the outsourcing of Information Technology related work. Hira and Hira (2003) cited an American outsourcing company CEO, who said anything at work that could be sent on the wire could be outsourced (p. 3). However, the cost of operations (i.e., the extra costs incurred by American businesses in the process of outsourcing IT technical support) tends to undermine ongoing outsourcing processes. These costs occurred in excess of the contract amount that was awarded to an outsource supplier on an outsourcing contract or the cost of operating an outsource facility. Some examples of expenses contributing to the cost of operations are search and contract, reorganization, infrastructure changes, knowledge transfer, and governance expenses.

Driven by competitive pressures to cut costs in order to improve performance, organization leaders needed to know if the economics of outsourcing IT work was beneficial, given the risks and the impact on other costs associated with outsourcing endeavors. Now the question to ask was whether outsourcing leads to profitability as measured by “return on profitability ratio” in the initial 2 years of operations. The study concentrated on the consequences of financial investment on the cost of operations for 2-year period of outsourcing IT technical support work. The variables examined included return on profitability realized from outsourcing which constituted dependent variables while cost of operations constituted independent variable. Outsourcing of information technology technical support continued with reduction in the opportunities to develop technical skills in the United States. The dynamics of

outsourcing within the field of information technology challenges IT business operations to lower cost as organizational leader's derived new strategies that enhanced firm's performance and prosperity (Welsum & Reif, 2005). The research study methodology employed a quantitative, descriptive and correlational approach to investigate the relationship between return on profitability and costs of outsourcing information technology technical support. Chapter one included background of the problem, followed by the research questions and hypotheses of the study and a summary of the theoretical framework. The framework included Organizational theory and international management influences on cost of operation theory. Chapter one also included definitions of related terminology and details pertaining to the limitations and assumptions of the research study.

Background of the Problem

The trend of global job outsourcing have not only increased sharply in the last decade, but have also become a subject of concern for people nearly every levels of society: legislators, public- and private-sector employees, collective-bargaining entities, businesses, consumers, government, academia, human-resource units, the media, and researchers. Outsourcing was a subject of debate between the Democratic presidential candidate John Kerry and serving Republican president George W. Bush during the presidential election (Blustein, 2004). The political and social implication resulting from outsourcing was that well-paying American jobs are moving to other countries. The issue of outsourcing information technology technical support, which included outsourcing of activities, functions, tasks, and processes in areas of configuring computer systems, customizing and automating-payroll software application systems, configuring and maintaining database systems and web support from outside the home country, is controversial. Pfannenstein and Tsai (2004) explained that although outsourcing

lower costs, the possibility exists that outsourcing created new expenses for business organizations. These expenses included costs relating to seeking and engaging supplier of services, legal and contractual costs of operations, knowledge transfer, and governing, which also contributed to what was referred to in the study as cost of operations. In addition, Pfannenstein and Tsai (2004) posited that operating a foreign business through outsourcing possibly could result to a negative effect on total return on profitability anticipated in the initial 2 years of operations.

The cost of operations, especially those arising from cost of operations could reduce the potential return on profitability connected with taking advantage of the lower salary rates of foreign IT workers in comparison to the salary rates of American-based IT workers. The likelihood exists that most of the costs of operations incurred in an outsourcing operation could also be found in outsourcing operations within America. A major distinguishing factor between in-house and outsourcing operations is return on profitability (Verma, 2000). Corbett (2004) stated that returns on profitability were clearly the most compelling driver for outsourcing at this moment. The largest portion of these returns on profitability typically comes from salary differential between employees in highly developed Western countries and those in the emerging economies, such as Asia and Eastern Europe (p. 42). Consequently, greater geographical distances and cultural differences between American and foreign outsourcing companies could contribute to the differences in pending costs of operations.

Statement of the Problem

Outsourcing was causing a disturbing and unfavorable impact on American workforce, thereby affecting the American economy (Frauenheim, 2004); the general problem was that U.S. business organizations were driven by pressure to reduce cost in order to maintain a competitive

edge in a global economy and outsourcing was one method that have been implemented to ship American jobs to outsource countries. Specifically, U.S. corporations were outsourcing information technology technical support jobs to foreign countries; therefore, Chief information officers of U.S. corporations need to decide whether or not return on profitability from outsourcing IT technical support jobs outweigh cost of operations. American business organizations pursuing outsourcing strategies estimated their total return on profitability over time and made informed decisions regarding proposals to continue outsourcing IT technical support jobs (Carmel & Tjia, 2005; Corbett, 2004).

The justification for studying this problem was the lack of scholarly research to determine whether outsourcing led to return on profitability or if the extra outsourcing cost of operations was indeed smaller than the wages and benefits disparity. According to Carmel and Tjia (2005), several consulting companies conducted surveys providing varying estimates of their return on profitability from outsourcing, but these estimates and surveys was viewed with great caution because their methodologies was not rigorous (p. 40). Carmel and Tjia noted that no research study had examined broadly companies outsourcing strategy and displayed a comprehensive result that compared their return on profitability (p. 40). The data from the study could provide an additional resource to help leaders in their decision making relating to outsourcing IT technical support services. Outsourcing decisions are strategic in nature; they affect the company's internal structure, management design, and processes. They could also affect the company's public image and reputation. The decisions are also global in scope, affecting social and political stakeholders. The study proposed was an attempt to present a comprehensive comparison between total return on profitability and costs of operation realized from outsourcing IT technical support by American business organizations.

Specifically, U.S corporations CIO's are at risk whenever poor decision to outsource was made unless the relationship between cost of operations and return on profitability of outsourcing ventures was clearly defined during the decision-making process about external or in-house outsourcing of information technology activities. The proposed research study utilized a quantitative correlational method to investigate the relationship between return on profitability and costs of outsourcing information technology technical support. The quantitative, descriptive, and correlational study involved a survey analysis of fortune 1000 companies outsourcing operations over a two-year period to determine if return on profitability was achieved.

Purpose of the Study

The purpose of the current research was to apply quantitative, descriptive, and correlational analysis to examine whether a relationship exists or not between cost of operations and return on profitability of outsourcing ventures assessed during a 2-year period following the outsourcing of IT technical support by American business organizations. The quantitative method was appropriate because this method could be used to examine correlations between cost of operations as an independent variable and return on profitability as a dependent variable, if such relationship exists. Data was collected quantitatively using an online web survey, which was completed by CIOs from Fortune1000 business corporations nationwide participating in the outsourcing of IT technical support. A correlational method was utilized to describe the trend or relationship between the variables of interest (Creswell, 2002). All data was examined to assess the relationship between outsourcing IT outsourcing technical support. Data such as employment, access to education, security, and environmental conditions was taken into account to explore the relationship between outsourcing and quality of life of Americans. Both pilot survey and final survey instrument sources of data was used. A questionnaire was the data

collection instrument used to obtain information whether a relationship exists or not between cost of operations and return on profitability of outsourcing ventures. Higher scores indicated high instrument reliability, making the survey questions consistent indicators for the items measured. According to Singletary (2007), of the total 2,400 survey recipients, 1,176 returned completed questionnaires, resulting in a 49% response rate.

Significance of the Problem

The data from this study might provide an additional resource to help leaders in their decision making relating to the effectiveness or ineffectiveness of outsourcing IT technical support, functions, and processes. Company's decision to outsource was strategic and sensitive; the repercussion could affect business organization's internal structure, management operations, and processes. Business organization's decisions to outsource were also global in scope, affecting both the social and political standing of the stakeholders. Therefore, implementing outsourcing strategy required managing possibly unexpected changes and transitioning process that could inadvertently affect organization's performance.

Significance of the study

Felton (2008) cited Klepper and Jones (1997) that the results of the current study might provide additional information about why American business organization CIOs outsource. Data findings might be significant because U.S corporations CIO's might as a result, derive alternative ways to determine core competencies during their decision-making process and to highlight specific in-house information technology activities that could better be carried out externally. In doing so, organizations might have considerably developed significant means of relating to their customers' need while the company concentrates on investing and managing IT technical support deemed for outsourcing. Furthermore, the current study might provide information about

organization timing to proceed with outsourcing and designing of a system that could enhance the management of customer relationship.

Significance of the study to leadership

In terms of dollar amount to be spent and number of jobs that could be lost because of outsourcing, outsourcing trends to offshore countries could significantly have effect on the American business economy. Werther and Chandler (2006) wrote Forrester Research predicts that U.S. companies will move about 3.3 million jobs in the white-glove service and 136 billion in wages overseas in the next 15 years (p. 215). Pastore (2003) cited Gartner research findings that by 2004, more than 80% of corporate executives in the United States would have discussed outsourcing and more than 40% of U.S. enterprises would have tried a pilot program or actually outsourced to countries like Canada, Mexico, or South America. Because of these developments, the findings of the current study might influence leaders' plans to outsource IT technical support.

For those companies that have already outsourced their IT technical support, findings from the current study might inform firm's decisions whether or not to continue outsourcing or implement changes that would improve their possibilities of designing successful outsourcing processes. Successful or un-successful outsourcing of IT technical support from organization total return on profitability might prove significant to improving organization's performance and competitive edge in the global business environment.

Khosrow-Pour (2006) stated that because of the tactical aspects of proposing outsourcing of IT technical support, some organization were not quick to making decisions to outsource because of risks related to the business strategy, operations, and results. Additional risks were also associated with cultural differences and geopolitical factors (Corbett, 2004). The findings of

this study might assist leaders of U.S. business organizations contemplating outsourcing or are in the process to outsource IT technical support might need to reevaluate their strategic planning and decision-making process. The outcome of the study might contribute to the literature on global business leadership, strategy, and change management.

Nature of the Study

The quantitative, descriptive, and correlational study used online survey instrument to gather data for analysis to establish if there was an existing relationship between return on profitability and cost of operations derived from an outsourcing strategy by American business corporations. Quantitative analysis was useful to describe or explain relationships among variables (Creswell, 2005). In this study, quantitative analysis was applicable to measure the relationship between two variables. The study involved quantitative analysis to examine whether a relationship exists or not between cost of operations and return on profitability of outsourcing IT technical support.

Correlational design was appropriate in this study since the focus was on examining the association or relationship of one or more variables rather than testing the impact of activities (Creswell, 2005). In addition, correlational research was appropriate since statistical methods are applicable to calculate a correlation test. A qualitative approach would be suitable for research carried out through open-ended, exploratory questions. Qualitative researchers derived meaning from the participants' narratives and do not test hypotheses (Creswell, 2005; Salkind, 2006). As described by Neuman (2005), a quantitative research focuses on variables while a qualitative study would focus on interactive processes or events.

Quantitative researchers gather data from experiments, surveys, or existing data sources and use existing statistical procedures to analyze the variables in question (Creswell, 2005).

Experimental designs impose controls on the variables being studied (Salkind, 2006). Control groups could help build a stronger argument for the cause and effect of the variables. The purpose of non-experimental quantitative correlational research was to determine if a relationship exists between cost of operations and return on profitability of outsourcing IT technical support. Correlational research could assist with identifying relationships between two or more variables through statistical analysis (Salkind, 2006). The use of the Pearson product-moment correlation coefficient provided further details on the relationship between the variables of interest. Correlational research designs are designs in which researchers use a quantitative method of statistical correlation to describe and measure the degree of association (or relationship) between two or more variables (Creswell, 2005, p.590). Quantitative studies are a narrow approach to studying the selected variables and the particular hypotheses in the design (Cooper & Schindler, 2006). Insight to the relationship between cost of operations and return on profitability of outsourcing IT technical support offered IT leaders a better understanding on how to make future management decisions. The independent variable was the cost of operations, and the dependent variable was the return on profitability derived from outsourcing strategy. An implicit hypothesis was that costs of operations that are negatively related to the total return on profitability derived from an outsourcing strategy. Chief information officers (CIOs), or their equivalent, of large U.S. business corporations were surveyed using a Web-based questionnaire. The CIOs was required to provide two years of data on their company's outsourcing activities. The data gathered was used to determine return on profitability resulting from an outsourcing strategy.

Total return on profitability was defined as the net amount left after subtracting the cost of operations from the estimated production return on profitability. This net amount might

include wage differentials (as adjusted for other employee benefits) between U.S. and outsource IT workers. All data on anticipated return on profitability from productions showed salary differentials between U.S. information technology workers and their counterparts in low-cost offshore nations. Data was uniformly illustrated across all the companies in the study without regard to their \$US dollar amounts, cost of operation and return on profitability data expressed the percentages of each business organization's total estimated outsourcing operational cost.

The total return on profitability of an outsourcing strategy was the net result after cost of operation had been incurred in the planning and implementation of an outsourcing strategy. Total return on profitability was deducted from production cost as wage differentials (as adjusted for benefits and taxes) between U.S. information technology workers and information technology workers in offshore nations. Bulkeley (2004) cited an IBM memo that illustrates the wage differentials, which showed the cost of a Chinese programmer, remuneration (including benefits) at only about 20% of the cost of an equivalent U.S. programmer.

The survey design method was appropriate to use in the study because the information that was gathered might not be available for public records of the large business organizations to be studied. Content analysis was applied to any record made publicly available by the large business organizations targeted for the study for more appropriateness. The survey questionnaire comprised of 22 questions for the organizations' CIOs to provide two years of historical data on their company's outsourcing strategy, if any, on the outsourcing of IT technical support.

CIOs of U.S. Fortune 1000 companies surveyed were those that might have had at least one-year experience in outsourcing of IT technical support. Carmel and Tjia (2005) posited that Meta (Gartner) Group and Forrester research firms estimated that in the years 2003-2004, 45% or 450 Fortune 1000 U.S. companies had at least one year of outsourcing experience. A list of

the U.S. Fortune 1000 companies with email addresses for the CIOs was purchased from Robert Simon Acoca (RSA) List Service Corporation; a leading global service provider of business information solutions. The targeted population included each American business organization's CIO on the RSA list whose company had at least one year of outsourcing experience. Each CIO was invited to respond to online survey and data gathered comprised of the input from the CIOs who responded.

Overview of the Research Method

In the study, total savings was defined to reflect the net amount left after subtracting the cost of operations from the estimated production return on profitability. This amount might include wage differentials, as adjusted for other employee benefits and taxes, between American workers and foreign IT workers. All data on return on profitability was expected to reflect salary differentials between American IT workers and their counterparts in foreign countries. As an illustration of potential wage differentials, an internal International Business Machines (IBM) memo in 2004 estimated the cost of a Chinese IT worker, including salary and benefits, at only about 20% of the cost of an equivalent American IT worker (Bulkeley, 2004). In an effort to calculate data uniformly across all of business establishments who participated in this study cost of operations and return on profitability data was expressed as percentages of each American business organization's total estimated in-house cost of operation, irrespective of their U.S. dollar amounts. Data was collected and analyzed using a quantitative, descriptive, and correlational approach to determine whether a relationship exists between the cost of operation and return on profitability of outsourcing IT technical support because quantitative method explained the phenomena by collecting numerical data that could be analyzed using mathematically based methods particularly in statistics.

Overview of the Design Appropriateness

A survey design method was appropriate in the study because the information required to address the research questions could not be obtained from public records of the American business organizations that targeted in the study. If the information were made available as a matter of public record, a content analysis and examination of the records would be more appropriate. The questionnaire comprised of 22 questions surveying 2 years of historical data on organizations' approaches to outsourcing; the survey requested information regarding any in-house outsourcing of IT technical support as well.

Research Questions

The quantitative research questions intended for the current study was as follows: What is the relationship between return on profitability and cost of operations of an outsourcing operation over a 2-year period following the outsourcing of IT technical support? The relationship was evaluated by inspecting the correlation between costs of operation and return on profitability during a 2-year of the implementation of an outsourcing operation. For the purpose of the proposed study, cost of operations included the extra costs incurred by American business organizations when securing contracts for IT technical support from outsource suppliers or setting up company-owned IT centers in a foreign country. Some examples of these extra costs was costs associated with supplier search and travel, negotiating contracts and monitoring suppliers, termination of employment, workers retention rate, loss of production cost, culture related issues, knowledge transfer and transitioning processes. Some of these extra costs are not obvious; thus, they are often referred to as hidden costs (Meta Group, 2004; Overby, 2003). Cost of operations could reduce the potential return on profitability connected with taking advantage

of the lower wage rates of outsourcing IT technical support workers compared to salary rates of U.S. IT workers.

Most of the cost of operations incurred in an outsourcing strategy outsourced was also found in an outsourcing strategy within the continental United States (onshore). A major distinguishing factor between onshore and outsource sourcing strategy was cost (Verma, 2000). Corbett (2004) stated that savings from cost of operations was clearly the driving force for American businesses to outsource. The largest portion of cost reduction came from salary differential between employees in highly developed Western countries and those in the emerging economies, such as Asia and Eastern Europe (p. 42). Geographical location, distance and cultural differences between U.S. and foreign outsourcing companies might have contributed to the differences in cost of operations.

Hypotheses

The purpose of the research was to investigate if a relationship exists between return on profitability and cost of operations of outsourcing operations over a 2-year period following the implementation of IT technical support outside the United States. CIOs of American Fortune 1,000 companies with at least 2 years of outsourcing experience were surveyed. The independent variable (i.e., cost of operations) and the dependent variable (i.e., return on profitability obtained from an outsourcing operation) was analyzed from collected data through an online survey instrument. To determine if a relationship exists between the dependent and independent variables, the following hypothesis was proposed:

H_{1-0} : There is no relationship between cost of search and contract, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

- H_{1-a}: There is a relationship between cost of search and contract, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.
- H₂₋₀: There is no relationship between cost of restructuring, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.
- H_{2-a}: There is a relationship between cost of restructuring and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.
- H₃₋₀: There is no relationship between cost of infrastructure, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.
- H_{3-a}: There is a relationship between cost of infrastructure, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.
- H₄₋₀: There is no relationship between cost of knowledge transfer, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support
- H_{4-a}: There is a relationship between cost of knowledge transfer, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support
- H₅₋₀: There is no relationship between cost of governance, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support
- H_{5-a}: There is a relationship between cost of governance, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support
- H₆₋₀: There is no relationship between aggregate cost of operation, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support
- H_{6-a}: There is a relationship between aggregate cost of operation, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

Theoretical Framework

The theoretical framework that guided the study was modern organizational theory, which addressed international management as business organizations that globalized their operations to gain new markets and improve operating efficiencies. According to Coase (1937), organizational theory and international management was influenced by the cost of operation theory of business organizations as outsourcing was being discussed, also as they identified which IT function to be outsourced and how to coordinate and manage outsourced functions efficiently. Cost of operation theory supported the outsourcing of some work because the economies of scale resulted in lower production or service costs when operating some forms of work internally (Williamson, 1985). This theory provided the theoretical foundation supporting many IT outsourcing organizations' decisions, according to studies by several researchers (Bahli & Rivard, 2003; Dhar & Balakrishnan, 2006; Wang, 2002). According to Carmel and Tjia (2005), despite the low wages, outsourcing, subcontracting costs may be higher than anticipated prior to the outsourcing (p. 34). Carmel and Tjia (2005) further explained the cost of operation concept as it applied to outsourcing IT technical support function. Costs was incurred when going out to the marketplace to identify suppliers, negotiate and contract with these suppliers and, later draw up, policy for these suppliers so that they could produce at a potentially desired quality level (p. 35). Wonseok, Gallivan, and Kim, (2006) defined outsourcing simply as an arrangement between organizations in which a client firm receives resources from a vendor firm. Madison and Miguel (2006) stated that some form of outsourcing is unavoidable since no single firm was completely vertically integrated from acquisition of initial resources through final sale to end user.

Opponents of outsourcing saw the undesirable side effects and the negative impact of outsourcing on the American workers. Drezner (2004) noted Perot's "giant sucking sound" criticism of NAFTA and Tom Delay's "China is one long commute" as pandering to the fears of the American workers in reference to outsourcing. Madison and Miguel (2006) perceived much of the political debate associated with outsourcing as obscuring the ultimate analysis of whether outsourcing could be an effective management tool. Proponents assumed that long-run return on profitability will result in enhanced competitiveness and reduced labor cost. While most view outsourcing as U.S. firms outsourcing to foreign firms, it should be noted that from within many in the U.S. firms would typically outsource to other U.S. firms for example, IBM might outsource a part of their operations to EDS, both U.S. based business corporations.

Prahalad and Hamel (1990) noted that the rationale of outsourcing does not rest on return on profitability alone. As with the article of "the pitfalls of outsourcing programmers," many authors traced the impetus for contemporary outsourcing to discussion involving core competencies. Advantages of outsourcing were based on organizations executive management knowledge to merge technologies, skills into proficiencies to empower companies to conform quickly to changes in business possibilities (Prahalad & Hamel, p. 81). Outsourcing strategy provided managers with the opportunity to preserve their core competencies while they focused on innovation and product generation strategy, and services. To remain competitive or to gain competitive advantage, many companies looked beyond their home country's borders to source the services and operations they used in their businesses. According to Corbett (2004), traditionally, organizations have been a source of competitive advantage with its inner workings, however, outsourcing opens the new brand of competitive advantage (p. 60).

Previously studied literature showed that many American companies had found that outsourcing some of their information technology technical support to overseas countries , enabled them to reduce the cost of operations by taking advantage of lower wages and lower cost facilities in countries like India, China, Malaysia, and the Philippines. A study of the extent of outsourcing software work by U.S. Fortune 1000 companies in 2003-2004 showed that more than half (50-60%) had not outsourced any software work (Carmel & Tjia, 2005). The study examined the relationship between return on profitability and cost of operations of an outsourcing operation by applying the economic concept of the cost of operation theory to outsourcing operation.

Definition of Terms

The following operational definitions were used in the context of the proposed study and were provided to clarify meaning and avoid confusion. Unless otherwise noted in the text, the following definitions were used consistently throughout the research study:

Cost of operations: The study used the concept of cost of operation as defined by Coase's (1937) operation cost theory. Coase noted that the total cost for firms in obtaining goods or services is more than the actual cost of the goods or services on the market. Other costs involved in the procurement process was search and information gathering costs, bargaining costs, the cost of protecting trade secrets, and the cost of monitoring service operations. The operational definition of cost of operations and the cost items that comprised cost of operations as they applied in the proposed study was detailed more specifically in chapter 3.

Globalization: Integration of economies and societies around the world (World Bank, 2007).

Information technology: Any equipment or interlinked system of instrumentation used in

attaining, processing, handling, data or information (Gleen, 2001, p. 1).

Outsource. As a verb, the term used to indicate a switch to low-cost nations of tasks, rather than outside the country. A low-cost nations are those that belong to the economic grouping of countries in developing or emerging countries (Carmel & Tjia, 2005, p. xviii). This term used as a noun, unless otherwise stated, means the low-cost nations as described in this paragraph.

Outsource outsourcing. Outsource outsourcing is the process of contracting out tasks and processes to be performed outside the boundaries of the firm in low-cost nations (Carmel & Tjia, 2005).

Outsource sourcing. This term combines the meanings of outsource and sourcing as they are defined in this study. Therefore, outsource sourcing means the process of finding and identifying resources that performed tasks and processes in low-cost nations (Brown & Speltzer, 2005).

Outsource strategy. Based on the definitions given by Carmel and Tjia (2005), De Kluyver, and Pearce (2006), outsource strategy was defined as positioning an organization for competitive advantage with the goal of creating value by shifting tasks to low-cost nations.

Outsourcing: occurs when companies move processes and productivity factors abroad, whether they are conducted by separately owned supplier or by fully owned subsidiaries (Carmel & Tjia, 2005).

Outsourcing. The study used a broad definition of Caramel and Tjia (2005) as follows: activities and processes are subcontracted to run outside the corporate limits (p. xviii).

Outsourcing in addition, was the relocation of tasks previously performed locally by workers who were paid directly by the company to a different business entity. This business organization

could be resident locally or outside of the U.S. These types of tasks could be carried out from different geographical location or could be carried out within the companies premises (Brown & Speltzer, 2005). The study used definition provided by Caramel and Tjia (2005): Tasks and processes are outsourced to outside the boundaries of the firm (p. 35).

Return on Profitability. This indicates a company's ability to earn a satisfactory return on sales, total assets, and invested capital (O'Bryan, 2010).

Sourcing. This is used as a generic term to mean the process of finding and identifying the location of resources that will perform tasks and processes needed by the firm. When suppliers outside the boundaries of the firm performed these tasks and processes, the process is known as outsourcing; when the firm's own employees perform them inside the firm, the process is called internal sourcing (Oshri, Kotlarsky, & Willcocks, 2009).

Strategy. This study used the definition of De Kluyvera and Pearce (2006): competitive advantage positioning the organization, which aims to create value (p. 1).

Technical Support: A technology-related service provided by company personnel to resolve advice or assist customer of its technology related product or service either through the telephone conversation, instant messaging system or via e-mail communication (Sanchez, 2009).

Transaction costs. This study used the concept of cost of operations in Coase (1937) transaction cost theory in which he noted that the total cost for firms in obtaining a good or service is more than the actual cost of the good or service on the market. Other costs involved in the procurement process are search and information gathering costs, bargaining costs, the cost of protecting trade secrets, and the cost of monitoring a service. The operational definition of cost of operations and the cost items that comprise transaction costs, as they are applied in this study, are more specifically detailed in the research design section of chapter.

Assumptions

The findings of the current study was based upon the assumption that participants would respond honestly to survey questions and would accurately provide facts and data that might be the most recent 2 years of outsourcing. A further assumption in the study was that CIOs or managers in similar management levels in their business organizations would personally respond to the survey rather than delegating the task of completing the survey to employees in lower positions who might not have accurate knowledge of the information requested. In conducting the research study through survey questionnaires, the fundamental assumption was that the respondents would respond truthfully to the best of their knowledge. Survey questionnaires, by their very nature, depended on the psychological phenomenon of recalled incidents. An assumption was made that respondents would be willing to provide complete information as requested in the survey instrument. The heterogeneity of respondents in terms of culture or ethnicity was assumed to have no impact on the respondents' judgments. The assumption of truthful responses was reasonable because participation in the survey was voluntary, anonymous, and confidential.

Scope and Limitations

The study proposed questionnaires was limited to survey CIOs or their equivalent who had been involved in outsourcing IT technical support functions. The participating CIO's were surveyed by a web-based questionnaire and they were asked to provide the most recent 2 years of data regarding their business organization's outsourcing activities. Total of 78 CIOs responded to the survey. This limitation may have affected the number of responses as CIOs without the requested data may have opted not to participate in the study. The independent variables indicated in earlier sections of the study were generic in nature, although these variables were

being studied in the context of information technology industry. The findings might be generalizable in similar information technology related services across other industries with or without modifications.

The proposed study was limited to surveying individuals who would voluntarily agree to participate. There was the anticipation of a large number of responses from interested participants from the selected organization CIO's. Some level of preconception was likely to have occurred in this study due to some organizations refusal to participate because of fear of breaching confidentiality, competitive information, or proprietary disclosure. However, the surveyed population was assured of anonymity and confidentiality (Cooper & Schindler, 2003). For example, the participating CIOs or their equivalents were asked to report their organization's experience. Other likely restriction to the study might be the use of online survey instead of a traditional mail-in survey process, because the online data collected would not be as easily confirmed for accuracy as with other sources

Delimitations

The aspect of research that could be controlled or limited was known as delimitation. The proposed study was delimited to surveying CIOs of American Fortune 1000 companies that have outsourced their IT technical support functions in the first 2 years of the organization's operation. The study focused on cost of operations (i.e., the independent variable) and the return on profitability obtained from outsourcing (i.e., the dependent variable) for the first 2 years of operations. Responses from organization CIOs or their equivalent with outsourcing experience in the first 2 years of operations result was anticipated to show in the sample report. The study would delimit in order to examine the relationship, if any, between cost of operations and return on profitability acquired from an outsourcing strategy over the first 2-year period following the

outsourcing of IT technical support by American business organizations. The reason for examining the most recent 2 years of outsourcing data was to evaluate the likely changes that might have occurred to an organization's IT operations and its financial performances due to outsourcing operations (Carmel & Tjia, 2005, p. 41)

Summary

The practice of outsourcing IT technical support jobs continued to be a subject of debate due to the potential loss of white-collar IT jobs from America to lower paying nations. IT outsourcing decision-making appears to employ strategies designed to enable companies to remain competitive or to obtain a competitive advantage by reducing costs and gaining new capabilities and sources of revenue. In addition to the social, political, and security risks associated with outsourcing, the costs of operation should be considered before proceeding with job outsourcing. These costs included searching for and contracting with outsource suppliers, overhead expenses to manage the new global organizational structure, reorganization costs, knowledge transfer costs, efficiency differentials, and cost of operations—could potentially reduce the return on profitability expected in the outsourcing strategy (Carmel & Tjia, 2005). A quantitative, descriptive, correlational research design was employed to find out if there is a relationship between the cost of operations and return on profitability of an outsourcing strategy by American business organizations. CIOs of U.S. Fortune 1000 companies were invited to participate in the research survey. The survey was used to obtain information about their outsourcing experience within the first 2 years of outsourcing jobs to other countries.

CHAPTER 2: REVIEW OF THE LITERATURE

The following literature review examined theories and concepts that provided context for the research study, which examined the relationship between cost of operation and return on profitability generated by American business organizations that outsource IT technical support. To present a comprehensive framework for the study, this chapter discussed the literature relevant to the practice of outsourcing IT technical support. The review of the literature started with studies that had been carried out regarding general concepts of outsourcing and then focused more specifically on research regarding the relationship between cost of operation and return on profitability generated by American business organization outsourcing IT technical support.

Documentation

The study was researched from several databases to prepare this literature review, including ProQuest Digital Dissertations and EBSCOhost. Keywords used to search the available literature included outsourcing, in-house outsourcing, IT, technical support, and the theory involved with cost of operations. The following peer-reviewed journals were also examined: *Harvard Business Review*, *Sloan Management Review*, *MIS Quarterly*, *Information Systems Journal*, *Journal of Strategic Information Systems*, and *Journal of Global Information Management*.

Literature Review

This literature review integrates and reflects upon preceding research relevant to the research study. In particular, literature addressing the following topics reviewed the effects of cost of operations without the inclusion of outsourcing contracts, or return on profitability to be

realized. The review of the literature was divided into sections, beginning with a historical review on global outsourcing and how it related to the research problem considered by the study and the variables for the study was examined. Using this historical perspective as a framework, the literature reviewed the outsourcing of IT technical support based on management theory, leadership theory, cost of operations, and organizational theory.

Historical Perspective

A contract to outsource involved losing skilled worker jobs to low paying foreign competitors as a result; such exercise presented significant problems for workers whose jobs were being taken away (Davis, 2004). Such arrangement was not a recent phenomenon, however; they had been utilized since the beginning of the industrial revolution. As American workers deals with the aftermath of outsourcing hundreds of thousands of IT technical support jobs overseas, history would demonstrate similar lessons and experiences like what took place during the industrial revolution. Davis (2004) stated that as Americans grapples with the fallout of shipping hundreds of thousands of technology and manufacturing jobs overseas, history provides many similar episodes and lessons. An example was that trade and technology could boost the standard of living for many people by creating lower-priced jobs and goods. However, the same forces that were capable of creating low-skilled jobs could eliminate highly skilled manufacturing jobs that workers thought never would be affected by outsourcing.

Overseas labor standards impaired American workers' ability to compete for jobs in the 19th century. At the same time, such standards created wage disparities due to competition between nations (Davis, 2004a, p. 2). In 2005, outsourcing upheaval caused the U.S. Congress, along with 35 states in the union; to institute laws preventing American business organizations that ship jobs to foreign countries from participating in bids for government contracts. Davis

(2004) cited former CEO of Hewlett-Packard, Carly Fiorina, as indicating that business organizations are competing with time to work as a nation (p. 2).

Outsourcing Theory and Management

According to Mintzberg (2003), the prevailing theories of management approach became known as one of the best in the 20th century and then, everything depended on the approach to the theory of an unforeseen event; the most recent approach was to get it all in one plant (p. 209). Mintzberg (2003) drew a model representing six elements of the American business organization: operators, managers, senior managers, analysts, internal service providers, and ideology or organizational culture. As explained by Mintzberg, Lampel, Quinn, and Ghoshal (2003), business functions had been implemented by using different levels of competencies supported by varieties of profitability, whereas core competencies were developed within the organization by their workers to explain its competitive advantage (Prahalad & Hamel, 1990). Mintzberg (2003) outlined the roots of outsourcing by stating that organizations disregarded their valued services to their customers in order to be competitive and decided that the rest of their business operations should be handled by other service providers (p. 129). According to Burkholder (2005), two thirds of American businesses involved in outsourcing jobs indicated that they failed in these initiatives due to their focus on business dealings and lack of sound strategy and development toward attaining good result. Making the wrong decision and taking steps without a well-planned strategy could lead to uncertainty that could result in poor and inconsistent implementation of outsourcing.

Organizational Theory, Cost of Operations Theory, and Outsourcing

Coase (1973) noted that cost of operations theory challenged traditional economic theory with the notion that businesses were good at providing services because of their competency; as

a result, businesses could be contracted out at a cheaper rate than hiring. At the same time, he argued that the cost of operation could hinder contracting out businesses. Business organizations are whole when they could produce their products in house, thereby avoiding the process of contracting out, which might always be less expensive considering the alternative costs (e.g., negotiating costs involved in monitoring and keeping trade secrets). The research study would therefore analyze the relationship between return on profitability and cost of operations generated by American business organizations outsourcing IT technical support.

Leadership and Outsourcing

Outsourcing often leads to internal fears and resistance from employees. Because day-to-day functioning of the establishment was highly dependent upon individual employees; however, workers were often neglected during the planning of major program change in a business organization. For example, when company decided to downsize there was always fear in the mind of every worker and those fortunate to survive no longer trust management and therefore making them to limit their commitment to the organization, as they perceived the entire process to be unfair (McIvor, 2005a). The lack of enthusiasm noticed among workers was due to watching their jobs being shipped away thereby causing employees distrust in upper management; again survivors no longer trust top management especially if they believed that information was being withheld from them and management's stated intentions were inconsistent with the kind of actions taken. Continuous outsourcing of jobs to foreign countries might further extend to lack of assurance from worker toward the competency of top management working relationship with their workers. McIvor, Humphreys, and McKittrick (2009) posited that company authorities often dismissed the notion that the success of their business strategies that involved change was dependent upon the mindset and allegiance of their workforce. Such

changes often have a negative impact on the employees, especially when they are excluded from knowing the state of their employer's affairs and that of the business organization in which they worked.

In particular, certain psychological and social factors could be detrimental to the achievement of the organization's objectives for outsourcing (McIvor, 2005b). When outsourcing became component of the business scheme of the organization, executive managers and decision makers must display leadership in showing commitment to and participation in the process of informing and education their workers. The participation of top management informing their workers and the decision to outsource and the ramification would indicate to employees that top management was aware of their needs and interests. Therefore keeping the workers abreast of the potential to outsource their activities and assuring the workers of any possible compensation would show that top management was willing to assist employees and answer any questions they might have. Open and honest communication was another critical element in managing the outsourcing process. It was important for managers to inform employees of their intentions in an accurate and timely fashion. By sharing knowledge with workers and showing a disposition to communicate with greater sense of trust and honesty with employees; such an approach would only encourage company workers to co-operate and assist the company manage any disruptions that might occurred as a result of the changes. The absence of communication, on the other hand, might make employees to feel both excluded and demoralized (McIvor, 2005b).

Doz and Thanheiser (1996) surveyed 40 IT organizations and found that almost all included outsourcing as part of their organizations' transformational efforts. Similarly, Lacity and Willcocks (2001) observed that support from senior leadership was crucial to the success of

outsourcing initiatives. Their report also showed that when senior management collaborated with CIOs in making outsourcing decisions, most outsourcing expectations tend to be accomplished (p. 159).

Business Considerations and Outsourcing

Non-IT organizations were increasingly outsourcing large portions of business processes and functions, such as human resources, manufacturing, distribution, and advertising. However, IT technical supports do not transition easily to a supplier because their processing operations are distinctive in a number of ways (Lacity & Willcocks, 2001). The most common problems related to outsourcing IT technical support included lack of standardization across service categories and incomplete consideration of the full cost of various sourcing choices. When outsourcing deals failed to meet expectations, incomplete business designs are often the cause. Unanticipated costs dramatically increases the overall cost of the outsourcing relationship; as a result, the expected savings are never realized. Organizations have adopted a total-cost-of-ownership approach to managing their physical profitability not only with regard to direct costs, but also with ongoing management, maintenance, and opportunity costs. When it comes to IT technical support, particularly outsourcing issues related to IT technical support delivery, however, most American business organizations do not have the sophisticated cost models necessary for sound financial decision-making (Lacity & Willcocks, 2001). According to Cohen and Young (2005), organizations failed to consider outsource governance costs as it relates to their internal teams in their design model, as well as management processes for dealing with external service providers and internal stakeholders. In addition, tactical costs tended not to be included in the project costs for executing outsourcing action plans in the selection of service providers, contract negotiation, and solicitation of external advice (e.g., consulting, benchmarking, and legal advice). As a result,

the transitional cost incurred to move services from the current service provider to the newly chosen provider failed in the effort to outsource IT technical support because of lack of understanding, training, and knowledge transfer among transition management (Cohen & Young, 2005, p. 183).

Advantages of Outsource Job Outsourcing

Outsourcing could be viewed as a result of globalization due to noncompeting markets' involvement in price competition with businesses that are forced to relocate their operations to foreign countries. According to CAPS Research and A.T. Kearney (2005), businesses were making their decision to outsource based on reducing cost, rather than generating revenue or having competitive advantages. As a result, they paid much attention to operating costs as the motivations for outsourcing jobs to foreign countries. Bringing foreign jobs into the United States could fill the gap created by sending jobs to overseas locations. Robert Reich, U.S. Secretary of Labor under President Clinton (2003), stated that job losses in manufacturing and IT were only temporary. Reich felt that American workers should take the opportunity to obtain higher levels of education and train for new careers that could position them for better opportunities in the future. Bushko (2004) noted that offshoring is an unrelenting trend since IT skills have become a global commodity and they are immensely cheaper in other parts of the world. As a result, most IT work would be depleted from the US to overseas locations. The loss of jobs to offshoring has raised pressure for political action. In short, there are multiple factors - some enhancing, others inhibiting - that interact to drive offshoring.

Disadvantages of Outsource Job Outsourcing

Manpower return on profitability and the resulting benefits to businesses had encouraged firms to stop performing certain activities in the United States; instead, businesses depend

increasingly on outsourcing. According to Ferrell (2003, p. 1), American business operations' reliance on outsourcing American jobs as a tool for strategic planning had increased the global business shift of jobs to overseas locations. Such actions created new risks for business operations. American economist and business leaders observed what was considered the highest migration of jobs to foreign countries in the history of U.S. economy (Bardhan & Kroll, 2003). According to a 2004 Bureau of Labor Statistics (BLS) study, 5.3 million people were displaced between 2001 and 2003 due to job loss, with 42% of jobs lost due to businesses closing and moving their work and services overseas. India and China continue to absorb businesses from U.S. outsourcing, while the United States of America (US) workers lost their jobs because of industrialist inducement to seek lowest cost of operation and largest amount of return on profitability of services that substituted work for cheaper labor cost.

Hira (2003), as cited in Engardio (2003), examined trends in white-collar job outsourcing and their implications. The article explored the number of white-collar jobs that major American companies were sending to overseas locations, primarily to developing economies in the Far East, Latin America, and Eastern Europe. The availability of large numbers of skilled professionals in other countries drives this form of outsourcing, along with their willingness to work for much lower salaries than their counterparts in the United States. Bronfenbrenner and Luce (2004) noted that an organization that provided less information about outsourcing of jobs avoids the possibility of a bad publicity. Therefore, businesses tend not to be enthusiastic about announcing significant contract results; instead, business organizations presented only their financial operation records which reflected the companies' business performances (Bronfenbrenner & Luce, 2004).

This was one of those experiences IBM Corporation had when announcing an

outsourcing decision which unfortunately only illustrated how thorny situations the news to outsource could become. This news exposed IBM's efforts to ship 5,000 application developers' technical assignments to foreign countries with lower labor costs when it was uncovered by the *Wall Street Journal* in January, 2004. Due to public reactions, IBM later reduced the number of jobs to be sent overseas to 3,000. Moreover, the memorandum revealed by the newspaper made it apparent that IBM was aware of the negative exposure associated with shipping American jobs overseas. As a result, IBM management was further instructed not to be transparent to their employees about the organization's intention to outsource. The memorandum also warned management that the terms onshore and outsource should never be used. However, the memorandum did not offer the managers alternative word of explanations to use; rather, it directed that all phrases likely to put the organization in the spotlight must be avoided (McPherson, 2004; U.S. Department of Labor, 2003).

Outsourcing Decision Benchmark

IT organizations classify business factors and benchmark systems in reference to their usefulness and business advantage. According to Lacity and Willcocks (2001), successful IT organizations choose cautiously which IT technical support operation to ship to overseas by careful evaluation of suppliers, the modification of terms and contracts (pp. 186-187) because business factors and benchmark helps to illustrate the usefulness of using decision benchmark as either a significant or a practical tool in determining business advantages to outsource services such as payroll, employment benefits, accounting systems, personal computer support, systems support, and technical operations.

The outsourcing decision benchmark was developed to enable American business organizations fully evaluate factors that would affect outsourcing IT technical support. The

decision tool comprised of key business issues that the organization needed to address when considering potential IT technical support services for outsourcing. In many cases, the analysis reveals that processes were being operated inefficiently and contained considerable waste. Process waste was operations management concept developed to identify activities for which customers would be unwilling to pay. This approach encouraged teams to question and then strive to remove activities that do not add value; that is, activities that previously might not have been considered integral to the process. Process inefficiencies that are exported with an outsourced course of action could prove difficult to remove. The result was that despite the of return on profitability which stemmed from a lower labor rate, operations continued to underperform and outsourcing benefits failed due to hidden costs (Taplin, 2007).

Outsourcing Information Technology Technical Support

During the organizational planning process for outsourcing IT technical support, the following three options were typically considered: onshore outsourcing (e.g., to suppliers located in the continental United States), near-shore outsourcing (e.g., to Mexico and Canada), and offshore outsourcing (e.g., to India, China, the Philippines, and Russia). Outsourcing with reference to the current study means that the work was being performed offshore in relatively distant countries that had low labor pay rates for IT workers in comparison to the pay rates for workers in the United States. These options were complicated by the fact that some outsource companies had set up headquarters or offices in the United States. For example, Wipro Technologies, an Indian IT outsource outsourcer with offices located in the Western; Midwest, Northeast, and Eastern regions of the United States, and People Support, a business process outsource outsourcer with headquarters in Los Angeles, California.

According to Thondavadi and Albert (2004), cost reduction could increase organization focus on their core operations, while they improved quality and provided alternative access to a deep pool of talent that could enhance the company's rapid processes and product development, instead of resulting to outsourcing. Lacity and Willcocks (2001) attributed the rising trend of outsourcing in their observations because outsourcing was cheaper when services were sent to countries with lower wages; outsourcing provided some indication that organizations could leverage price advantages, skills, and performance resources. Lacity and Willicoaks' assessment was that growing capacity abroad and shortage of skilled labor in the United States and Europe have led to outsourcing as a result, cost reduction may be less important than quality, and a number of tasks that could be covered (p. 26). Therefore, American business organizations find themselves struggling to keep up with technical developments in computing and communications skills as compared to their counterparts in foreign nations. In addition, current operational skills adopted by companies with respect for computing and communications technology were adversely affected by lack of in-depth knowledge of the full range of technical manpower available, which then led to inappropriate use of technology. As a result, outsourcing of IT technical support typically became a catalyst driving corporate reengineering processes to reduce costs and focus on business strength. Again, difficulties in finding and retaining skilled computer and telecommunications staff was becoming more and more key reasons for IT technical support outsourcing.

Another critical element of outsourcing was conducting a sound vendor evaluation and vendor selection process, because loss of control (i.e., with respect to quality and timeline) was inherent to outsourcing. Additionally, there were growing business concerns about compatibility, business culture, and ethics. Clarity between the outsourcer and the outsource vendor was

especially necessary regarding legal issues, including those associated with taxation, employment, and contract negotiations. Parties entering into service agreements should avoid conflicts of interest, maintain their sense of fiduciary duty, and observe other ethical principle considerations that could be difficult to achieve because each party involved in outsourcing would primarily be concerned about the opportunity to cut cost, pay lower wages, and make money (Kehal, & Singh, 2006).

General Information Technology Performance Versus Outsourcing

American business organizations participating in outsourcing might be faced with a dilemma of being paid the actual compensation achieved from outsourcing IT technical support because of the risks involved in such a venture. As more organizations resolved to outsource since the early 1990s, the next logical step in evaluating outsourcing was to determine that organizations have experienced results using outsourcing as a governance mechanism (Tunstall, 2000, p. 115). Tunstall's (2000) analysis of 299 organizations used data collected between 1990 and 1999 to provide clear evidence that IT technical support outsourcing alone impacts an organization's performance, as measured by revenue per employee, asset efficiency, return on investment, or revenue growth. Tunstall suggested that a business organization's performance was a function of other factors, such as cost controls, cash flow, and other control variables, which related to the ability of management to control costs effectively. Loh and Venkatraman (1992) demonstrated that IT performance was negatively related to outsourcing and positively related to IT costs.

DiamondCluster International (2002), a research organization also known as Diamond Management & Technology Consultants, conducted a global IT outsourcing study to answer several questions about the decision-making process with regards to outsourcing. The

investigators were able to identify several key reasons for pursuing outsourcing: (a) gaining access to excellent capabilities, (b) reducing or controlling costs, (c) lack of appropriate internal skill sets, and (d) company philosophy regarding outsourcing noncore activities (DiamondCluster International, 2002). They found that when employing resources overseas outsourcing companies tend to focus more on reducing and controlling costs (p. 7). They also identified the three greatest risk factors in oversea outsourcing as increased complexity in management, uncertain financial payback, and lack of direct control.

Information Technology Performance In-house Versus Outsourcing

A president and CEO of General Electric in India described outsourcing as labor reallocation of border-crossing activity, and outsourcing of IT technical support processes as an action of division of labor, the importance of which was grounded in return on profitability to the cost of operation (Thondavi & Albert, 2004). Before embarking on outsourcing, it was therefore important to first engage in internal process improvement evaluation; distinguish what full-time IT technical support will cost; design an operational point of reference; and practice internal developments, if necessary. A company should make a comparison between IT performance and outsourcing before going forward with outsourcing. If the idea to outsource was rebuffed, it needs to be reexamined at frequent intervals because the reevaluation could work as an external yardstick on the internal IT operation. Consequently, a number of additional ideas and interests frequently impact outsourcing decision economically, as organizations finds it very complicated to appraise vendors against internal proposals on a similar basis, particularly when past appraisals exhibited weakness due to hidden costs of outsourcing. Even good corporate agreement with a thorough IT technical support assessment, including wide-ranging procedures and reporting systems, could not prevent problems from arising, stressing the importance of

actively supervising and managing vendors (Willcocks & Graeser, 2001).

Savings as a Dependent Variable

Meyers, Gamst, and Guarino (2006), posited that the concept of variable was central to research design, measurement, and statistical analysis. It could be applied in several contexts. In multivariate analyses, variables could play different roles in different analyses. Sometimes, variables could even switch roles within single analysis. The dependent variable represents the response or the performance of the participants that was measured by the researchers. In a correlation design, all measures could be thought of as dependent variables because researchers do not actively intervene by manipulating any variables. Lee, Miranda, and Kim (2004) suggested that the notion of jobs outsourcing as a strategy was the driving factor in recent outsourcing process to cut cost and make return on profitability possible. Therefore, in the study the dependent variable represented the return on profitability produced by outsourcing processes, and the cost of operation represented the independent variables. Return on profitability in the study was defined as the difference between the return on profitability of American business workers and those of workers in countries providing outsourced IT technical support after the cost of operations has been deducted from the entire outsourcing processes (Carmel & Tjia, 2005).

Cost of Operations as an Independent Variable

In the present study, the cost of operations involved in outsourcing IT technical support served as an independent variable. Several factors contributed to the return on profitability derived from outsourcing; however, the research study would focus primarily on the cost of operations. The independent variable which was the focus of this study was considered the aggregate of numbers involved in the outsourcing process by American business organizations,

which included the costs of drawing up contract with a potential partner, handling retention and layoffs, laying the groundwork for infrastructural designs, IT equipment for data backup and recovery, communication tools, and networking connectivity. Transfer of knowledge to a foreign country could be complicated due to process change, cultural implications, management and production shortfalls, and transitioning. In addition, costs of intellectual property governance were evaluated, including travelling expenses and management of outsourcing contracts with foreign vendors (Carmel & Tjia, 2005, p. 39). Therefore, the studying of the relationship between the dependent variable and the independent variable in the study was determined by the value-added importance of outsourcing with reference to the cost of operations and its variations during the initial 2-year period of outsourcing operations.

The Concourse Group research project of 2004 and 2005, as described by Burkholder (2005), showed that most American businesses struggled with governance of their outsourcing initiatives due to misunderstanding of the definition of governance; the wave of outsourcing and accounting scandals rendered the term governance a buzzword that could be applied to everything. The rush to govern everything had clouded the true meaning and application of governance, leaving businesses with half-developed governance models. Governance is the framework of decision rights that encouraged desired behaviors in both outsourcers and their client business organizations. Because governance deals with decision-making, it required executive engagement in difficult conversations about power wielding, sharing, and abdication in the interest of the organization's business outcomes. Because these are tense and unpleasant conversations, most business organizations inadequately specify who would be held accountable to make decision, or who would be allowed to provide input or recommendations.

According to Ortiz (2009), outsourcing complicates organizational boundaries affair, the

questioning of agency and the call for accountability required counterintuitive step of sharing decision-making power with an outside provider. Organizations that tried to make operational decision on behalf of their outsourcers have learned that such processes leads to contentious relationships, dismissal of service level agreements, and poor financial performance based on outsourcing arrangement. Overby (2003) stated that the hidden costs of outsourcing operations would range from 15.2% to 57% from the initial value of a contract. According to a survey report by *CIO Magazine*, outsourcing annual contracts for 101 business organizations surveyed amounted to about \$16.2 million, with unanticipated situations amounting to about 57% of the cost of operations (p. 11-13). The survey also revealed that some organizations spend about \$9.2 million more on the cost of operations, including outsourcing contract costs. To realize any return on profitability, therefore, business organizations outsourcing IT technical services would require at least about \$16.2 million in profitability from the outsourcing contract operations. In addition, Rottman and Lacity (2006) revealed how business micromanage their outsourced suppliers at a higher rate than those suppliers onshore. Their findings showed that cost of operations runs as high as 50% in its contract value when compared to between 5% and 10% for services outsourced domestically.

Outsourcing as a Business Strategy

The decision to outsource non-IT business processes meant to reduce costs while providing access to workers with capable knowledge and skills, according to Thondavadi and Albert (2004). Organizations paid close attention to core IT business processes in a fast and growing market while at the same time improving the quality of their products. In an effort to gain more financial incentives while reducing costs drastically, as a result, organizations had moved most IT technical support operations to foreign countries with low-income workers (e.g.,

India, China, and South Africa) without evaluating the risk and complications. Furthermore, Hall and Liedtka (2007) expressed that American business lacking the compliance of Sarbanes-Oxley capability in their overall outsourcing management process exposes itself to unacceptable risk because Sarbanes-Oxley act of 2002 required American business organization to be responsible for identifying and fixing compliance gaps by performing joint compliance planning with providers, and make sure both internal and external audit processes are fully integrated along with outsourcers' processes and functions . The most essential threat of outsourcing was lack of control. Outsourcing of jobs to low-wage countries could result in some loss of control over thoughtful delivery of services as well as the value of services rendered (Jacques, 2006). Bahli and Rivard (2003) posited that costs might be high because vendors encountered unanticipated situations with financial ramifications. The possibility that a business organization's undisclosed and classified information might become available to vendors and their workers presents a risky exposure in outsourcing situations; the organization's intellectual property might also be at risk.

Deciding on Information Technology Functions for Outsourcing

Laying people off does not in itself produce improved financial performance, greater customer satisfaction, or enhanced effectiveness. These results only could be achieved with continuous, fundamental changes in core business processes. Unfortunately, many American business organizations have downsized and outsourced IT technical support without much thought to the long-term strategic importance of resolving the problem. Instead, organizations have indiscriminately cut layers of technical expertise to reduce labor costs. Lacity and Willcocks' (2001) survey research posited that organization's demonstrating effective practices by being selective of their critical IT functions before making an informed decision to outsource implies that other organizations could apply the same practice in their IT business environment

to identify appropriate IT business functions viable for outsourcing (p.4). Before making outsourcing decision on behalf of the organization, factors like absorbing a particular technique in evaluating the process of outsourcing, identifying the correct IT work to be outsourced, deciding which aspect of work would be done in-house, analyzing market trends, evaluating potential risk, and defining a clear justification for outsourcing all should contribute to making appropriate decisions to outsource services to foreign countries. According to Aron and Singh (2005), organization managers involved in making the decision to outsource should endeavor to design the appropriate processes before the outsourcing decision was put into action. Because many organizations outsourcing endeavors failed due to poor decision-making and they rushed their decision making due to their anticipated financial gains (Aron & Singh, 2005).

Partial or Total Outsourcing

Because businesses increasingly operate in a global environment, the outsourcing trend was becoming more and more prevalent; therefore, organizations are taking precautionary steps to evaluate whether to outsource part or all of their IT business to foreign countries. Lacity and Willcocks (2001) discovered that organizations sometimes decided to select portions of their IT process to outsource (i.e., partial outsourcing), whereas total outsourcing occurs when organizations decided to move all of their IT processes to a different country. However, some organizations were careful to only outsource the components of their IT functions that are less sensitive in terms of exposing intellectual property and other confidential processes, despite the less attractive financial gains that might result. On the other hand, some organizations chose to outsource all their IT activities due to the abundant financial gains that could result, without examining any possible repercussion in the long run.

Klepper and Jones (1998) stated that savings might not be achieved when customers use

unrestricted capital to go around the vendor and acquire information services from other sources. Much of the cost might be hidden, and thus give the impression that outsourcing was saving money when it actually was not. Due to the initial infusions of money that occur as service providers took over IT technical support, the organization's stocks might have shown some gains at the expense of extended contract durations; however, as the contract agreements proceed, technology modifications began to cause the value-performance proportion to fall. Therefore, business organizations' participation in outsourcing disbursed the unchanged charge to the service provider year after year therefore, falls short of improving the financial benefits of IT.

IT technical support are outsourced on the theory that IT technical support was a service-oriented process, and that outsourcing these services might enable the business organization to center its attention on core competencies. However, when organizations eventually realized that IT had valuable and strategic contributions to make; that was, when IT technical support were not made as part of the decision-making process in mergers and acquisitions, too little time and attention was paid to the meshing of information systems, with resultant information systems malfunctions and other disasters. In addition, the service-level agreements to provide prompt responses to customers might not be realized in some cases because the vendor might not be prepared to provide immediate services as the initial in-house IT technical support service operations were prior to outsourcing. Problems of this kind often surface when organizations that are outsourcing failed to understand that the central driving factor to outsource was that service providers used this medium to make some financial gains. As a result, vendors' use their incentives to personally control charges and carried out the contract agreement by simply centralizing tasks, sometimes far from customer's location; they prioritized user requests and use standardized tools and applications to achieve a better financial scale. At the same time, the

vendors operated by using limited human resources to meet anticipated customer service demands.

Decision to Avoid Outsourcing

Some emerging business organizations do not embrace the idea of outsourcing their IT technical support because they fear losing their competitive edge. Security and protection of intellectual properties, as well as avoidance of litigation, discouraged other organizations from participating in the outsourcing of IT technical support to foreign countries. Businesses also kept in-house IT technical support in an effort to save organizational core competencies and compete with the skill sets of workers harnessed by the IT organization (Peters, 2004; Siems & Ratner, 2003). The outsourcing business organization might take for granted that the service providers would apply new technological procedures as they become available, only to discover that the service providers continue to provide outdated technological equipment and services.

Alborz, Seddon, and Scheepers (2005) as posited by Klepper and Jones (1998), IT technical support managers might initiate outsourcing evaluations as a way to prove the worth and value of internal IT functions, only to find out that senior managers distrusted, ignored, or distorted the result and moved ahead with outsourcing. Bahli and Goyal (2005) noted that poorly managed and operated outsourcing strategies frequently resulted in disaster because a well-managed relationship was required to avoid outsourcing failures. Without a clear understanding of what components of IT functions needed to be outsourced, it could become very difficult to structure and manage a successful outsourcing relationship with a Foreign Service provider. Outsourcing service vendors could not be allowed to hire workers with outdated and inappropriate skills because the effective execution of the entire contract agreement might fail. In fact, outsourcing agreements that moved much of the client's staff to the payroll of the vendor

might result in the same people, who are now disgruntled former employees, providing services from the vendor's side (Klepper & Jones, 1998).

Literature on the Context of This Study

This section contained a review of the literature as it was related to the population and sample investigated the scope of outsourcing and its contextual factors, the IT environment, the location of the American business organizations who participated in the present study, and trends in the outsourcing of IT technical support. Because the operation of computer and IT technical support services in American businesses began in the 1980s, most of the literature reviewed on the outsourcing of IT technical support dated from the early 1990s.

Population of Study and Sample

The population for the study included companies from the U.S. Fortune 1000 list, a group of the 1000 largest public companies headquartered in the United States in terms of annual revenues. Only companies from the U.S. Fortune 1000 list with at least one year of outsourcing experience was included in the population that was studied. The entire targeted population was surveyed, and the sample consisted of companies who responded to survey questionnaires. Lacity and Willcocks (2001) estimated that global market revenues from IT outsourcing would be \$150 billion by 2004, with 30%-35% of most large organizations' IT budgets managed by outsourcing arrangements. Whitten (2004) estimated that IT outsourcing would grow to a \$160 billion industry in the United States alone by 2005. Because offshore outsourcing was a subset of outsourcing, the population of the top 1000 U.S. companies supplied the bulk of the subset. Because of their size, most of these companies had the capacity to outsource some IT functions to outsource service providers.

Scope and Contextual Factors

The scope of the literature reviewed included all the contextual factors in the title of this dissertation. The literature regarding cost of operations and return on profitability included cost of operation theory and studies on the relationships affecting costs, return on profitability, and organization performance. Literature regarding the history of outsourcing organizational functions described the outsourcing of manufacturing products in the early 1960s, the outsourcing of services such as IT in the early 1990s, and the current trend to outsource certain noncore IT technical support to countries with low-wage workers. The literature also addressed outsourcing of noncore business processes, such as accounting, call centers, and collections.

Although little literature existed as it regards outsourcing in general and IT outsourcing in particular, so outsourcing of IT functions to foreign countries was relatively recent phenomenon, and very little literature existed on this topic. The few studies had primarily been conducted by professional research firms, such as Meta Group (acquired by Gartner in 2005), Gartner, Forrester Research, International Data Corporation (IDC), DiamondCluster, Global Insight, and other research firms whose studies were commissioned by an organization. This study attempted to fill the research gap by concentrating exclusively on the outsourcing of IT technical support.

Carmel and Agarwal (2000) conducted one of the few scholarly studies relevant to the focus of the current study. Carmel and Agarwal used a stratified, nonrandom sample of 12 major U.S. companies, 10 of which were members of the U.S. Fortune 500 list. Eleven of these firms were engaged in offshore outsourcing. Researchers collected data through in-person and telephone interviews, using a questionnaire to guide the interviews. The authors identified two key reasons for the decisions to outsource. Ten out of the 11 business organizations identified

savings as a consideration in their decision to outsource, and 4 out of the 11 companies cited the lack of available IT professionals in the United States with the necessary skills.

Environment of the Study

IT had been an integral part of modern organizations. With the exception of certain industries, such as the financial service industry, certain IT functions was considered noncore functions by most companies and thus could be outsourced to achieve certain objectives. The drive to have a competitive advantage in the marketplace motivated senior management to consider IT outsourcing as a strategic option (Carmel & Schumacher, 2005; Corbett, 2004). Specifically, outsourcing lies under the general theoretical framework of change management. The decision to outsource had a profound impact on an organization's structure, environment, culture, and business strategy (Corbett, 2004). Outsourcing involved significant risks to company's performance and survival, managers should not take such decisions lightly.

Taplin (2007) posited that much of the research on outsourcing retained positive views of transfer. Even when resistance was outlined, rather simplistic arguments was provided regarding the management of transfer. Contract arrangements remained a core focus. Even in the IT industry, it was rare to see much consideration for staff motivation. The weekly magazines was full of discussions around contract negotiations. Although occasional articles suggested that outsourcing was problematic, emphasizing the need for flexibility and for retention of skills, these discussions typically ignored the implications for workers. Even in discussions about how outsourcing suppliers were now steering away from large staff transfers, instead the emphasis was centered on having a better opportunity to make money with the outsourcer if the business demonstrated the correct skills, rather than the implications for performance that outsourcing might bring. This suggested that, managers should consider staff motivation and retention during

the discussion to outsource; instead, of providing very little or no detail on how workers would be affected by business decision to outsource. Corbett (2004) highlighted the need for effective communication and emphasized the opportunities for career advancement for workers that might be affected by outsourcing. In addition, human resources planning should begin 12 months before the commencement of outsourcing transition. Corbett (2004) emphasized the importance of managing staff even after transfer, as well as the need for a high-quality team to remain at the client location to manage workers relationships with other co-workers in the organization. With recommendation to implement a phased approach to outsourcing transition, while acknowledging that such an approach might cause more pain for the employees.

The setting for this study was limited to the U.S. Fortune 1,000 companies with headquarters in the United States.

Current State of IT Outsourcing

Business operations, consultation, and technology growth were the result of key modifications in the methods by which products and services was generated and dispensed. To advance in growth and production, effective business organizations apportioned their profitability to actions for a proportional benefit, while increasingly outsourcing activities to external service providers. According to Kedia and Lahiri (2007), the practice of outsourcing IT technical support was projected to reduce the cost of operations from that of in-house production because external service providers profited from operating a well-designed production schedules with centralization of skills. Barrar and Gervais (2006) explained that one of the most significant techniques companies and organizations had used to improve service delivery and reduce costs had been through outsourcing. At the same time businesses had experienced failures because of activities that never realized their objectives or that had unforeseen impact on business outcome.

According to Barthelemy (2003), taking into account the hidden costs to outsourcing has been mentioned as the sixth deadly sin of outsourcing (p.104), therefore the ability to demonstrate both flexibility and toughness in outsourcing business relationships was fundamental to the success of outsourcing. In examining the distribution effects of international outsourcing, Egger and Falkinger (2003) posited that the interaction between the cost of operations and return on profitability determines the stability of outsourcing and its delivery consequences. In spite of outsourcing and its global effect on businesses, Kakabadse and Kakabadse (2002) posited that there were differences in the working behavior between foreign and American workers in terms of cultural and social background. American business organizations tend to pursue more value-added outsourcing strategies, whereas their foreign counterparts concentrated on increasing economies of scale through outsourcing.

Several estimates indicated growing concerns about the global market size for IT-enabled services and the outsourcing of IT technical support. Carmel and Tjia (2005) cited the IDC's (2003) research, which estimated the global market of IT-enabled services at \$405 billion, growing at 8% annually; the market was forecasted to reach \$608 billion in 2008. Carmel and Tjia also quoted the Information Technology Association of America (ITAA; 2003), which placed the global outsourcing of software and IT technical support at \$10 billion in 2003 and forecasted it to grow to \$21 billion in 2008. However, IDC estimates were slightly more conservative. According to the IDC (2003), worldwide spending on outsourcing IT technical support would grow to \$17 billion in 2008 from \$7 billion, representing a compound annual growth rate of almost 20% (McDougall, 2004).

In November of 2004, Information Week Research conducted a survey of 333 business-technology professionals and found that of the total budget their companies spent on third-party

service providers, 76% was spent onshore, 19% outsource, and 5% near-shore (i.e., Mexico or Canada). When asked whether their company's outsourcing experience had met expectations, 65% said it had met expectations, 27% said it had not, 6% said it had exceeded expectations, and 2% said it was too early to tell (McDougall, 2004). With a particular interest to this study were the estimates of savings from outsourcing of IT technical services from the ITAA. It estimated the total return on profitability achieved from outsourcing IT technical support by American business organizations in 2003 to be \$6.7 billion and expected that figure to rise to \$31 billion in 2008 (Carmel & Tjia, 2005).

The adoption of outsourcing strategies was not yet widespread among American business organizations. Outsourcing of operational costs and return on profitability were disproportionately concentrated, especially in large organizations of U.S. companies. But even among the largest companies, only a minority of active outsourcing (Carmel & Tjia, 2005, p. 20). Estimates by Meta (Gartner) Group and Forrester research firm indicated that only about 10% of Fortune 1000 companies have more than 10% of their IT budgets devoted to outsourcing (Carmel & Tjia, 2005, p. 20). They also reported that in 2004, only about 10% of these companies were past the experimental stage in the outsourcing strategy (p. 20). The four stages in the outsourcing strategy were (a) outsourcing through domestic sourcing only, (b) experimentally testing offshore outsourcing with small expenditures on IT budget, (c) cost strategies to focus on cost efficiencies, and (d) leveraging outsourcing transition beyond return on profitability derived from wage differentials and other strategic advantages (Carmel & Agarwal, 2002; McCarthy, 2003).

Fisher (2003) stated that technology outsourcing was not exactly a new phenomenon, but the current version was fundamentally different from the traditional offerings. The new iteration

of IT outsourcing goes beyond what players like Electronic Data Systems (EDS) and IBM had done for years by simply acquiring IT personnel and physical profitability from a particular company. Although this approach might have resulted in some incremental savings and provided some leverage of skills across those vast organizations, it was far different from going to a service provider and requesting a new set of skilled professionals to provide high-quality application support (e.g., development, maintenance, and enhancements) across end-to-end IT technical support at a dramatically reduced cost. Many of the traditional IT outsourcing solutions failed because the reduced cost of operations was simply not sufficient to offset the management labor cost.

According to Nicholson, Jones, and Espenlaub (2006), quality of outsourcing processes in many areas was improving with a subsequent decrease in costs largely because much of the work was being shipped overseas. However, there was evidence that U.S. operations in India was at a disadvantage in terms of costs. American businesses outsourcing to India pay 20% higher wages than their local counterparts, and had a higher turnover of employees in Bangalore. The return on profitability in labor cost for local companies led to astounding increases in profits. For example, WIPRO announced a 43% increase in its profits for 2004 (Chacko, 2004). In response, some American business organizations had started to buy Indian businesses. IBM, for example, recently purchased Daksh, with its 6,000 employees, for more than \$160 million. (McCarthy, 2004)

Conclusions

In a study commissioned by the ITAA, Lande (2004) concluded that although cost reduction was the most common reason cited for outsourcing to other countries, intense global competition in an environment of slow growth and low inflation demands constant vigilance on

costs (p. 1).

Furthermore, Lande's study cited additional realistic remuneration, included the capability of multinational business organizations to function 24 hours a day, 7 days per week (p. 1). Early research attempted to determine the relationship between outsourcing and organization performance (i.e., profitability, revenue growth, and stock price) did not demonstrate such a relationship (Gilley, 1997; Lacity & Willcocks, 2001; Tunstall, 2000). This lack of relationship was attributed to the fact that many causal factors affect a firm's performance, and the practice of outsourcing IT was just one of many as a result, the outcomes for cost reduction expectations was mixed. These past studies included large onshore outsourcing deals and were not specifically directed toward outsourced IT technical support operations.

Again, studies have demonstrated that some outsourcing deals have failed to achieve anticipated benefits and some contracts had to be canceled prematurely. Vashistha and Vashistha (2006) explained that using industry certification as a qualifying criterion only allowed clients to reduce the amount of risk associated with outsourcing, especially in outsource agreements. Therefore, process-oriented quality management system certification gave some assurance to the purchasing business organizations that the suppliers with whom they were partnering had a minimum set of processes in place.

However, despite IT vendors' excitement about adopting process-oriented quality management systems certification models as a qualifier to bid on outsourcing contracts, the purchasing business organizations found over time that even suppliers with process-oriented certifications were not always able to deliver on service level agreements.

Studies have shown that companies have to perform due diligence and follow proven successful practices to improve their chances of achieving successful outsourcing deals.

According to Carmel and Tjia (2005), surveys of several consulting companies have reported varying estimates of the savings from outsourcing; however, one should view the results of these surveys with caution because their methodologies were not rigorous. Carmel and Tjia further observed that no research studies have examined wide range of outsourcing strategies of companies that has produced comprehensive report on savings (p. 40). This study was an attempt to respond to this gap in the literature by presenting a comprehensive comparison of return on profitability realized from strategies on outsourcing IT technical services by large American business organizations.

Summary

The literature review suggested that the outsourcing of IT technical support functions was a global strategy U.S. companies utilized to gain efficiency and competitive advantage. Outsourcing some IT technical support to less developed countries that had lower labor costs, as well as the knowledge and skills to perform those IT technical services activities, was another option companies have adopted to gain greater competitive advantage in producing a product or providing services. Major outsourcing initiatives began in the 1960s with automotive and electronics production in Mexico and China. By the early 2000s, outsourcing initiatives included the outsourcing of IT functions and other business processes.

Estimates by the IDC indicated that worldwide spending on outsourcing IT software development and technical services would grow to \$17 billion in 2008 (McDougall, 2004). The growing outsourcing trend would likely continue as more companies recognized outsourcing as a business strategy (Carmel & Schumacher, 2005) and as a value model (Corbett, 2004). As a value model, outsourcing enables businesses to change their net costs and capabilities (Corbett, 2004) and could permanently alter the way companies are designed or structured. Outsourcing

decisions by leaders of corporate America affected the employment picture of U.S. workers as well as those in other countries. Outsourcing could also affect government policy on trade and immigration of workers. Continuing research on this topic was essential to obtain accurate data on trends, best practices, and evolving management theories.

In chapter 3, the research methodology for the study was explained. The manner in which data was gathered and analyzed was reviewed. The chapter demonstrated the appropriateness of the research design for exploring the relationship between cost of operations and return on profitability realized from outsourcing IT technical support strategy over a 2-year period.

CHAPTER 3: METHOD

Chapter 3 details the research method that was used to answer the research question presented in chapter 1. The purpose statement of the study, the proposed research design used, plus a discussion about the independent and dependent variables, the appropriateness of the proposed design, and the research question was reiterated. Furthermore, the method of selecting the sample and population, creating and validating the survey instrument, collecting and analyzing the data, and addressing issues of privacy, confidentiality, validity, and reliability was discussed in this chapter.

Purpose Statement

The purpose of the current research study was to use quantitative, descriptive, and correlational analysis to examine whether or not there was a relationship between cost and return on profitability of outsourcing IT technical support ventures over a 2-year period following the outsourcing of IT technical support by American business organizations. A quantitative method was appropriate because this method could be used to examine relationships between cost of operations as an independent variable and return on profitability as a dependent variable. Data was collected quantitatively using an online web survey, which was completed by CIOs from Fortune 1000 business organizations participating in the outsourcing of IT technical support. The method of quantitative analysis was used in the study, and because cost of operations was likely to be high in the first two years of outsourcing operations, it was important to know the actual financial expenditures and the points of balance experienced by these business organizations. Qualitative method of research relied on observation, interview, case study, and analysis of diaries or written documents and produced flow of diagrams and narrative descriptions of events or processes, however quantitative methods was chosen because it relied on tests, rating scales,

questionnaire, and physiological measures, and yielded numerical results. Again quantitative method for this study could collect data using e-mail survey questionnaires containing Likert-type scale. This knowledge could be helpful particularly to other organizations considering other aspects of IT outsourcing approach.

Research Method and Design Appropriateness

A quantitative, descriptive, and correlational research design used an online survey to gather and analyze data that was used in this study. Survey design instrument was a research procedure used by investigators to administer survey questionnaires to a sample or to an entire population in order to collect data for analysis. To process the variables in this study the cost of operations and total return on profitability definitions and formulas was presented. The determination of costs and return on profitability from outsourcing was adopted from the work of Carmel and Tjia (2005) because Carmel and Tjia argued that companies that attempted outsourcing IT activities go through a learning curve. Specifically Carmel and Tjia expressed that first set of activities are always difficult to control and return to profitability will come later. However, there must be a multi-term outsourcing to achieve economic benefits (p. 36).

According to Carmel and Tjia (2005, p. 36), the formula for computing total return on profitability is expressed as follows: $TROP = ROP - CP?$

ROP stands for return on profitability.

ROP was derived from the following equation:

$$ROP = ASC \text{ in-house} - ASC \text{ outsourced}$$

ASC in-house stands for adjusted salary cost in-house, and ASC outsourced stands for adjusted salary wage cost outsourced. The adjustment to the wages included benefits, taxes, housing, and transportation, when these costs are included as part of an employee's

compensation package. Cost of Operation (CP) are the extra costs incurred in the process of outsourcing IT technical services. CP included five cost items associated with an outsourcing operation: (a) search and contract, (b) Restructuring (layoffs and retention), (c) Infrastructure (technology, communications, and connectivity, including data backup and recovery), (d) Knowledge transfer (process changes, cultural differences, lost productivity while transitioning the work, relative efficiency of outsourced workforce), (e) and Governance (overhead including travel and contract management).

Independent Variables

The cost of operation (CP) identified in this study served as the independent variable. Five elements of cost including costs of operations were considered as independent associate variables. While it could be possible to test the relationship of each associate variable to the other variables, no such tests had been conducted.

As a result, this study limited its scope to an analysis of the relationship between cost of operation and return on profitability of outsourcing IT technical support over a two-year period. Based on prior research conducted on the extra outsourcing costs by Meta (Gartner) Group and CIO Magazine, operational costs varied between 0% and 57% of the overall outsourcing contract (Carmel & Tjia, 2005). Of the five cost items comprising the operational costs, knowledge transfer costs varies from 2% to 35% of the overall outsourcing contract in a Meta (Gartner) Group study, while a CIO Magazine study report showed that the range vary from 6% to 40% of the overall outsourcing contract (Carmel & Tjia, 2005). Wherever appropriate, this study reported descriptive statistics that showed the five cost items as a percentage of IT technical support assignments' in-house operational cost. This knowledge could prove valuable to

company managers and leaders by focusing attention on which cost need to be managed and controlled in order to maximize return on profitability.

Cost of operation could vary over time; existing research shows that the amounts could vary greatly during the first two years of outsourcing IT technical support assignment with reference to time as an independent variable. Two values of time representing the first and second years of outsourcing assignment was used for analysis in this study, making time a qualifier variable with two values. Return on profitability (ROP) was the second independent variable. Return on profitability was defined as the difference in the estimated cost of in-house employees and the estimated cost of outsourced employees. The cost of employees included not only direct salary but also benefits, taxes, housing, and transportation that is, if these costs were included as part of employee's compensation package. The cost of in-house production was the baseline for all return on profitability and cost calculations.

Therefore, for purposes of this study, the estimated return on profitability reported at the beginning of outsourcing IT technical support assignment was considered a constant variable over the initial two years of outsourcing operation. Typically, companies that outsourced information technology assignments to an outsource service provider would have to pay a charge rate for the provider's employees which was greater than the employees' cost because the charge rate included not only the employees' cost but also the provider's overhead expenses, marketing, training, and profit. U.S. corporations that do not outsource but instead chose to have their own outsource information technology units (subsidiaries centers) had outsourcing cost of operations; however, the companies did not factor in an outsourcing provider's return on profitability. In order to normalize and processed the independent variables cost of operations (CP) and return on profitability (ROP) across all organizations surveyed CP and ROP was expressed as percentages.

The common denominator was the baseline cost of operating IT technical services assignments in-house, near-shore, or on the premises of the client company.

Dependent Variable

The dependent variable was return on profitability of outsourcing operations (ROP). The ROP is what was left after the operational returns on profitability are reduced by the sum of all cost of operation. If the sum of cost of operation exceeds the operational return on profitability in any 12-month period, the TROP for that year would be a negative figure, which represents a net cost instead of net return on profitability. In this study, the TROP was computed annually, starting with the launch of an outsourced IT technical support assignment. In order to normalize and process the dependent variable ROP was determined across all corporations to be surveyed, TROP was expressed as percentages. The common denominator was the estimated cost of operation on IT technical support assignment if it had to be implemented in the United States with full-time employees. The outsourced task assignment cost was known as the baseline for purposes of calculating cost of operation and return on profitability.

Appropriateness of Design

A quantitative, descriptive, correlational research study used an online survey instrument to gather and analyzed in order to appropriately address the research problem and to accomplish the purpose of this study because numeric data collected for analysis will only be available during the limited time for the study. There was anticipation for some control over the measurement of the variables through the design and the use of the survey instrument because the current research was dependent upon the accuracy of the CIOs' reporting of their corporations' historical data or their future estimates of data. No available database or other public source of information to obtain the time-sensitive return on profitability data required for

this study. Therefore, to survey the CIOs, or equivalent officers, of large American business organizations with such vital data information was the only practical method to collect data to answer the research question and address the research purpose statement.

The communication method chosen to solicit participation in the online survey was by e-mail because this medium could reach their intended recipients at a fraction of the cost and time required by other methods, such as telephone, post office mail, and personal hand delivery (Cooper & Schindler, 2003). One of the shortcomings of the method of communication which could affect the quality and quantity of information obtained may be very dependent on the ability and willingness of participants to collaborate (p. 322). Cooper and Schindler stated that people often refused or failed to reply to post office mails or computer- delivered surveys.

Research Questions

The research question that guided the study was “What is the relationship between the costs and return on profitability of an outsourcing operation over a two-year period following the outsourcing of IT technical support assignments by a select group of large U.S. corporations?” The implied relationship examined from the collection of data was that costs of operation are negatively related to the return on profitability of an outsourcing operation. The assumed theoretical relationship between cost of operation and return on profitability of an outsourcing operation, as expressed in the simplified algebraic equation (explained earlier in this chapter), $TROP = ROP - CP$, was supported by the empirical data collected for this study. The relationship between the independent and dependent variables was analyzed using the Pearson product – moment correlation coefficient. Analyzing the relationship between cost of operation and return on profitability over a two-year period following an outsourcing operation provided an understanding of the variability of these costs during the initial critical period.

The underlined processes of answering the research question and formulating both the six hypotheses and the research question was divided into two questions, each question will address each year of the two-year period following the outsourcing of IT technical support assignments. The research questions and the associated hypotheses were stated in the following paragraphs.

Research Question 1: What is the relationship between cost of operation and return on profitability of an outsourcing operation in the first and second year following the outsourcing of IT technical support?

To find the answer to research question 1, the following hypotheses was analyzed:

H₁₋₀: There is no relationship between cost of search and contract, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{1-a}: There is a relationship between cost of search and contract, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.

H₂₋₀: There is no relationship between cost of restructuring, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.

H_{2-a}: There is a relationship between cost of restructuring and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.

H₃₋₀: There is no relationship between cost of infrastructure, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.

H_{3-a}: There is a relationship between cost of infrastructure, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.

H₄₋₀: There is no relationship between cost of knowledge transfer, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{4-a}: There is a relationship between cost of knowledge transfer, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H₅₋₀: There is no relationship between cost of governance, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{5-a}: There is a relationship between cost of governance, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H₆₋₀: There is no relationship between aggregate cost of operation, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{6-a}: There is a relationship between aggregate cost of operation, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

Population

The population composed of the 2009 U.S. Fortune 1000 companies with experience in outsourcing IT technical support in the last two years. The U.S. Fortune 1000 group list was an annual list of the top 1000 U.S.-based corporations ranked by their annual revenues in the prior year. The identities of these corporations were not exposed, but Meta Group in 2004, and Forrester Research estimated their numbers in prior research in 2003. These studies documented the outsourcing experience among the U.S. Fortune 1000 companies as approximately 450 companies that have had at least one year of experience of outsourcing IT technical support (Carmel & Tjia, 2005). Every CIO of these 450 companies along with 550 more company CIO's that have had over a year of outsourcing were also contacted as part of the research plan to survey all of the CIOs on the list.

Sampling Frame

A sampling frame described how participants were chosen and the procedures ensured that random sample was selected. In the study, the entire target population of 1000 CIO's companies in the U.S. Fortune 1000 group that meets the parameter of having at least one year of outsourcing experience in the last two years were invited to participate in the study, through their appropriate CIOs. This over-sampling was desirable and necessary in this study because of the possibility that a large proportion of the population might not respond to an e-mail request to participate in the study. A sample was a subset of the target population (Creswell, 2002). The study was conducted with a sample population for the purpose of generalization. The sample was a representative of the population so that accurate conclusions could be drawn. Creswell defined the difference between population scores and sample estimates as sampling error. One known characteristic of the targeted population was that each member would have had at least one year of experience in outsourcing of IT technical support during the last two years. The sample consisted of all responses from the CIOs of the corporation meeting the parameter for the targeted population.

All 1000 CIOs from Fortune 1000 corporations were invited to participate because there was no significant cost in time and money to conduct a Web-based survey of Fortune 1000 corporations compared to surveying only a portion of the 1000 company CIOs. Furthermore, it would not be possible to draw a sample from the population, as Meta Group (2003) and Forrester Research (2004) did not provide the identities of the companies in the targeted population in the studies

Informed Consent

Creswell (2002) suggested that it was important to protect the privacy and confidentiality of the individuals who participated in a study and to be aware of the harm the study could do to participants. Cooper and Schindler (2003) provided guidelines for securing informed consent, if there was a chance the data could harm the participant or if the researchers offered only limited protection of confidentiality, a signed form detailing the type of limits must be obtained. For most business research, oral consent is sufficient (p. 123). The following guidelines was implemented in the study to obtain the consent from the participants: (a) each participant received a letter of introduction (see Appendix C) that explained the purpose of the survey and a questionnaire, (b) the introduction letter clearly stated that participant's involvement in the survey was voluntary and the participant could withdraw from the study any time without loss of benefit, (c) the letter also indicated that the participant would not face any foreseeable risks, and (d) the letter specified that the participant would not receive any possible benefit from the participation and the finding of the study would only aid in understanding the return on profitability and costs of operation of outsourcing information technology technical support.

For informed consent to research participation was not always necessary. According to Creswell (2002), completing and returning the survey instrument implied consent. Pedroni and Pimple (2001) described the following situations in which informed consent was not necessary: (a) investigations that do not constitute research involving human participants, (b) human participants research that was exempt from compliance with federal regulations, (c) non-exempt human participants research in which it was not possible to obtain individuals' written informed consent to participate, (d) non-exempt human participants research in which it was not desirable

to obtain individuals' written informed consent to participate. Completing and returning the survey instrument was considered as consent to participate in the proposed study.

The requirement of informed consent (see Appendix B) was met by providing information to prospective respondents that participated in the survey voluntarily (see Appendix C) which showed informed consent forms for subjects 18 years of age or older. The email requesting participation in the survey gave respondents the opportunity to decline participation. The following wording was included in the email: Informed Consent: Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, you can do so without penalty or loss of benefit to yourself. The survey does not contain any questions that would identify you or your company. Since this is an anonymous survey, your return of the survey questionnaire was considered your consent to participate, and your acknowledgment that you are at least 18 years of age.

Confidentiality

Confidentiality of information was respected. In the solicitations to complete the survey, prospective participants was assured of the confidentiality of the information they were asked to provide. Prospective participants were informed that the results of the research study would not be published, and their names and their company's name would not be disclosed. They were further assured that the survey was an anonymous survey and did not contain any question that could identify them or their corporation. Cooper and Schindler (2003) stated that Americans take privacy laws seriously, and every individual has the right to privacy. According to Cooper and Schindler, guaranteeing the privacy of participants in a study was important to the validity of the research. Cooper and Schindler offered several suggestions for maintaining confidentiality such as obtaining signed non-disclosure documents, restricting access to participants' identification,

and not revealing participants' information without their permission. Factual information as secondary data and a survey as a source of primary data were the chosen methods of data collection. Information regarding return on profitability and costs of outsourcing information technology technical support was collected from factual data available on public websites used through online surveys. Confidentiality was maintained by obtaining informed consent from all participants, and information about the participants was not being disclosed without signed approval.

Geographic Location

The study was limited to corporations with headquarters located within the United States. All the CIOs in the population studied were drawn from the U.S. Fortune 1000 list purchased from RSA Teleservices Inc. The phenomenon of global outsourcing was driven by the wide disparity in salary rates between U.S. information technology workers and their counterparts in low-cost outsourcing nations. Lacity and Willcocks (2001) results of a detailed survey of 271 business executives, CIOs and outsourcing consultants in the US, Europe, and Australia is relevant to the study because it talked about salary comparison between these countries with reference to location and economic standard of countries global outsourcing activities. (p. 59).

Data Collection

The data collected for the study was obtained from a web designed online survey instrument. Quantitative public data available for public use are known as factual information (Creswell, 2002). The data collected on the return on profitability and costs of operation on outsourcing information technology technical support was collected through repeated rounds of e-mail requesting participants to participate in the online survey questionnaire (Creswell, 2005).

The unique design of each round of data collection helped to narrow answers to the research

question for consensus. The collection of data took place online through the Zoomerang.com Web site, a service offered by an independent proprietor, for all rounds of the Quantitative study. Inductive data analysis consisted of recounting of the collection of data information, reducing the data, summarizing, developing patterns, and allowing themes to emerge from the data (Cooper & Schindler, 2003; Creswell, 2005). The basis of data collection was developed for quantitative study using deductive data analysis specifically for any population (Creswell, 2005). Zoomerang.com provided the collection of data in Microsoft Excel format for ease of data importation, organization, and analysis (Sheridan, 2005). Participants provided reason or clarification, reevaluate issues, or rerate issues when any disagreements on ratings arise during feedback and revision phase of the study. The development of possible scenarios relative to specific events was amended within the study in order to guide decisions for future direction (Singh & Kasavana, 2005).

Data was collected through the administration of a 22-question Web-based survey instrument to CIOs, or equivalent senior executives, of the 2009 U.S. Fortune 1000 companies. A list containing the email addresses of the CIOs of the U.S. Fortune 1000 companies was purchased from RSA Teleservices, Inc. Participant were invited through E-mail. In order to increase the response rate, several iterations of emails was sent out after receiving the first batch of respondent to the on-line survey.

Third (and last), email iterations were sent off after receiving the second batch of email. Research firms Meta (Gartner) Group and Forrester Research estimated that in the years 2003-2004, 45% or 450 Fortune 1000 U.S. companies had at least one year of outsourcing experience (Carmel & Tjia, 2005).

Instrumentation

A new survey instrument (designed for this study; see Appendix A), contained a copy of the instrument in text format. The actual Web-based questionnaire in HTML format had drop-down options, allowing participants to select an answer among the menu choices with the click of a mouse button. The instrument was a structured questionnaire designed to measure what relationship exists, if any, between cost of operation (the independent variable) and the return on profitability of outsourcing operation (the dependent variable) during the a two-year period (an independent moderator variable) of outsourcing of IT technical support assignment. If respondents had only one-year of experience, they were asked to estimate the figures for the second year. The survey questions were structured so that relationship between the return on profitability from an outsourcing operation and cost of operation could be examined. As a secondary and optional objective, the results from the survey were used to draw a composite chart showing the annual cost of operation and return on profitability. All data requested was in percentages, rather than dollar amounts, in order to make the data from all the corporations uniform, operational, and suitable for statistical analysis. The survey instrument questions were designed to measure variables at a percentage level. Ratio data represented the actual amounts of a variable, such as dollar amount in percentages (Cooper & Schindler, 2003).

The survey instrument was validated by piloting (or pretesting) it with a small group of 100 CIO respondents, through a list purchased from RSA Teleservices, Inc. The companies that participated in this pilot survey were excluded from the production survey to be administered to the U.S. Fortune 1000 corporations. One common characteristic of the members of this pilot group was that they was U.S.-based corporations with at least 10,000 employees, which qualified them similar in size to many of the U.S. Fortune 1000 corporations relative to number of

employees. In addition to this list, ten CIOs, presidents of the corporations, and subject matter experts in the field were invited to participate in the pilot study to validate the instrument. In the pilot survey, respondents were asked to assess the clarity, relevance, and specificity of the content of the questionnaire. Results from the pilot survey were used to make necessary modifications to the style, content, and language of the final instrument (Church & Waclawski, 1998).

Content validity referred to whether the questions, called items in the instrument, cover the entire factor the questionnaires intended to address (Simon, 2006). Measuring the validity of the contents of the articles accurately represents the construct measured (p. 77). Simon noted that this form of validity was often determined by agreement among experts. Assessing content validity has rarely been represented by numerical figures, because it is a logical process to compare the components of a variable to the elements of a measure (Sproull, 1995, p. 79).

The content validity of the survey instrument used in this study was determined by two approaches, as suggested by Cooper and Schindler (2003). In the first approach, the designer tool can determine validity of the content through accurate definition of concern, the items can be scaled, and the scales can be used (p. 232). If the instrument adequately covered the topics that had been defined as relevant dimensions, then the instrument could be said to have good content validity (Cooper & Schindler, 2003). Another way was to use a group of people to assess how well the instrument conforms to the standards (p. 232). Care was taken to ask all questions that are relevant to the research purpose and to avoid misleading, inappropriate, or redundant questions. The study instrument addressed the research questions and the hypotheses. The survey consisted of mainly closed-ended questions and responses included preset response options. The

use of closed-ended questions was practical to allow responses to be compared conveniently (Creswell, 2005).

During the pilot- test, respondents were encouraged to suggest additional questions that they think should be included. Responses were analyzed for unanswered questions, nonresponsive answers, and for written comments regarding the contents of the survey. The instrument contained 22 questions with corresponding answer a numeric value (percentage) of data. The first question in the instrument asked respondents to select their corporation's current stage in the given four stages of outsourcing operation. The second question asked for the respondents' number of years of outsourcing experience. Responses to these questions helped identify which respondents was qualified for further data analysis in order to respond to the purpose of the study. The purpose of the study was to analyze the relationship between cost of operation and return on profitability of an outsourcing operation over a two-year period following the outsourcing of IT technical support U.S. business organizations.

To aid in interpreting the findings of the study, Question 22 asked respondents to identify which IT technical support activities are included in the data they provided. The survey had an introduction which explained the terms used in the instrument as well as the theoretical equation $TROP = ROP - CP$. This equation defined the theoretical relationship between return on profitability of an outsourcing operation, operational return on profitability, and cost of operation. To assist the respondents in answering the questions, the introduction provided a simple example detailing these relationships and the values (in percent) of the variables. Questions 3, 5, and 7 of the instrument asked respondents to select the estimated values of ROP, CP, and TROP for the first year after launch of an IT technical services assignment. Questions 4, 6, and 8 asked respondents to select ROP, CP, and TROP for the second year after launch of an

IT technical support assignment. The data sets provided by the respondents in answering these questions was used to analyze the relationship between cost of operation and return on profitability, which was the stated purpose of the study. The rest of the items in the instrument asked for first and second year data on the five components of cost of operation, namely, search and contract costs, restructuring costs, infrastructure costs, knowledge transfer costs, and governance costs. Results of data analysis on these costs could have important implications useful to leaders and executives of U.S. corporations.

Validity and Reliability

Babbie (2009) stated that researchers faced with profound option to choose between astuteness and particularity of perceptive. Frequently during research, this constitutes selecting between validity and reliability respectively. Usually researchers goes for in-depth information, choosing to base their findings and assessments on an extensive range of observations and data, even at the probability that another researcher might arrive at a different assessment of the same situation.

Internal validity

Validity refer to the appropriateness, meaningfulness, and usefulness of specific inferences a researcher makes from the test scores gathered from an instrument (Idaho State University, 2006). Regarding instruments, internal validity is the degree to which the contents of the instrument represented the objectives of the instrument (Sproull, 1995). In this study, the objective was to answer the research questions and either support or reject the hypotheses that was formulated. In order to validate the instrument used in this study, a pilot survey was conducted using a draft survey instrument. The respondents evaluated the drafted survey instrument as to its content, clarity, relevance, and ease of use. The instrument was modified and

refined several times to incorporate all the feedback from the expert panel and from an analysis of the responses from the pilot survey.

External validity

Relating to the external validity, Creswell (2002) expressed that the threats to external validity are the problems that threaten the conclusions drawn correctly from the sample data to other people, settings, situations, past and future (p. 327). In this study, because of the small sample, care was taken not to infer findings from the sample data and from the would be targeted population defined as U.S. Fortune 1000 corporations that had at least one-year of experience in outsourcing of IT technical support operations.

Reliability

The quality of a research study was judged by the reliability of the study and the reliability of the research instruments. The reliability of a survey was the extent to which other researchers arrive at similar results if they studied the same procedures as the first researcher (Gall, Borg, & Gall, 1996, p. 572). The reliability of the instrument was the degree to which the instrument could consistently measure what the instrument was designed to measure. The expert panel requested to assess the instrument deemed it valid and reliable. Feedback from the panel included assessments that the questions on the instrument were clear, direct, and relevant and asked for numeric answers (data types at the ratio level that have absolute zeros). Unlike using Likert-type scale questions commonly used in social science research to measure attitudes, feelings, intelligence, and personality, this survey instrument asked for financial and operational business data, which documented on the record books of corporations. Neuman (2003) defined reliability as the dependability or consistency as if the data was repeated under similar or identical circumstances (2003). Reliability of the study was improved by defining proper

independent and dependent variables to validate the research questions. The reliability of the study was further enhanced by using reliable data sources.

Data Analysis

The data analysis was collected from the CIO survey response. CIO's of the U.S. Fortune 1000 corporations provided the data for the study by answering 22 survey Web-based questionnaires. Data was analyzed and summarized using descriptive statistics such as frequency, central tendency, and variability. In exploring a possible two-variable data that was collected in the study, graphical displays such as scatter plots and histograms was used to study the relationships between the variables. The strength of the relationship between cost of operation (the independent variable) and return on profitability of an outsourcing operation (the dependent variable) was measured by the Pearson product – moment correlation coefficient. The Pearson product – moment correlation coefficient was derived by dividing the covariance of the two variables by the product of their standard deviations.

Three assumptions of the analysis in this study were: (a) all the variables used the ratio level of measurement, (b) the variables were linearly related, and (c) there was a prediction by hypotheses about the relationship between the dependent and independent variables. The hypotheses predicted the relationship between cost of operation and return on profitability on IT technical support outsourcing operation. The process for computing a Pearson correlation to enable a drawing conclusion that support or not support the research hypothesis was followed by six general steps suggested by Sproull (1995):

1. Record the two sets of scores generated from the responses.
2. Compute the value of correlation coefficient r from the formula.
3. Compute the degrees of freedom $N - k - 1$, where N = number of pairs.

4. Find the critical values in the r table.
5. Reject the null hypothesis H_0 if the computed value of r equals or exceeds the critical value.
6. Draw conclusions about the research hypothesis (pp. 293-294).

Hypothesis testing in quantitative research helped find general and causal explanations for the purpose of variables measurement (Creswell, 2005; Neuman, 2003). Neuman indicated research questions specified the relationships among a small number of variables where each variable focused on the topic of the research question. In this quantitative study, the purpose was to probe experts for future direction where research variables are unnecessary for theory definition, as research variables are only for theory testing in quantitative studies (Creswell, 2005). In order to collect accurate, consistent, and valid data on the variables TROP, ROP, and CP and the relationships between them, the information explained to the respondents in the form of an equation, a definition of terms, and an illustrative example. This explanation was included in the introduction portion of the survey instrument.

Summary

A quantitative, descriptive, correlational study used a survey design that was appropriate for addressing the research questions and the hypotheses. The research questions that guided the study examined if a relationship existed between the cost of operation and return on profitability of an outsourcing operations over a two-year period following the outsourcing of IT technical support. Gathering these types of information could not be obtained by any other method, and it could not be obtained as public records.

Since no validated instrument existed that could be used to answer the research questions and investigate the hypotheses, so a new survey instrument was designed, which was validated

through a pilot study. The population to be examined was 1000 corporations CIOs listed on the 2009 U.S. Fortune 1000 list with two year of experience in outsourcing IT technical support assignments. Each CIO in the U.S. Fortune 1000 group was invited to take an online web survey, and the sample from the target population was selected from among the responses that met the parameters of the study. The process for collecting data, analyzing data, and reporting findings used a quantitative dissertation format, in examining the relationship between cost of operation and return on profitability from outsourcing operations. Descriptive statistics was used to display demographic information, which included scatter plots and histograms. The issues of informed consent, confidentiality, validity, and reliability were addressed in the data collection process, data analysis, and in the study as a whole. The research process could be repeatable, and the survey instrument could be administered to a population or sample of receptive CIOs. Depending on the size and shape of each sample obtained, inferences to a target population could be made within certain confidence levels and degrees of freedom Neuman (2003). Chapter 4 contained a report on the statistical procedures performed on the data and the results of the data analyzed. The presentation of the results was organized around the research questions and the hypotheses.

CHAPTER 4: RESULTS

Chapter 4 discusses the results of the data collected from the research study. The proposed study applied a quantitative correlational method to investigate the relationship between return on profitability and costs of outsourcing information technology technical support. The study included the procedure used for data collection, the pilot procedures, and the data gathering instrumentation. Data analysis included descriptive statistics, and the application of SPSS version 19.0 software (SPSS, 2011) with Microsoft Excel for plotting survey analysis.

Data Collection Process

The use of validated online survey instrument was the basis for investigating the relationship between return on profitability and costs of outsourcing information technology technical support. The variables were measured with a Likert scales instrument. In the study, six costs of operation hypotheses were formulated to capture both the first and second year of outsourcing experience from the respondent. An introductory paragraph described the research study. Prior to conducting the survey, potential participants were offered an informed consent with an option to accept or decline participation.

Online Survey Process

Zoomerang.com, an online survey system was used to host all twenty-two online survey questions answered by survey participants of the study (Zoomerang, 2011). The initial step required inputting the survey questions into a survey-building tool (supplied by Zoomerang.com; see Appendix E). The logical design of the survey template provided opportunities for the survey respondents to exit from participating in the survey if the respondent could not meet the terms of the study. To ensure completeness of the questionnaires, each question was required. If a participant missed a question, the software prompted the user to complete the question.

Conducting a pilot of the online survey provided initial useful feedback that aided the conducting

of the final online survey questionnaire by clarifying survey items. Zoomerang.com's online e-mail distribution system was used to invite potential participants from RSA list services, an online market research panel list. Zoomerang.com e-mail distribution contacted 1000 CIO's and qualified IT managers to request their participation in the survey.

Zoomerang.com survey application tool used a sampling process called TrueSample, this process allowed for the inclusion of reliable, engaged and representative online panel of the target population that ensured the validation of all prospective survey-takers by verifying respondent information with a patent-pending process that utilizes automatic real-time validation technologies; (see Appendix F). Also, this process ensures respondents received the survey questionnaires only once (Zoomerang, 2011).

Data Collection

The survey was available to the contacted participants for a period of 30 days. After seven days, 17 individuals had responded to the survey questionnaires. Sixty-one additional responses were collected prior to the survey being closed, resulting in 78 completions. A functioning tool imbedded in the survey page menu allowed for the export to Microsoft Excel Spreadsheet a comma-delimited file of all participant responses with the data coded for data analysis in different colors.

Pilot Test

The pilot consisted of a convenience sample of 17 respondents. CIOs and IT managers qualified to speak on-behalf of the company CIOs from various industries reviewed the survey instrument. The responses received from respondents indicated that the questions were clear and easily understood therefore, (the pilot scores provided an opportunity to test the reliability of the instruments; see Appendix D).

Descriptive Analysis

The results section was divided into three main groups. The first group of results presented the statistical description of companies' current stage of outsourcing strategy, outsourced IT activities, and investment payback period. The second group of result presented statistically analyzed data that could answer the research questions and test the hypotheses. The third group of result presented the histograms on each of the questions relating to return on profitability, cost of operations, total return on profitability of an outsourcing strategy, and the six categories of cost of operations for the first and second years following implementation of the outsourcing of IT technical support strategy. Survey respondents were asked to answer the questionnaires in percentage (%) as they consider the cost of operation (CP); return on profitability (ROP) and; total return on profitability (TROP) for their company's outsourcing strategy within the first two years of outsourcing IT technical support based on the cost of operations broken down into the following five categories:

1. Cost of searching and contracting an outsourcing supplier
2. Cost of restructuring-employee layoffs and retention
3. Cost of infrastructure, including communications
4. Cost of knowledge transfer while transitioning work
5. Cost of governance, including travel and contract management

The sixth which was aggregate cost of operation for both first and second year of outsourcing operation was calculated using SPSS application software to find if there was a relationship between cost of operation and return on profitability.

Current Stages of Outsource Strategies

Respondents were asked to select which of the following stages of outsourcing

strategy best described their company (see Question 1 in Appendix A):

1. Wait and see—not currently outsourcing
2. Experimenting— outsourcing at least one small IT activity
3. Cost reduction—at least one large IT activities focused on return on profitability
4. Strategic sourcing—focused on both cost of operations and strategic objectives such as innovation, speed, flexibility, new capabilities, and new revenues

Out of the 77 who responded, 14% respondents said their company was not currently outsourcing or was in the wait-and-see stage. The other participants responded in the following areas: 22% in experimenting, 40% in cost reduction, 23% in strategic sourcing, and 1% declined to respond (Figure 1).

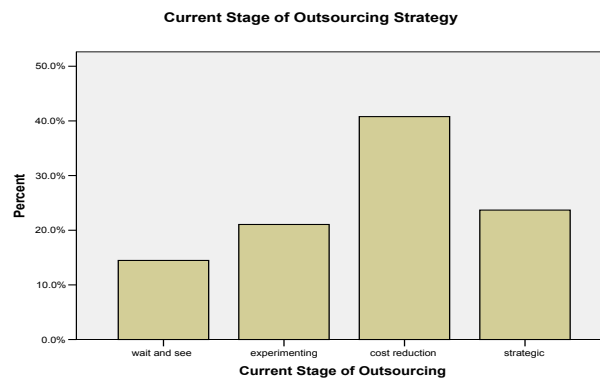


Figure 1. Respondent's current stage of outsourcing

Number of years' of Outsourcing IT

Participants were asked the number of years they had been outsourcing IT technical support activities. Figure 2 displays the responses: 7% less than one year, 29% one or more, but less than two, 49%; more than two, and 15% with no experience activities (see Appendix A, Question #2)

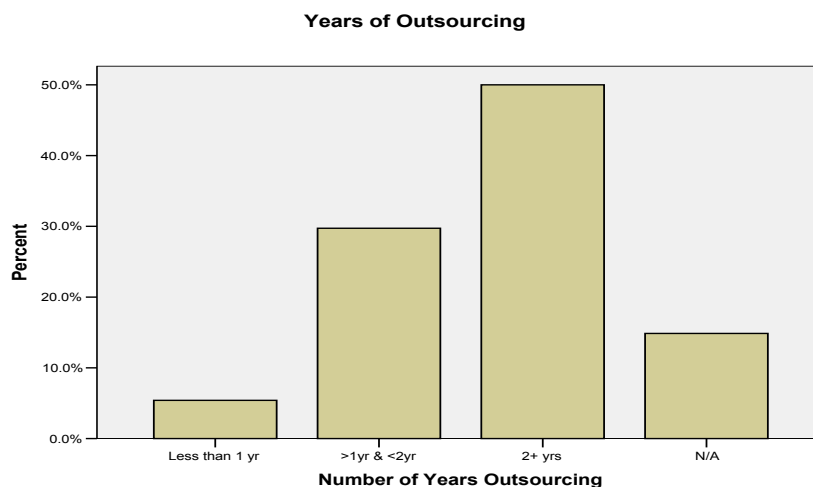


Figure 2. Respondents' year of outsourcing IT activities

IT Activities Outsourced

Survey respondents were asked to select all the IT technical support activities that were outsourced in the last two years in this research study. The results are shown in Figure 3. The figure shows that 30% of company's technical requirements, 52% of company's architecture, 67% of company's design, 64% of company's coding, 78% of company's testing, and 55% of company's business integration, 91% of company's maintenance, and 78% of company's call center activities (see Appendix A, Question #22).

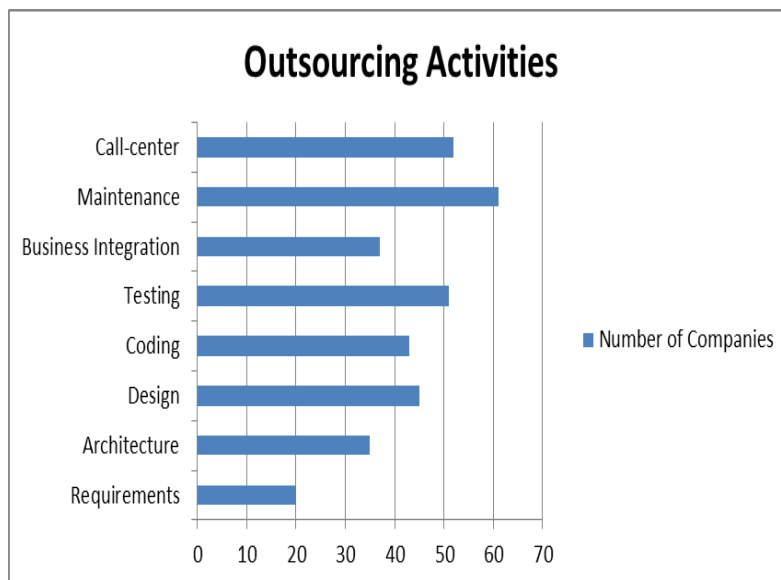


Figure 3. IT technical activities outsourced

Respondents were asked which IT technical support activity they had outsourced within the last two years. They were then asked to estimate return on profitability, costs of operations, and total return on profitability on outsourced strategy for both the first and second year (see Questions 6 and 7 of Appendix A).

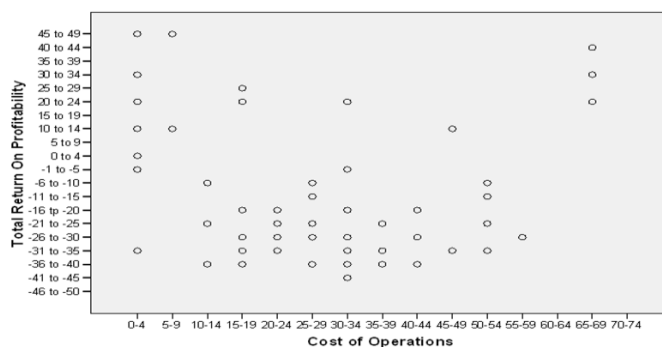


Figure 4. Scatter plot of TROP and CP–1st Year

The scatter plot data in Figure 4 was derived from the results provided by survey respondents to questions 6 and 7 which tested if there was a relationship between cost of operations and the total return on profitability of an outsourcing strategy in the first year following the outsourcing of IT technical support?

Respondents were also, asked which IT technical support activity they had outsourced within the last two years. They were then asked to estimate return on profitability, costs of operations, and total return on profitability on outsourced strategy for each of the first year. The table below displayed the number of counts (see Questions 6 to 8 of Appendix A)

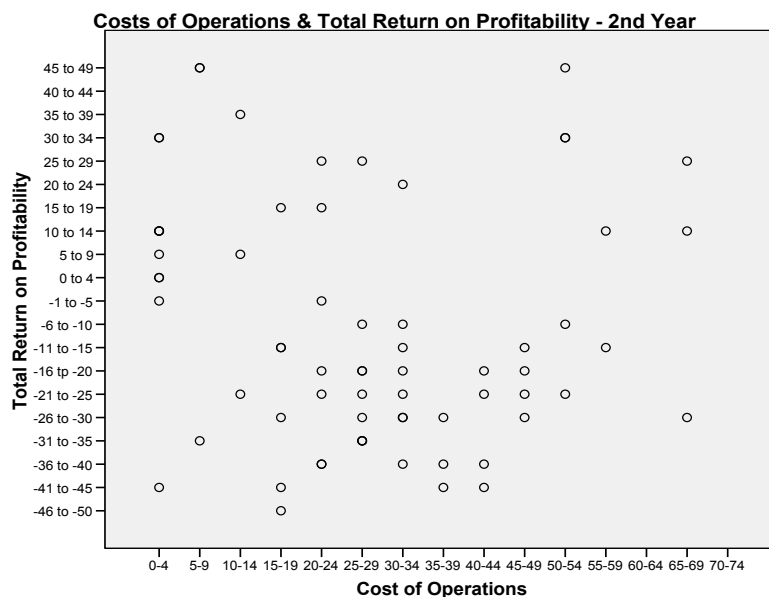


Figure 5. Scatter plot of TROP and CP – 2nd Year

The scatter plot data in Figure 5 was derived from the result provided by survey respondents to questions 6 and 8, the results were used to test if there is a relationship between cost of operations and the total return on profitability of an outsourcing strategy in the second year following the outsourcing of IT technical support.

Outsourcing IT technical Support Strategy - First Year Statistics

Questions 3, 5, and 7 asked respondents to estimate the percentage values of return on profitability, cost of operation, and total return on profitability of outsourcing IT technical support strategy in the second year. Figures 6, 7, and 8 display the histograms of the data.

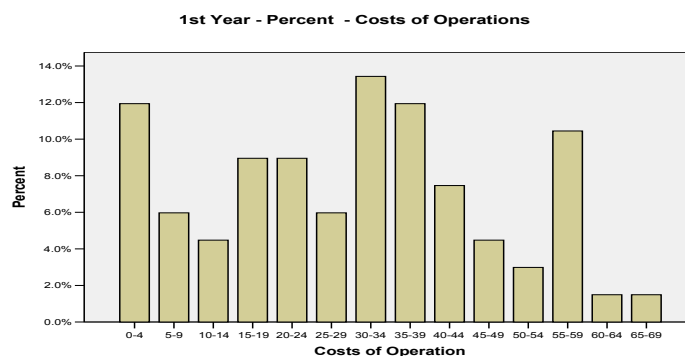


Figure 6. Histogram of First Year Percentage (%) of Cost of Operations (CP)

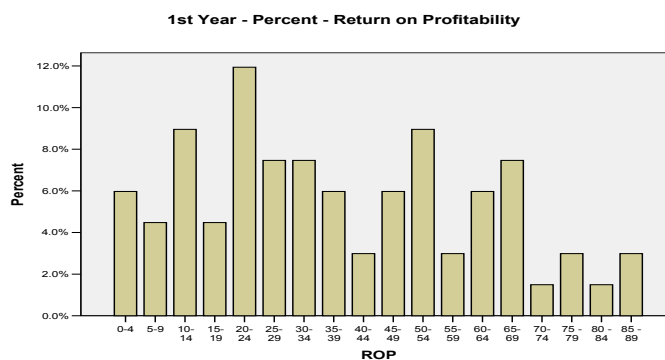


Figure 7. Histogram of First Year Percentage (%) of Return on Profitability (ROP)

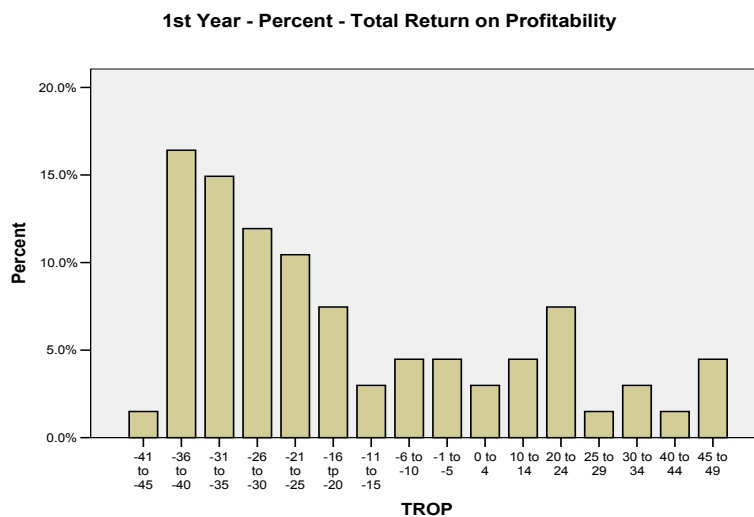


Figure 8. Histogram of First Year Percentage (%) of Total Return on Profitability (TROP)

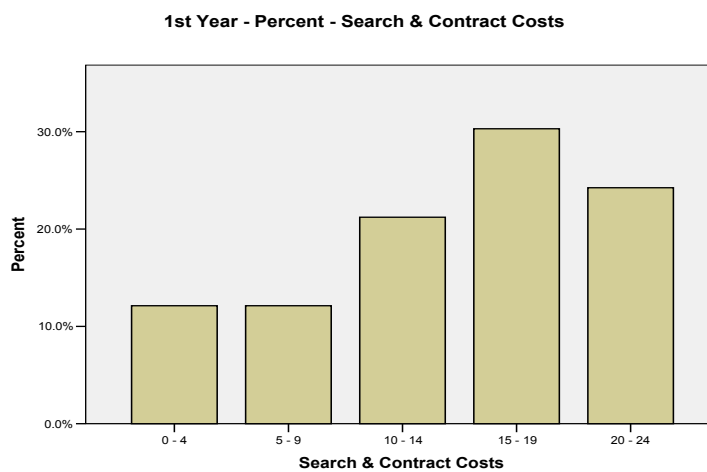


Figure 9. Histogram of First Year Percentage (%) of Search and Contract Cost

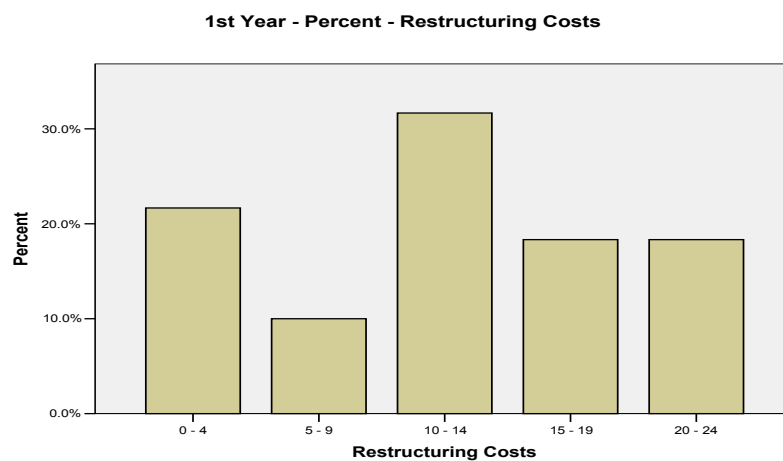


Figure 10. Histogram of First Year Percentage (%) of Restructuring Cost

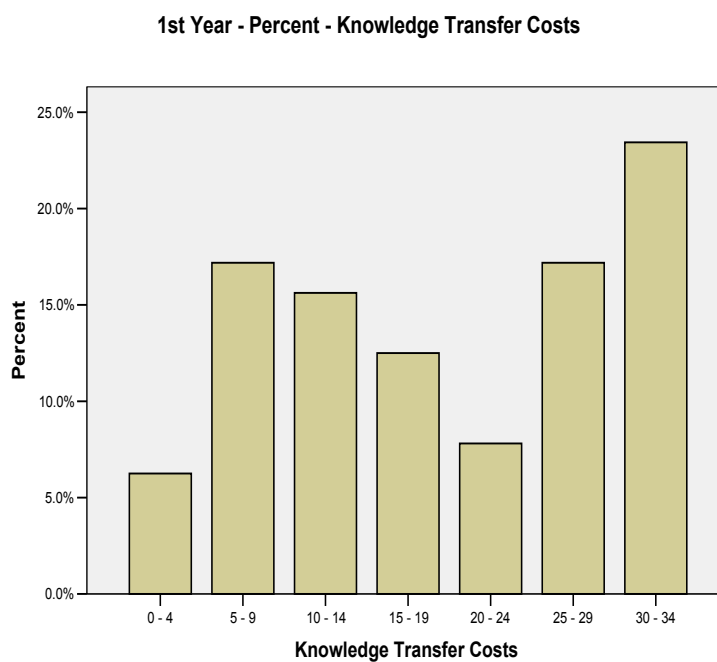


Figure 11. Histogram of First Year Percentage (%) of Infrastructure Cost

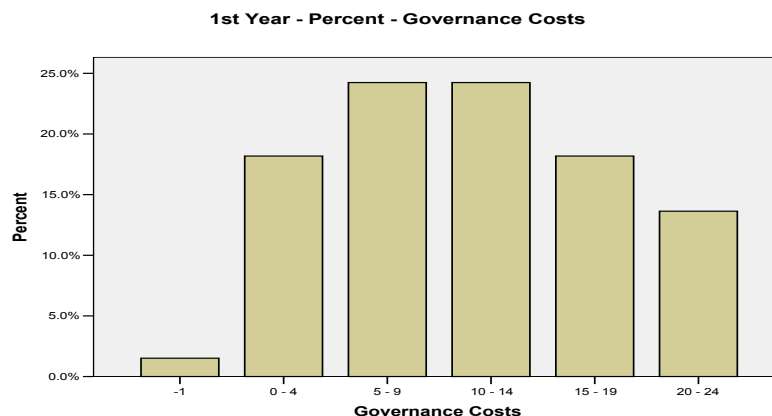


Figure 12. Histogram of First Year Percentage (%) of Knowledge Transfer Cost

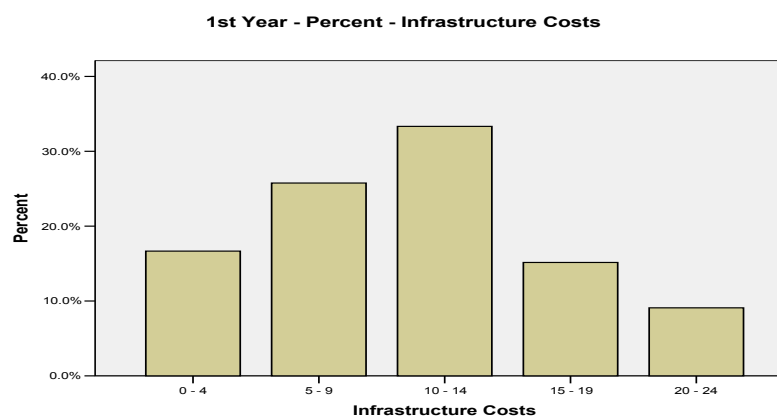


Figure 13. Histogram of First Year Percentage (%) of Governance Cost

Outsourcing IT technical Support Strategy - Second Year Statistics

Questions 4, 6, and 8 asked respondents to estimate the percentage values of return on profitability, cost of operation, and total return on profitability of outsourcing IT technical support strategy in the second year. Figures 14, 15, and 16 display the histograms of the data.

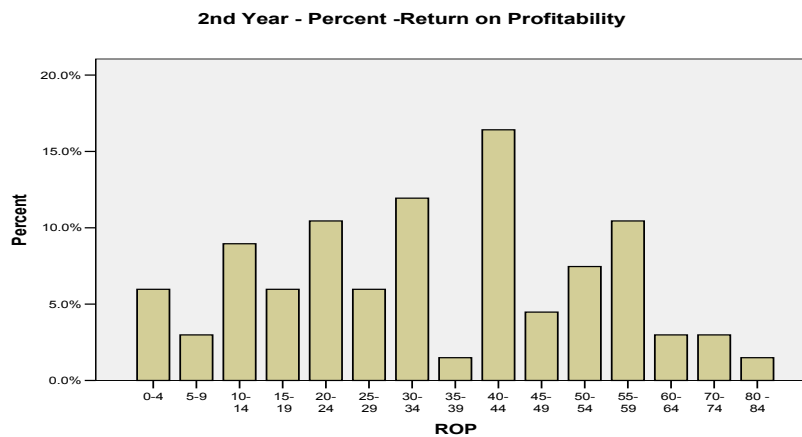


Figure 14. Histogram of Second Year Percentage (%) of Return on Profitability

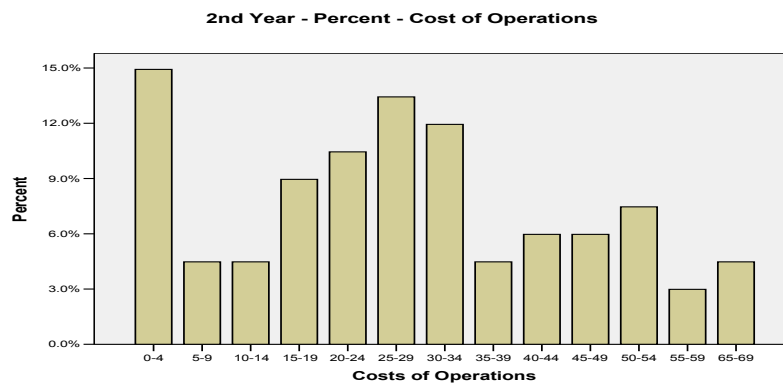


Figure 15. Histogram of Second Year Percentage (%) of Cost of Operations

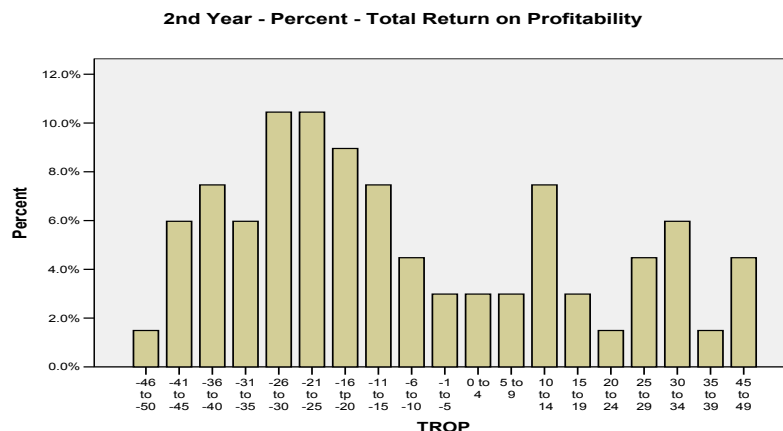


Figure 16. Histogram of Second Year Percentage (%) of Total Return on Profitability

Respondents of the survey were asked in Questions 15, 16, 17, 18, 19 and 20 to estimate the percentage values of return of profitability, cost of operations, and total return on profitability outsource strategy in the second year following outsourcing of IT technical support activities. Figures 18, 19, 20, and 22 display the histograms of the data.

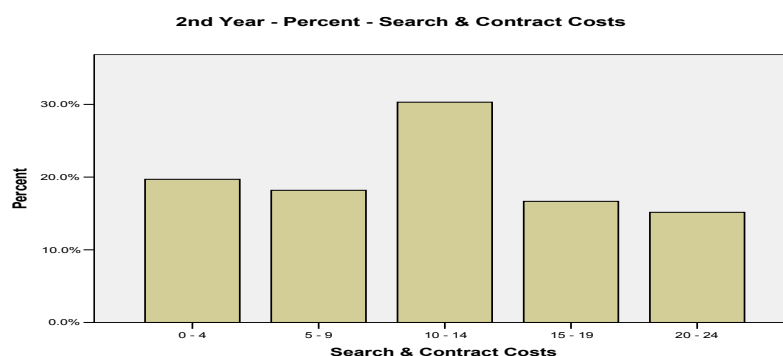


Figure 17. Histogram of Second Year Percentage (%) of Search and Contract Costs

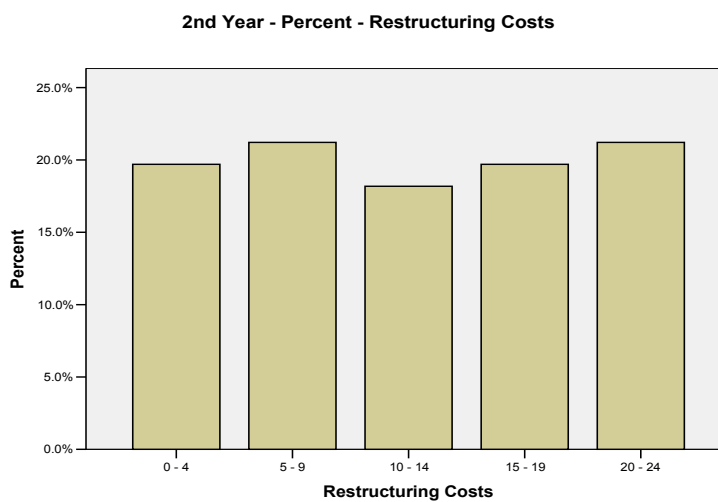


Figure 18. Histogram of Second Year Percentage (%) of Restructuring Costs

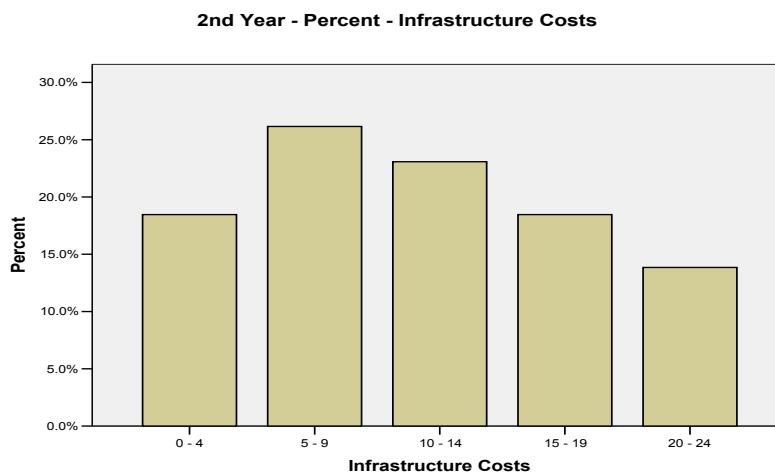


Figure 19. Histogram of Second Year Percentage (%) of Infrastructure Costs

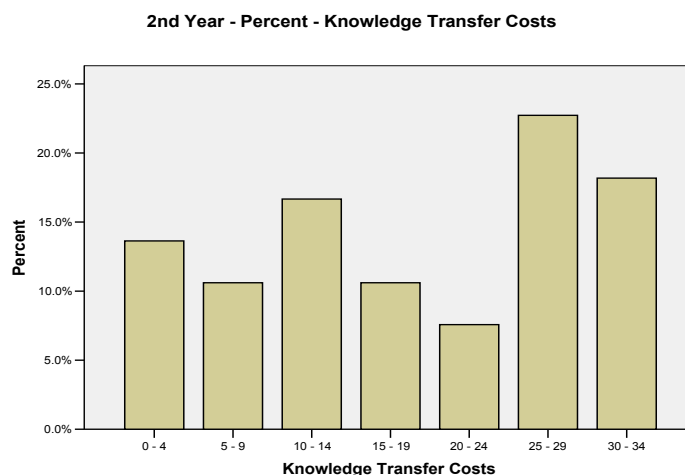


Figure 20. Histogram of Second Year Percentage (%) of Knowledge Transfer Costs

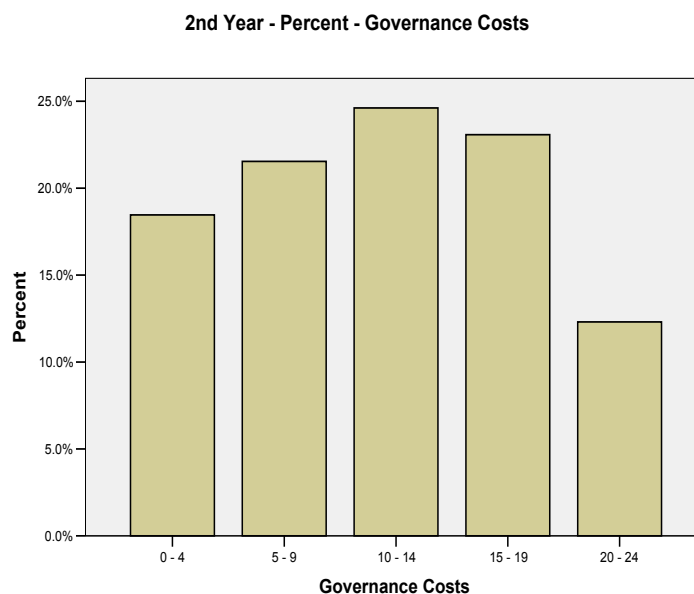


Figure 21. Histogram of Second Year Percentage (%) of Governance Costs

Payback Period

The payback point in this study was the number of months it took to realize total cumulative total return on profitability through implementation of the IT technical activities to

equal the cumulative investments made in cost of operations. Question 21 asked respondents to estimate the length of time it took, for the cumulative total return on profitability to equal the cumulative costs of operations after launching an outsourcing of IT technical support activities. The results are displayed in Figure 22.

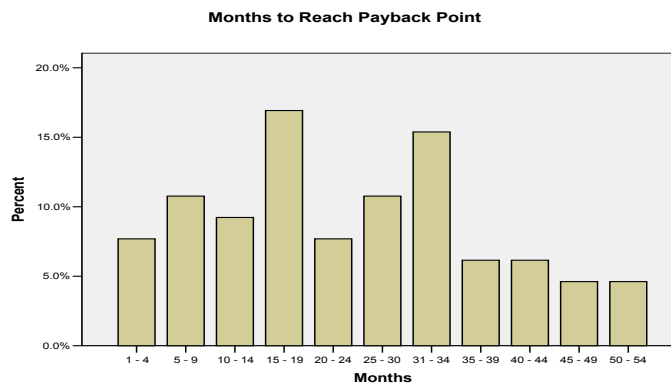


Figure 22. Number of months for cumulative savings to equal cumulative costs

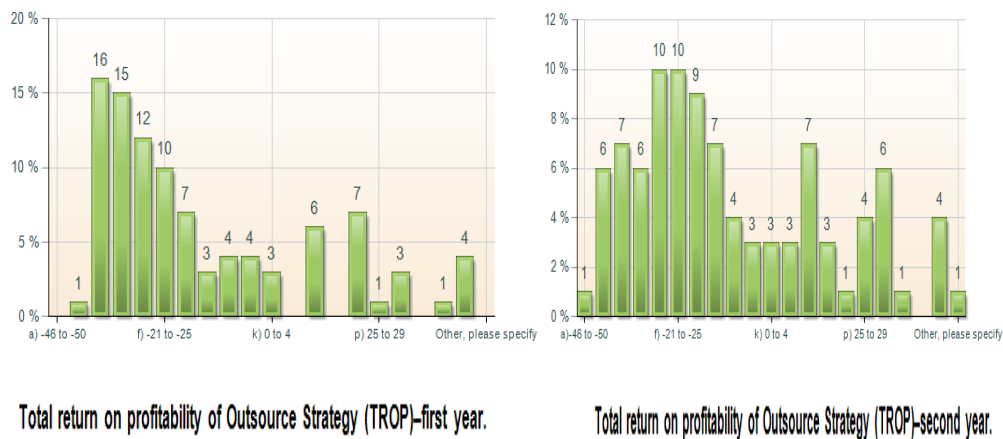


Figure 23. Compare Total Return on Profitability – First & Second Year

Results

SPSS was used to produce the significance level with the value of the test statistic itself.

The SPSS printout is shown in Table 3.

Table 1.

Correlation of Cost of Operation Year and Total Return on Profitability – First & Second Year

	Cost of Operation 1 st Year	Cost of Operation 2 nd Year	Total Return on Profitability (TROP)
1 st year – cost of searching	.687**		
1 st year – cost restructuring	.651**		
1 st year – cost of infrastructure	.458**		
1 st year – cost of knowledge	.486**		
1 st year – cost of governance	.523**		
2 nd year – cost of searching		.520**	
2 nd year – cost of restructuring		.510**	
2 nd year – cost of infrastructure		.402**	
2 nd year – cost of knowledge		.636**	
2 nd year – cost of governance		.379**	
Total CP (Years 1&2).			.687**

** $p < .01$

Table 2.

Shows Mean, Std Deviation and Number of Respondent to Total Cost of Operation and Total Return on Profitability

	Mean	Std. Deviation	Number of respondents (N)
Cost of Operations (CP)	12.7	6.6	67
Return on Profitability (TROP)	15.7	7.9	67

The Pearson Product Moment Correlations numbers showed the degree of relationship between the variables. The results were all positive meaning as cost of operations (CP) goes up, so does the return on profitability (TROP). All of the numbers in this table are significantly correlated at $p < .01$. Table 5 shows SPSS output of Pearson 2-tailed correlation for total cost of operation and total return on profitability for the first & second year of outsourcing information technology technical support.

Table 3.

Correlation for Total Cost of Operation and Total Return on Profitability – First & Second Year

		Correlations	
		Q5+Q6= Cost of Operation(CP) 1 st & 2 nd Year	Q3+Q4= Total Return on Profitability (TROP) 1 st & 2 nd Year
Total CP	Pearson Correlation	1	.687(**)
	Sig. (2-tailed)		.000
	N	67	67
Total TROP	Pearson Correlation	.687(**)	1
	Sig. (2-tailed)	.000	
	N	67	67

** $p < .001$, two-tailed

Analysis of Study Hypotheses

The intent of six hypotheses was to address the research question pertaining to the relationship between return on profitability and cost of operations of an outsourcing operation over a 2-year period following the outsourcing of IT technical support. In this study, Pearson Product Moment Correlations numbers were computed to show the degree of relationship between cost of operation (CP), which is the independent variable, and return on profitability of outsourcing operations (ROP), the dependent variable.

Hypothesis 1

H₁₋₀: There is no relationship between cost of search and contract, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{1-a}: There is a relationship between cost of search and contract, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support. A significant, positive relationship exists between cost of search and contract, and return on profitability of an outsourcing operation in the first year, $r = .68, p < 0.01$ implying there is a significant positive relationship between cost of search and contract, and return on profitability of an outsourcing operation in the second year, $r = .52, p < 0.01$ positive relationship. The null hypothesis that there is no relationship between cost of operation (CP), and return on profitability (TROP) was rejected.

Hypothesis 2

H₂₋₀: There is no relationship between cost of restructuring, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.

H_{2-a}: There is a relationship between cost of restructuring and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support. A significant, positive relationship exists between cost of restructuring, and return on profitability of an outsourcing operation in the first year, $r = .65, p < 0.01$ implying there is a significant positive relationship between cost of restructuring, and return on profitability of an outsourcing operation in the second year, $r = .51, p < 0.01$. The null hypothesis that there is no relationship between cost of operation (CP), and return on profitability (TROP) was rejected.

Hypothesis 3

H₃₋₀: There is no relationship between cost of infrastructure, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support.

H_{3-a}: There is a relationship between cost of infrastructure, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support. A significant, positive relationship exists between cost of infrastructure, and return on profitability of an outsourcing operation in the first year, $r = .45$, $p < 0.01$ implying there is a significant positive relationship between cost of infrastructure, and return on profitability of an outsourcing operation in the second year, $r = .40$, $p < 0.01$. The null hypothesis that there is no relationship between cost of operation (CP), and return on profitability (TROP) was rejected.

Hypothesis 4

H₄₋₀: There is no relationship between cost of knowledge transfer, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{4-a}: There is a relationship between cost of knowledge transfer, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support. A significant, positive relationship exists between cost of knowledge transfer, and return on profitability of an outsourcing operation in the first year, $r = .68$, $p < 0.01$ implying there is a significant positive relationship between cost of knowledge transfer, and return on profitability of an outsourcing operation in the second year, $r = .52$, $p < 0.01$. The null hypothesis that there is no relationship between cost of operation (CP), and return on profitability (TROP) was rejected.

Hypothesis 5

H₅₋₀: There is no relationship between cost of governance, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{5-a}: There is a relationship between cost of governance, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support. A significant, positive relationship exists between cost of governance, and return on profitability of an outsourcing operation in the first year, $r = .52, p < 0.01$ implying there is a significant positive relationship between cost of governance, and return on profitability of an outsourcing operation in the second year, $r = .38, p < 0.01$. The null hypothesis that there is no relationship between cost of operation (CP), and return on profitability (TROP) was rejected.

Hypothesis 6

H₆₋₀: There is no relationship between aggregate cost of operation, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support

H_{6-a}: There is a relationship between aggregate cost of operation, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support. A significant, positive relationship exists between aggregate cost of operation, and return on profitability of an outsourcing operation in the first year, $r = .68, p < 0.01$ implying there is a significant positive relationship between aggregate cost of operation, and return on profitability of an outsourcing operation in the second year, $r = .68, p < 0.01$. The null hypothesis that there is no relationship between cost of operation (CP), and return on profitability (TROP) was rejected. The results of the research were presented in chapter 4. Descriptive statistics and demographic details offered additional information

on the sample. Preliminary analysis revealed the possible relationship between cost of operation, and return on profitability of an outsourcing operation in the two years following outsourcing of IT technical support. Within the context of the research questions, all six hypotheses were rejected. The results strongly indicate a possible relationship between cost of operation, and return on profitability.

Summary

The data presented and analyzed in chapter 4 was obtained from responses to a 22-question Web-based survey instrument created and designed for this research study. The nature of outsourcing had made it a worthwhile area of study with regards to establishing rational or empirical bases for its support or abandonment. This study provided an empirical rather than a rational determination of a relationship between outsourcing Cost of production (CP) and total return on profitability (TROP). The relationship between cost of production and total return on profitability is of significant importance to corporate leaders who were tasked with making critical investment decision that not only affect a corporation's bottom line but might also determine its future. The use of survey sample data covering a period of two years of outsourcing had been employed to derive a regression analysis between the two variables of cost of production and total return on profitability. Using random data sets for these two variables allowed the computation of a correlation coefficient r . The correlation coefficient p measured the strength and direction of a linear relationship between the two variables CP and TROP. The specific coefficient used was the Pearson Product Moment Correlation Coefficient. The value of r was between $-1 \leq p \leq +1$. Where CP and TROP had a strong positive linear correlation then the value of r was almost equivalent to a value of +1.

Furthermore, the positive relationship implied that increase in CP was matched by increase in TROP. The converse is also the case in that decrease in CP implied decrease in

TROP. When CP and TROP had a strong negative relationship, increase in CP implied decrease in TROP, again the converse is true. Decrease in CP implies increase in TROP. When the correlation coefficient was close to zero in value the linear relationship between CP and TROP was very weak. Weak random nonlinear relationships render predictive determination of the effects of cost of production and total return on profitability almost impossible or subject to guess work. A perfect correlation of 1 implied almost perfect predictability of the effects of CP on TROP moving in the same direction. The relationship between the variables CP and TROP rendered prediction on how each variable would respond to changes. A very weak correlation coefficient would suggest that cost of production would not be a factor for serious consideration in the outsourcing decision.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Tambe and Hitt (2010) noted that Business Firm's offshore for a number of reasons, but IT operations appeared to be offshored primarily for cost. The issue of reducing cost in outsourcing IT activities has led to a debate among organization leaders whether the return on profitability, if any, outweighs the costs in implementing an outsource strategy.

The purpose of this research study was to examine if a relationship existed between cost of operations and total return on profitability of an outsource strategy for a two-year period following the outsourcing of information technology technical support. The research study used a quantitative method to question, collect and analyze data from U.S. Fortune 1000 companies CIOs. Overby (2009) posited that most information technology leaders entered into outsourcing relationship with a reasonable understanding of where they liked their IT outsourcing service providers to take them with some point in the future where the state of IT would have improved by saving money, increase efficiency, or implementing new enterprise systems.

Conclusion

The outcome of data analysis derived based on whether there was a relationship between cost of operations and total return on profitability of an outsource strategy in the first year of outsourcing information technology technical support showed a significant positive relationship. Similarly, the outcome of data analysis derived based on the whether there is a relationship between cost of operations and total return on profitability of an outsource strategy in the second year of outsourcing information technology technical support showed a significant positive relationship. The logical analysis of this study appeared to be consistent because as cost of operation increased so was total return on profitability however, there were no known previous research studies with different methodologies for comparison.

Since, increase in cost of operations meant increase in profitability while, decrease in cost of operation meant decrease in profitability in outsourcing IT technical support, the analyzed result provided very important result particularly for chief executive officers of American businesses who be considering to have potential returns on profitability from outsourcing information technology technical support. Manke, Overby and Vang (2009) asserted that prior research study on strategic IT outsourcing provided theoretical insights and largely qualitative evidence on IT outsourcing. While quantitative research study on IT outsourcing remain sparse, as there was lack in a comprehensive empirical study to examine outsourcing process in a more comprehensive perspective rather it was limited to decision making to outsource. First and second year result of analyzed data was consisted with data estimated by Meta (Gartner) group and Forrester Carmel and Tjia (2005). Pilot survey first question result showed 62% of respondent claimed that cost reduction was the driving factor as rational to outsource IT technical support as the participants were asked to characterize their current stage of outsourcing. The result was consistent with the survey conducted by Lewin and Couto (2006). The emergence of talent globally through outsourcing strategy in order to maintain growth and remain competitive was driving business to search for new skills outside the shore of the United States of America which as a result, in the survey had the high percentage of responded who claimed cost reduction as the reason to outsource technical support (p. 9).

The effect of cost of operations of the first and second year of outsourcing IT technical support as related to the following five categories: (1) search and contract cost; (2) restructuring cost; (3) infrastructure cost; (4) knowledge transfer cost; (5) and governance cost. Burkholder (2006) posited that to say outsourcing was ubiquitous and inevitable was not the same as saying it was desirable or virtuous because CEO's are very much concerned about outsourcing decision particularly while CIO's are concerned about both the costs and risks involved, and just as

workers were concerned about their jobs. Just as outsourcing was devastating to the lives of workers, also there were other implications for the people and communities to which work was lost and shipped to foreign countries. The transfer of knowledge was an outsourcing strategy critical to business organization in that the ability of the outsourcing service organization to absorb the needed knowledge and to build partnership with the owner transferring knowledge was a major predictors for outsourcing success and the ability of service receiver's organization ability to acquire the knowledge was significant to the transfer of knowledge and outsourcing success (p. 26). Carmel and Beulen (2005) asserted that transferring knowledge was critically important because it constituted the exchange of specific information from the American business organization outsourcing to the service receiver of the business and this required some level of collaboration between both companies to agree on how the information transferred could be used according to contract agreement. The increase in cost of transferred knowledge in the second year might have been as a result of the organizations negotiation process and contract agreement.

Blumenberg, Wagner, and Beimborn (2009) posited that higher levels of transferred of knowledge shared between the outsourcer and the receiver of service influenced business performance. And the content of the knowledge transferred could referred strictly to the content, training and service level agreements (SLA) included with standard of operations which defines how the knowledge should be interpreted and adhered to. There was considerable drop in governance costs on the second year of outsourcing IT technical support, which might be as a result of the domain of offshore outsourcing because it could be broader in scope and could clearly require investigation. Griffith, Harmancioglu, and Droge (2009) noted that outsourcing raised a standard between the outsourcer and the receiver of service thereby causing a different set of conditions that might influence the organization outsourcing governance structuring

especially when market competitive advantages often time was embedded within certain area of outsourcing IT technical support. Roehrig (2009) quoted that “the precarious situation of the current global economic which meant that the implications of IT infrastructure woes are more dire than usual” (p. 163). Long-term outsourcings of IT functions are constantly evaluated for profit partially or completely before decision are made to outsource IT infrastructure in a near-term. This might have been the reason infrastructure cost was less on the second year of outsourcing IT technical support compared to the cost of infrastructure on the first year. However, businesses implemented remote support resolution as a business enabler to position IT technical support operation for the future (p. 3). Roehrig (2009) further noted that because IT was strapped with cash, decision makers decided to trimmed IT budget allocation due to economic pressures and external services spending.

Implications to IT Organization Leadership

Kasraie and Cline (2011) noted that businesses considered downsizing as a better way to streamline their company size in order to stay competitive in the economy. Outsourcing of services seemed to be one method applied to achieve a leaner IT environment, and operated their business more effectively. Companies outsourcing strategy was driven by making profit because businesses believed was less expensive to outsource services to external source, although that was not always the case because outsourcing decision ultimately meant those employed in-house would lost their jobs. Variables such as finding the right partner, planning on how to outsource, and training are some of the variables critical to a successful outsourcing strategy (Prasad & Prasad, 2007). Communication was integral in making the right outsourcing decision from start to finish because unsuccessful implementation of outsourcing could be costly in terms of monetary and human capital. Hoving (2007) stated that the challenges IT organization leadership faced was to get the right technologies to work in order to provide the right business value.

Leaders and decision makers could use the study analyzed data based on CIO's experience on outsourcing IT technical support as actual information when planning or making decisions to outsource their firm's information technology functions. Mosca et al. (2009) posited that outsourcing strategy relied on managing resistance of strong leadership between organization outsourcing and the receiver of service when planning to outsource to offshore countries like China, and India where there might be cultural intricacies, attitude and capabilities. As analyzed from the data gathered in the study, return on profitability increases as cost of operations increases. Leader's decision to determine what IT functions to outsource was a critical step of action, to identify which repetitive task need to be outsourced and evaluating its requirement before outsourcing. Outsourcing IT functions offshore carries risks that need to be considered along with the potential reward gain to the company outsourcing. When organization leadership decided to outsource in order to achieve cost savings, such plan was never fully realized despite the conflict in outsourcing literature. Therefore, the IT functions outsourced was brought back to in-house operation because the anticipated cost savings was not actualized (Kasraie & Cline, 2011). According to Kim and Sohn (2009), "payback period was the amount of time it took for capital budgeted project to recover its initial cost" (p. 224). Survey question on "How long or what month will it took to recover a cumulative return on profitability showed a decline" Rothman (2009) noted that "juxtaposed to the promised benefit of offshore outsourcing, many IT executives interviewed struggled to realize their full potential." Therefore, the decline mentioned as part of respondent answer to the survey questionnaire might have been as a result, of insignificant savings achieved because as profitability increased so was the cost of operation in the outsourcing of IT technical support activities. Nevertheless, organization decision makers should take into consideration risk of outsourcing against the financial gains from the data analyzed in the study. The results on costs of operations analyzed for both first and second year

of outsourcing showed decline on return of profitability especially during the second year of outsourcing IT technical support activities. In spite of the unknown about outsourcing, contractual structure required sending and receiving from business organization, the strategy and economic importance to outsource IT technical support was critical, and it was equally important that leaders and decision makers use the survey result and analyzed data gathered in the research study as a forecasting mechanism to plan, implement, and monitor effectively their outsourcing strategy. After a company decided to outsource, there would be very little to know about how the company execute against their decision to outsource (George, 2010).

Implications to Global Organization

Oshri, Kotlansky, Wilcocks, and Wilcocks (2009) noted that the global phenomenon of outsourcing on the rise with about 120 centers developed all around the world. Therefore, it became necessary to understand the drivers behind this development especially when evidence showed that outsourcing relationships and outsourced functions failed to live up to some of the promises anticipated even as China, Russia, Brazil, and India are known as globalization outsourcing inheritors. Poor delivery of service by vendors and increasing cost of management cost are resulted in organization disappointment and frustration. The ability to collaborate between remote site locations and sharing transferred knowledge became imperative to the success of outsourcing activities. Since offshoring was integral part of most outsourcing arrangement then it needed to be observed from a global context as a principle part of operating any business process outsourcing (BPO) ventures (p. 1).

Lewin, Massini, and Peters survey result (as cited in Oshri, Kotlansky, Wilcocks, & Wilcocks, 2009) showed that 66% participant of the 90 companies among 650 US Forbes Global 2000 had already offshored one or more IT- associated functions (p. 69). India turned out to be the most attractive destination for the outsourcing and offshoring of IT business function with

66%. Telecommunication, advance in technology and the internet contributed as a driver for the growth of global outsourcing also, communication protocol contributed to inter-organizational activities efficiencies. United State of America tax code contributed to the outsourcing of IT activities rather than keep jobs workers domestically by deferring paying taxes on offshore activities until companies money was brought back to the USA. However, several disadvantages existed in outsourcing strategies. Lack of critical skills or overdependence on outside organization for carrying out US business organization IT activities might result into business threat and the well-being of the business. Data confidentiality and preservation could be a major concern for American business organizations. Lack of control of over timing and quality of product from outside vendor might result in final product release, which might be detriment to organization reputation. More importantly, organization should be careful with its outsourcing strategy to avoid creating competition to the advantage of the service receiver. Privacy laws from a global perspectives showed that outsourcing was associated with organization loss of legal and regulatory business environment as a result; organization dealt with differences in cultural, and business location (Kshetri, 2007).

Recommendations for Future Research

According to Blaskovich and Mintchik (2010), when chief information officers (CIO) organization reputation was high, they are not likely to outsource their services based on advice received from managerial accountants, but if their organization reputation was low, there is the likelihood to outsource. This was supported by the institute of management accountants through the foundation for applied research, which showed that data analyzed from 515 completed company responses indicated a significant ordinal interaction between CIO reputation and the actions of their peers (p. 16). Since the effective control over organization infrastructure determined accounting information systems reliability, then it made sense that account

executives had routine involvement in the evaluation of company's strategic decision to outsource IT, by providing initial business projections and monitor outcomes related to IT outsourcing. Whenever organization accountant recommend outsourcing company IT, the reason for such recommendation inquiry could be helpful to other researchers. Because IT infrastructural change process have significant implication on company's account so such recommendation for or against the outsourcing of IT functions is critical to the choice made by the organization (Potter & Brown, 2006). Resource-Based Theory according to Alvarez-Suescun (2007) suggested that companies should continue to operate their in-house IT activities as long as there are necessary strategic resources and capabilities to obtain expected results (p. 6). However, when organization lacks appropriate capabilities internally within the organization IT manager would look for outside opportunities to fill the gap. Goo (2010) posited that company reliance on outsourcing IT activities had caused management to focus their attention on required skills in order to manage relationship with service providers. There was inconsistency in obtaining adequate responses from survey respondent as regards questions on outsourcing information technology, so designing a well-targeted process to maximize participation and rate of responses will ensure external validity. Terzioglu and Chan (2010) claimed that "Information technology outsourcing has been shifting from "what" and "why" towards aspect of "trust" and cost analysis" which meant there are new and interesting aspects of information technology outsourcing to be explored and researched. In addition, the inadequate research study on how organization strategically use contract to manage inter-organization relationship successfully, could help improve various dimensions of organizational performance (Goo, 2010). Strategic outsourcing focused on savings and strategic objectives such as access to qualified personnel, innovation, speed, flexibility, new capabilities, and new revenues. A 2006 survey by Fuqua and Booz (Couto & Lewin, 2007) affirmed that labor investment continued to be a primary driver of

outsourcing because strategic sourcing had greatly increased in importance. Organization business models, structures and processes were fundamentally transformed as a result of innovation focused on globalization (Couto & Lewin, 2007, p. 9). To effect organizational transformation, it was recommended that leaders of companies like the chief information officer (CIO), chief executive officer (CEO), or other executive ranked decision maker alliance should guide this change initiative.

Summary

The purpose of this study was to examine if a relationship exists between cost of operations and total return on profitability of outsourcing information technology activities over a two-year period. The quantitative analyses of the data collected from the survey instrument respondents suggested a significant positive relationship between cost of operations and total return on profitability for both the first and second year of outsourcing. The positive relationship meant that as cost of operations increased; total return on profitability increased with a one percent coefficient correlation. Seventy-eight out of a thousand e-mail list of CIO's participated and sixty-seven respondents completed the entire survey questionnaire. The small sample made it difficult to generalize results about the target population, or to other populations and situations. Several suggestions for future research were addressed as part of recommendations for future research, which included alternative methodologies to obtain higher response rates and sample sizes. To outsource required effective planning and first time execution comes with high stake involvement. Khakhar and Warren (2006) noted that outsourcing decision-making demands a high-level sponsorship with the right representation in organization governance, and dedication with skilled and resourced technical team. Bowen and Inkpen (2009) urged leaders to develop a global mindset individually in order to help them understand and effectively manage global change from intellectual, psychological, and social capital perspective.

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APPENDIX A: SURVEY INSTRUMENT - FINAL SURVEY

Welcome!

This questionnaire is intended for companies that have been outsourcing some information technology (IT) technical supports for at least one year in the last two years. If not currently outsourcing, please answer questions 1 and 2 only, then submit. If you have been outsourcing for less than two years, please estimate the amounts for the second year. The questionnaire is easy to use and can be completed in about 10 minutes.

Consider your company's largest outsourced IT technical support in the past two years. Assume that the total return on profitability for your company's outsource strategy (TROP) is equal to the return on profitability (ROP) resulting from the wage differential between onshore employees and outsource employees, minus the cost of operations (CP), extra costs which your company incurred in the planning and implementation of its outsource strategy.

The theoretical equation is $TROP = ROP - CP$. Cost of operations are broken down into five categories:

1. cost of searching and contracting an outsourcing supplier
2. cost of restructuring—employee layoffs and retention
3. cost of infrastructure, including communications
4. cost of knowledge transfer while transitioning work
5. cost of governance, including travel and contract management
6. aggregate cost of operation in two years of outsourcing operation

From the answer choices provided at the end of all questions, you will select the value ranges for each of the above transaction cost categories. The choices are a percentage of the total IT technical support onshore cost (baseline), had the technical support been implemented onshore, rather than outsource.

The following simplified example will assist you in answering the questions. Assume that the total onshore cost (baseline) would have been \$100, or 100%.

If the total wage difference between onshore and outsource employees were \$55, the return on profitability (ROP) would be 55%. If the cost of operations (CP) were \$30, CP would be 30%. Total return on profitability of the outsource strategy (TROP) would be 25%, the difference between ROP (55%) and CP (30%). Please start by clicking on the Continue button below:

1. Which of the following best describes your company's current stage of outsource strategy for IT technical supports?
 - a) Wait and see—not currently outsourcing
 - b) Experimenting—outsourcing with at least one small technical support
 - c) Cost reduction—at least one large technical support focused on cost savings
 - d) Strategic sourcing—focused on both cost savings and strategic objective such as innovation, speed, flexibility, new capabilities, and new revenues
 - e) Other (please describe) _____
2. How many years have you been outsourcing IT technical supports or activities?
 - a) Less than 1 year
 - b) more than 1 year but less than 2 years

- c) 2 or more years
- d) Not applicable—not currently outsourcing

3. Return on profitability (ROP)—first year. Consider the largest (in US dollar amount) IT technical support that your company outsourced in the last two years. Assume that PS is equal to the difference in wages between the onshore and outsource IT workers (with outsource wages adjusted for included benefits, taxes, housing, and transportation), expressed as a percentage of the technical support's total onshore cost. What is your estimate of the ROP percentage for the first year of the technical support?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) 25 - 29
- g) 30 - 34
- h) 35 - 39
- i) 40 - 44
- j) 45 - 49
- k) 50 - 54
- l) 55 - 59
- m) 60 - 64
- n) 65 - 69
- o) 70 - 74
- p) 75 - 79
- q) 80 - 84
- r) 85 - 89
- s) Other _____

4. Return on profitability (ROP)—second year. Consider the largest (in US dollar amount) IT technical support that your company outsourced in the last two years. Assume that ROP is equal to the difference in wages between the onshore and outsource IT workers (with outsource wages adjusted for included benefits, taxes, housing, and transportation), expressed as a percentage of the technical support's total onshore cost. What is your estimate of the ROP percentage for the second year of technical support?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) 25 - 29
- g) 30 - 34
- h) 35 - 39
- i) 40 - 44
- j) 45 - 49
- k) 50 - 54
- l) 55 - 59

- m) 60 - 64
- n) 65 - 69
- o) 70 - 74
- p) 75 - 79
- q) 80 - 84
- r) 85 - 89
- s) Other _____

5. Cost of Operation (CP)—first year. Consider the IT technical support you used in answering question 3, which your company outsourced in the last two years. Assume CP is defined as the total of all the extra costs of planning and implementing the outsource strategy (expressed as a percentage of total technical support onshore cost). For the first year of the technical support, what were your total transaction costs (as a percentage of the technical support's total onshore costs)?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) 25 - 29
- g) 30 - 34
- h) 35 - 39
- i) 40 - 44
- j) 45 - 49
- k) 50 - 54
- l) 55 - 59
- m) 60 - 64
- n) 65 - 69
- o) 70 - 74
- p) Other _____

6. Cost of operations (CP)—second year. Consider the IT technical support you used in answering question 3, which your company outsourced in the last two years. Assume CP is defined as the total of all the extra costs of planning and implementing the outsource strategy (expressed as a percentage of total technical support onshore cost). For the second year of the technical support, what were your total transaction costs (as a percentage of the technical support's total onshore costs)?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) 25 - 29
- g) 30 - 34
- h) 35 - 39
- i) 40 - 44
- j) 45 - 49

- k) 50 - 54
- l) 55 - 59
- m) 60 - 64
- n) 65 - 69
- o) 70 - 74
- p) Other _____

7. Total return on profitability of Outsource Strategy (TROP)—first year. Consider the IT technical support you used in answering questions 3, which your company outsourced in the last two years. Assume that TROP is the difference between return on profitability (ROP) and Cost of operation (CP), expressed as a percentage of the technical support's total onshore cost. What was your actual TROP for the first year of the technical support? Select from drop-down menu; for negative savings ($CP > ROP$), select negative numbers.

- a) -46 to -50
- b) -41 to -45
- c) -36 to -40
- d) -31 to -35
- e) -26 to -30
- f) -21 to -25
- g) -16 to -20
- h) -11 to -15
- i) -6 to -10
- j) -1 to -5
- k) 0 to 4
- l) 5 to 9
- m) 10 to 14
- n) 15 to 19
- o) 20 to 24
- p) 25 to 29
- q) 30 to 34
- r) 35 to 39
- s) 40 to 44
- t) 45 to 49
- u) Other

8. Total return on profitability of Outsource Strategy (TROP)—second year. Consider the IT technical support you used in answering question 4, which your company outsourced in the last two years. Assume that TROP is the difference between return on profitability (ROP) and Cost of operation (CP), expressed as a percentage of the technical support's total onshore cost. What was your actual (or estimated) TROP for the second year of the technical support? Select from drop-down menu; for negative savings ($CP > ROP$), select negative numbers.

- a) -46 to -50
- b) -41 to -45
- c) -36 to -40
- d) -31 to -35
- e) -26 to -30

- f) -21 to -25
- g) -16 to -20
- h) -11 to -15
- i) -6 to -10
- j) -1 to -5
- k) 0 to 4
- l) 5 to 9
- m) 10 to 14
- n) 15 to 19
- o) 20 to 24
- p) 25 to 29
- q) 30 to 34
- r) 35 to 39
- s) 40 to 44
- t) 45 to 49
- u) Other - enter on textbox _____

Cost of operation (CP) categories—first year. Consider the IT technical support you used in answering question 3, which your company outsourced in the last two years. Assume CP is defined as the total of all the extra costs of planning and implementing the outsource strategy (expressed as a percentage of total technical support onshore cost). CP is composed of six categories shown below as questions 9-14. For the first year of the technical support, what were your actual costs (as a percentage of onshore costs) for each of these categories?

- 9. Search and contract costs (outsource service provider selection)—first year?
 - a) 0 - 4
 - b) 5 - 9
 - c) 10 - 14
 - d) 15 - 19
 - e) 20 - 24
 - f) Other _____
- 10. Restructuring costs (onshore layoffs and retention)—first year?
 - a) 0 - 4
 - b) 5 - 9
 - c) 10 - 14
 - d) 15 - 19
 - e) 20 - 24
 - f) Other _____
- 11. Infrastructure costs (technology, communications, and connectivity, including backup and recovery)—first year?
 - a) 0 - 4
 - b) 5 - 9
 - c) 10 - 14
 - d) 15 - 19
 - e) 20 - 24
 - f) Other _____

12. Knowledge transfer costs (costs resulting from process changes, cultural differences, lost productivity while transitioning the work, and training of outsource workforce)— first year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) 25 - 29
- g) 30 - 34
- h) Other _____

13. Governance costs (overhead including travel and contract management)—first year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) Other _____

14. Aggregate costs (of an outsourcing operations)—first year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) Other _____

Cost of operations (CP) categories—second year. Consider the IT technical support you used in answering question 4, which your company outsourced in the last two years. Assume CP is defined as the total of all the extra costs of planning and implementing the outsource strategy (expressed as a percentage of total technical support onshore cost). CP is composed of five categories shown below as questions 14-19. For the second year of the outsourcing of IT technical support, what were your actual (or expected) values (as a percentage of onshore costs) for each of these categories?

14. Search and contract costs (outsourcing service provider selection)—second year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) Other _____

15. Restructuring costs (onshore layoffs and retention)—second year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) Other _____

16. Infrastructure costs (technology, communications, and connectivity, including backup and recovery)—second year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) Other _____

17. Knowledge transfer costs (costs resulting from process changes, cultural differences, lost productivity while transitioning the work, and training of outsource workforce)—second year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) 25 - 29
- g) 30 - 34
- h) Other _____

18. Governance costs (overhead including travel and contract management)—second year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) Other _____

19. Aggregate costs (of an outsourcing operations)—second year?

- a) 0 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) Other _____

19. Payback Period - cumulative TROP turns positive. The payback period is the amount of time it took, or would take, for cumulative savings to equal cumulative costs spent in the outsourcing of IT technical support. Consider the IT technical support you used in answering question 3. How many months did it take, or would it take, to reach the payback point on the outsourced technical support? (Select from drop-down menu; if not within 1 - 60 months, select other and enter number in text box, or state. Positive cumulative TROP is not expected).

- a) 1 - 4
- b) 5 - 9
- c) 10 - 14
- d) 15 - 19
- e) 20 - 24
- f) 25 - 30

- g) 31 - 34
- h) 35 - 39
- i) 40 - 44
- j) 45 - 49
- k) 50 - 54
- l) 55 - 59
- m) Other _____

20. In the IT technical support outsourced in the last two years, for which you have given cost of operations and savings information in the previous questions, which activities in the IT technical support was outsourced? (Check all that apply)

- a) Requirements
- b) Architecture
- c) Design
- d) Coding
- e) Testing
- f) Business Integration
- g) Maintenance - bug fixing stage
- h) Call-Center - technical support
- i) Other (pleases specify) _____

APPENDIX B: INFORMED CONSENT AND SURVEY INVITATION

Dear Participant,

My name is Segun Odion and I am a student at the University of Phoenix working on a DM/IST degree. I am conducting a research study entitled THE RELATIONSHIP BETWEEN RETURN ON PROFITABILITY AND COSTS OF OUTSOURCING INFORMATION TECHNOLOGY TECHNICAL SUPPORT. The purpose of the research study is to apply quantitative, descriptive, and correlational analysis to examine whether a relationship exists or not between cost of operations and return on profitability of outsourcing ventures assessed during a 2-year period following the outsourcing of IT technical support by American business organizations. The expected result from data collection will be used to test if relationships exist or not between cost of operation and return on profitability of outsourcing ventures. .

If you decide to participate, you will need about twenty to thirty minutes of your time to complete 20 short surveys. Your participation in this study is voluntary. If you choose not to participate you are allowed to withdraw from the study at any time, you can do so without penalty or loss of benefit to yourself. The results of the research study may be published but your identity will remain confidential and your name will not be disclosed to any outside party.

In this research, there are no foreseeable risks to you.

Although there may be no direct benefit to you, a possible benefit of your participation is that your feedback could provide leadership perspectives to understand the cost of operations and return on profitability of outsourcing ventures assessed during a 2-year period.

If you have any questions concerning this research study, you may contact me by phone (xxx-xxx-xxxx), or my dissertation committee chair Oludotun Oni, Ph.D., at xxx-xxx-xxxx.

As a participant in this study, you should understand the following:

1. You may decline to participate or withdraw from participation at any time without consequences.

2. Your identity will be kept confidential.
3. Segun Odion, the researcher, has thoroughly explained the parameters of the research study and all of your questions and concerns have been addressed.
4. If the interviews are recorded, you must grant permission for the researcher, Segun Odion, to digitally record the interview. You understand that the information from the recorded interviews may be transcribed. The researcher will structure a coding process to assure that anonymity of your name is protected.
5. Data will be stored in a secure and locked area. The data will be held for a period of three years, and then destroyed.
6. The research results will be used for publication.

“By signing this form you acknowledge that you understand the nature of the study, the potential risks to you as a participant, and the means by which your identity will be kept confidential. Your signature on this form also indicates that you are 18 years old or older and that you give your permission to voluntarily serve as a participant in the study described.”

Signature of the interviewee _____ Date _____

Signature of the researcher _____ Date _____

APPENDIX C: INVITATION TO ASSESS PILOT SURVEY INSTRUMENT

My name is Segun Odion and a student at the University of Phoenix working on a DM/IST degree. I am conducting a study, “The Relationship between Return on Profitability and Cost of Operation Outsourcing Information Technology Technical Support.” The purpose is to determine if a relationship exists between cost of operations and return on profitability of outsourcing.

You are chosen as one of 1000 Chief Information Officers (CIO), or panel of experts, who are being requested to participate in a pilot test of the IT Outsourcing Strategy survey. The purpose of the pilot test is to assess any flaws in the questionnaire or its administration. Your participation will help refine the survey prior to its use with the U.S. Fortune 1000 company CIOs. It should only take 25 to 40 minutes of your time. In appreciation for your help in assessing the survey, I offer to provide you with a free CD (or softcopy) of my dissertation and a free consultation to you or your company to explain the results of the study and its possible ramifications. [If you would like a copy of the completed dissertation (either CD or softcopy), and/or consultation, please call or reply by email]

After completing the survey, please evaluate its usability in terms of its *Clarity, Relevance, and Specificity*. Please answer the following questions:

1. How long did it take you to complete the questionnaire?
2. What were your general reactions to the survey?
3. What were your reactions to the cover letter—the email message inviting participation—shown below following INFORMED CONSENT and LETTER OF INTRODUCTION?
4. What were your reactions to the introduction and instructions on the web-based survey?

5. Please list questions that were difficult to answer and specify reasons.
6. Are there any other issues, concerns, or suggestions you would like to raise to help improve the survey?
7. What additional questions, if any, would you add to improve the survey?

Segun Odion

Cell: xxx-xxx-xxxx

To take the survey now, click (or Ctrl + click) on this link:

<http://www.zoomerang.com/Survey/WEB22CA5AB3C64>

APPENDIX D: PILOT SURVEY INSTRUMENT—PROPOSAL STAGE

(This Web-based instrument was self-administered online for use in piloting the survey)

Your answer to each question in this survey will remain anonymous and confidential. No question was asked that will identify you or your company. Data collected from the questionnaire was summarized and reported only in aggregate form.

The survey is intended for companies that have been outsourcing information technology (IT) technical support for at least one year in the last two years; if not currently outsourcing, fill in questions 1 and 2 and submit. If your company has not completed the second year of outsourcing information technology (IT) technical support, please estimate the amounts for the second year.

In many of the questions that follow, you were asked to consider your company's outsourcing information technology (IT) technical support in dollar terms. Theoretically, the total return of profitability for your company's outsourcing strategy

(TROP) is equal to the return on profitability (ROP) because of the adjusted wage differential between onshore employees and outsource employees minus cost of operation (CP), extra costs, which your company incurred in the planning and implementation of an outsourcing strategy. The adjustment in wages is made to level onshore and outsources wages to account for non-wage payments such as benefits, taxes, housing, and transportation, when these costs are part of an employee's compensation package.

Examples of cost of operation are (a) researching and contracting an outsource supplier, (b) restructuring—employee layoffs and retention, (c) infrastructure including communications, (d) knowledge transfer costs while transitioning work, and (e) governance including travel and contract management, and (f) aggregate cost of operation. The theoretical equation is $TROP = ROP - CP$. The value for each of these items needs to be expressed as a percentage of the total return on profitability, had technical support been conducted onshore rather than outsource.

For example, assume that outsourcing information technology (IT) technical support total onshore cost would have been \$100. If the total wage difference between onshore and outsource employees were \$55, the production savings (ROP) would be 55%. If the cost of operation were \$30, CP would be 30%. TROP in this example would be 25%, the difference between 55% and 30%. These percentages would be different if the project's total onshore cost were other than \$100 (the common denominator).

 1. How would you characterize your company's current stage of outsourcing information technology (IT) technical support? Select one from the following choices:

- (a) Wait and see—not currently outsourcing
- (b) Experimenting— outsourcing with at least one small project
- (c) Cost reduction—at least one large project focused on return on profitability
- (d) Strategic sourcing—focused on both return on profitability and strategic

objectives such as

Innovation, speed, flexibility, new capabilities, and new revenues

2. How many years have you been outsourcing information technology (IT) technical support?

- Less than 1 year
- More than 1 year but less than 2 years
- 2 or more years

3. Consider the largest (in US dollar amount) IT project that your company outsourced in the last two years. What is your estimate of the production savings (ROP) for each of the first two years after the project started? (Assume that production savings is equal to the difference in wages between the onshore and outsource IT workers, where wages are adjusted for benefits, taxes, housing, and transportation, if these items are usually part of employees' compensation package). Express ROP as a percentage of total project onshore cost.

1st year = ____ %

2nd year = ____ %

____ Do not know

4. Consider the largest (in US dollar amount) IT project that your company outsourced in the last two years. What is your estimate of the cost of operations (CP) for each of the first two years after the project started? CP is the total of all the extra costs of planning and implementing the outsource strategy, expressed as a percentage of total project onshore cost.

1st year = ____ %

2nd year = ____ %

____ Do not know

5. Consider your answer to Question 4 above regarding the total cost of operations of the IT project your company outsourced in the last two years. Five subgroups might comprise transaction costs. Please provide your best estimate for the amounts for each subgroup of the cost of operations below expressed as a percentage of the total project onshore cost.

a. Search and contract costs (outsource service provider selection)

1st year = ____ %

2nd year = ____ %

____ Do not know

b. Restructuring costs (onshore layoffs and retention)

1st year = ____ %

2nd year = ____ %

____ Do not know

c. Infrastructure costs (technology, communications, and connectivity, including backup and recovery)

1st year = ____ %

2nd year = ____ %

____ Do not know

d. Knowledge transfer costs (costs resulting from process changes, cultural differences, lost productivity while transitioning the work, and relative efficiency of outsource workforce)

1st year = ____ %

2nd year = ____ %

____ Do not know

e. Governance costs (overhead including travel and contract management)

1st year = ____ %

2nd year = ____ %

____ Do not know

6. Consider the largest IT project outsourced in the last two years how many months did it take, or do you estimate it would take, to break even on the outsource project? The breakeven point is the time in months it took, or would take, for cumulative savings to equal cumulative funds invested in the project.

____ Months

_____ Never recovered initial investments

7. If your company has been outsourcing information technology (IT) technical support for more than two years and now has a portfolio, what is your estimate of the average annual total savings of the outsource strategy as a percentage of the total portfolio's estimated onshore costs?

_____ %

_____ Do not know

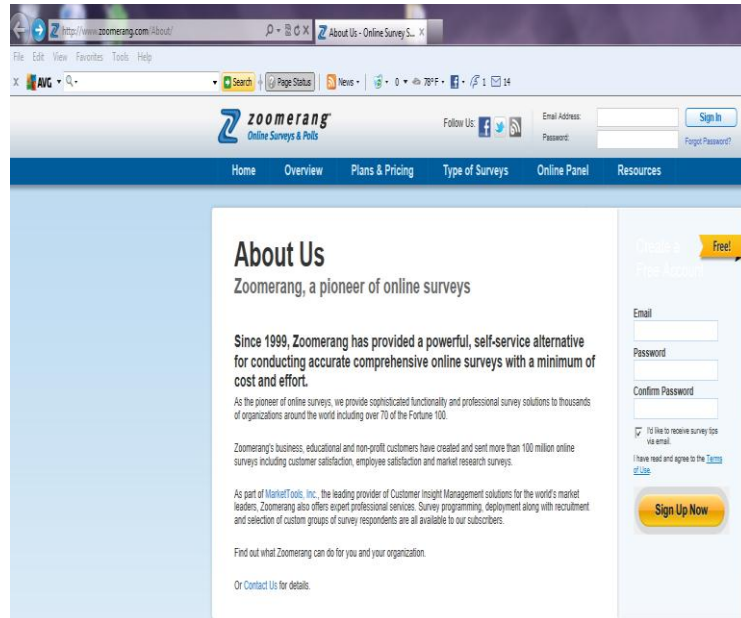
8. Consider the largest information technology (IT) technical support outsourced in the past two years, and select the ownership strategy that your company followed:

_____ *Buy*—outsourced or out-tasked to an outsource provider

_____ *Build*—acquired existing firm or formed subsidiary

_____ *Hybrid*—set up outsource development (or captive) center, joint venture, alliance, turn-key (build-operate-transfer), and staff augmentation

APPENDIX E: ABOUT ZOOMERANG



APPENDIX F: ZOOMERANG PRIVACY AND CONFIDENTIALITY AGREEMENT

