THE EFFECTIVENESS OF FEDERAL REGULATIONS AND CORPORATE REPUTATION IN MITIGATING CORPORATE ACCOUNTING FRAUD

A Dissertation

Submitted to the
Faculty of Argosy University Campus
College of Business

In Partial Fulfillment of
The Requirements for the Degree of

Doctor of Business Administration

by

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DEDICATION

To God who provided me with the strength to complete this endeavor. I love you, Father. To my husband, children, parents, siblings, and all family members whose constant love and support have helped turn this once lifelong dream into a shared reality. I love each of you very much.

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ABSTRACT

The world experienced numerous corporate accounting frauds since the turn of the 21st century. These frauds eroded people's savings and assets, besmirched corporate reputation, and prompted increased government regulations. Although there have been numerous studies on accounting fraud, federal regulations, and corporate reputation; this study's unique purpose is to examine the relationships among the three variables. The study surveyed accounting professionals to obtain their perceptions of the effectiveness of federal regulations and corporate regulation on reducing corporate accounting fraud. The findings indicated that while both are effective, federal regulations are more effective than corporate reputation in mitigating accounting fraud. Further studies can compare federal regulations' effectiveness to another variable or change corporate accounting fraud variable to another category of fraud.

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CHAPTER ONE: THE INTRODUCTION

1.1 The Problem

The recent series of accounting frauds of major American corporations include Enron, WorldCom, and Tyco, among others. The rest of the world was not exempt, as many nations experienced similar accounting frauds. Hollinger International and Nortel Networks Corp (Canada), Parmalat (Italy), Royal Ahold (Netherlands), Vivendi (France), YGX (China), Livedoor Co. (Japan), and Satyam (India) are infamous examples. Those high-profile accounting frauds since the beginning of the 21st century and the subsequent bankruptcies, collapses, delisting from stock exchanges, material asset sales, and restatements have also resulted in loss of lifetime savings, investments, pension benefits, and other accumulated assets.

Unsurprisingly, the public has shown anger at those persons behind the scandals because the frauds undermined public confidence and trust in corporations, executives, and the accounting profession. Hwang and Staley (2006) even suggest that the accounting and auditing scandals have negatively affected several executive and financial management professional positions ranging from chief executive officers (CEOs), chief financial officers (CFOs), accountants, controllers, auditors, accounting and auditing firms, lawyers, to investment analysts and bankers due to their participations in the scandals. Accordingly, congress passed laws including the Sarbanes-Oxley Act of 2002 (SOX) to curtail recurrences.

Despite the many publicized accounting frauds, Albrecht, Albrecht, and Albrecht (2008) and Beasley, Carcello, Hermanson, and Neal (2010) affirm that most organizations' executives and employees are ethical, conduct business with integrity, and provide financial reports that are free of material misstatements due to fraud. However, some, such as the aforementioned examples, distort their companies' financial statements to make the companies look better financially than they really are. Riahi-Belkaoui (2003) delineates that the pressure to achieve a certain result may be due to an attempt to report positive profits, to sustain recent performance, or to meet financial analysts' forecasts for financial performance.

Giroux (2008) points out that earnings manipulation is common in most financial statement frauds. Earnings manipulation usually starts from management's choice from various accounting methods and procedures under the generally accepted accounting principles (GAAP). Since preferences and the economic consequences of the choices vary, executives may choose a method or procedure based on desired results. A study revealed that about one-third of CFOs declared they would manipulate reported earnings rather than allowing their companies to miss analysts' expectations (Durfee, 2006). These manipulations may be allowable under GAAP, but they may be questionable. Hence, good judgment may mean not exercising such discretions that may eventually lead to financial statements distortion (Riahi-Belkaoui, 2003; Schilit, 2002).

The schemes management uses to execute manipulation or fraudulent financial reporting include improper revenue recognition (manipulation of revenue accounts and accounts receivables), improper application of inventory methods, fictitious assets amounts, failure of loss recognition, improper capitalization, improper change of

accounting practices to increase earnings, improper disclosure of significant information, and falsification or alteration of records (Riahi-Belkaoui, 2003). Improper revenue recognition is the most common of all fraudulent financial statement schemes. Although the Deloitte Forensic Center (2008, 2009) reports that it occurs an average of 38% of the time, the Deloitte Forensic Center (2009) notes that it only occured 30% of the time in 2008.

Schilit (2002) uses the term *financial shenanigans*, which he defines as "techniques companies employ to defraud stakeholders" (p. v). His discussions are based on the Center for Financial Research and Analysis' identification of such schemes as shown in Table 1.

Table 1

Seven Financial Shenanigans

Shenanigan number	Scheme description
1	Recording revenue too soon or of questionable quality
2	Recording bogus revenue
3	Boosting income with one time gains
4	Shifting current expenses to a later or earlier period
5	Failing to record or improperly reducing liabilities
6	Shifting current revenue to a later period
7	Shifting future expenses to the current period as a special charge

Note. The descriptions are compiled from *Financial Shenanigans: How to Detect Accounting Gimmicks and Fraud in Financial Reports* (pp. 24-25), by H. Schilit, 2002, New York, NY: McGraw-Hill. Copyright 2007 by McGraw-Hill.

Enron had effective internal controls and mostly correct financial reporting, but management overrode internal controls to create "periodic and selective financial statement falsifications" (Hurley & Boyd, 2007, p. 20). The example shows that internal controls may not prevent financial statement fraud if there is collusion to defraud. Federal regulations impose on corporations and individuals to do what they are supposed to do because regulations control tendency to act only for self-interest (Michael, 2006). They also help to guide behaviors because people have different perceptions of themselves, situations, and views of what is ethical (Michael, 2006). For instance, the Securities Act of 1933 and the Securities and Exchange Act of 1934 contain provisions for fair dealings with companies' stakeholders. Therefore, regulations may deter selfish and unwise judgments that can result in misleading financial statements.

Scandalous companies such as Enron and Royal Ahold besmirched and lost their positive reputations even though they previously had excellent reputational records. Harris Interactive® and the Reputation Institute's ranking of Royal Ahold as the most reputable company in 2001 and Fortune Magazine's ranking of Enron as America's Most Innovative Company for 6 consecutive years and 25th most admired company in America just months before it collapsed provide instances of how companies enjoy false positive reputations (Alsop, 2004; Dowling, 2004). Enron's code of ethics that its executives and employees supposedly followed may have contributed to the boost in ranking by Fortune Magazine.

Some excerpts from the code include the following:

> We want to be proud of Enron and that it enjoys a reputation for fairness and honesty.…Let's keep that reputation high.…We are dedicated to conducting business according to all applicable local and international laws and

> regulations…and with the highest professional and ethical standards. (Alsop, 2004, pp. 58-59)

Since Enron's collapse, it is evident that the company's code of ethics consisted of empty words, as Enron applied only some, if any, of the words in its business dealings. Enron also used the formerly positive reputation of associated companies to give the impression of a reputable company. For instance, many people believed that if Arthur Andersen, one of the big five accounting firms at the time, certified Enron's financial statements then it must be a good corporation (Dowling, 2004). Also, McKinsey & Company, a renowned management consulting firm, performed 20 projects for Enron while its director regularly attended Enron's board meetings (Dowling, 2004).

Dalton and Croft (2003) suggest that reputation is a natural part of human lives and an integral part of the society. A reputation is others' perception of someone, or of an organization, over time. Every organization as well as every individual has a reputation. The difference is whether one has a positive (good) or negative (bad) reputation. Corporate reputation is the perception of a company's attributes by its stakeholders and the public, and it is earned over time. A company's track record in terms of its community and marketplace standing and integrity contribute to its reputation (Dalton & Croft, 2003). Hence, the topic of corporate reputation and related issues such as corporate social responsibility (CSR) has gained popularity in recent years.

Corporate reputation is an important measure of a corporation's success and sustainability. Corporations with positive reputations have reputational capital, an intangible asset. Preston (2004) suggests that a corporation with a positive reputation has an integral and distinct asset, while one with a negative reputation carries an inherent liability. Since several companies constantly compete for the support of key

stakeholders, good reputation gives a company strategic advantage over its competitors, thereby influencing its performance (Fombrun, 1996; Schwaiger, 2004). In other words, stakeholders positively reward companies with good reputations and negatively reward those with bad reputations. Nevertheless, Alsop (2004) warns that corporations with positive reputations must not be complacent, but must aspire to exceed compliance with federal regulations if they want to maintain outstanding reputations. The main reason is that the public expects more from reputable companies than just compliance with applicable legislations and standards.

A corporation's reputation is usually dependent on its top management, especially the CEO or someone with an equivalent title. Since the CEO is the ultimate spokesperson and embodiment of the organization, people's perception of him or her can reflect on the organization. For example, reputations of CEOs, such as Bill Gates of Microsoft and Meg Whitman of eBay, have helped improve their companies' positive reputations, while Martha Stewart's reputation has had a devastating effect on her company's reputation (Alsop, 2004). A culture of morality in an organization is important for building and maintaining positive reputation because accounting fraud can cause collateral damage to corporate reputation.

Since regulatory policies and bodies typically compel companies to be transparent and honest, compliance with the regulatory process improves corporate reputation (Alsop, 2004). Also, federal regulations and corporate reputation involve working in the best interest of stakeholders. Regulations protect stakeholders, and stakeholders' perceptions are usually positive if a corporation holds its stakeholders at high esteem. Thus, federal regulations and corporate reputation are connected. As Figure 1 shows, the

framework of the study was to explore the relationship between the effectiveness of federal regulations and corporate reputation on reducing accounting fraud.

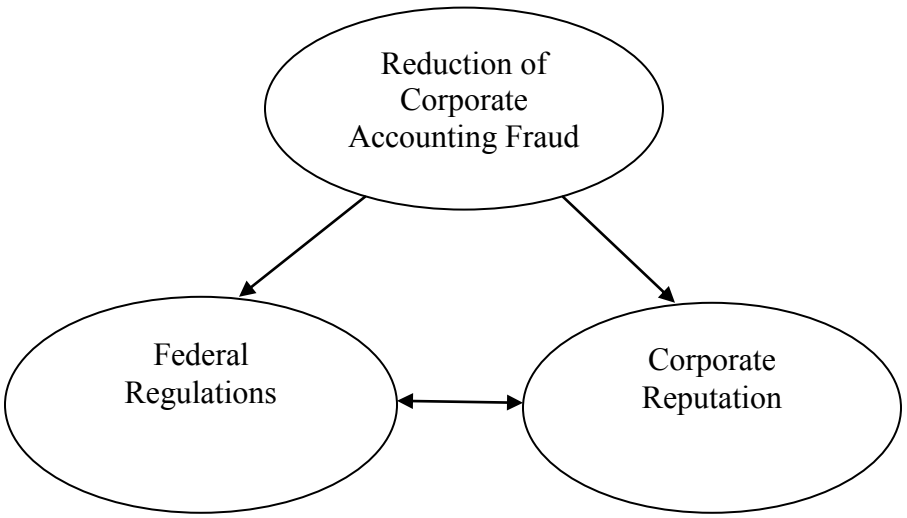

Figure 1. General framework of this study to illustrate the connection between federal regulations and corporate reputation in the reduction of corporate accounting fraud.

1.2 Problem Background

Fraud is not a new phenomenon; history and anecdotal records indicate that dubious dealings of land exchange occurred as early as the American colonial era. Nott and Adjibolosoo (2005) assert that for centuries business leaders and their subordinates have experienced varying levels of integrity crises and corruption in their business dealings. Fraud has dire consequences for individuals, organizations, and governments as any perpetrated fraud directly or indirectly affects these. Corporate accounting fraud, for example, affects many individuals' financial states as well the organization's well-being, regardless of size, location, or industry.

A recent survey reveals that about 30% of organizations worldwide experienced one or more incidents of fraud the previous year (PricewaterhouseCoopers, 2009). Of

those 30%, 38% reported experiencing accounting fraud (PricewaterhouseCoopers, 2009). The result indicates that accounting fraud has more than tripled since a similar survey was conducted in 2003. Another survey estimates that organizations throughout the world lose 5% of their annual revenues to fraud (Association of Certified Fraud Examiners, 2010). This translates to fraud losses of approximately $2.9 trillion based on the 2009 Gross World Product (Association of Certified Fraud Examiners, 2010).

Even though fraud has a variety of definitions, each definition has two common elements. The two elements are intent and deception (American Institute of Certified Public Accountants, 2002). The first element implies that no unintentional fraud exists. The American Institute of Certified Public Accountants (2002) affirms this by stating in Statement of Auditing Standards 99 (SAS 99) that "the primary factor that distinguishes fraud from error is whether the underlying action that results in the misstatement of the financial statements is intentional or unintentional" (p. 169). The second element, deception, implies that the perpetrator lied or withheld the truth about a situation.

Corporate accounting fraud (also known as financial statements fraud or fraudulent financial reporting) involves intentional material misstatement or misrepresentation of an organization's financial statements (National Commission on Fraudulent Financial Reporting, 1987). This type of fraud is also called *management fraud* because management or an executive in the organization usually perpetrates or gets involved before such a fraud can be successful. Badawi (2005) posits that (a) senior management (CEOs and CFOs) conceal true organizational business performance, (b) mid-and lower-level management conceal poor performance in their areas of responsibility, and (c) organizational criminals falsify financial statements to obtain loans

or to inflate stock prices to commit corporate accounting fraud. In addition to the involvement of an employee or management, it is usually the case that an accountant, accounting firm, or auditing firm usually aids and abets corporate accounting fraud.

Accounting fraud is closely related to securities fraud as most accounting frauds affect publicly-traded companies. Such fraud involves a deliberate strategy to deceive by distorting financial information along with related records (Riahi-Belkaoui, 2003). Furthermore, corporate accounting fraud can either be an inclusive or exclusive fraud. As the name implies, an inclusive accounting fraud means the perpetrator includes what should not have been included, thereby causing overstatements of assets and understatements of liabilities (Dooley, 2002). An exclusive accounting fraud, therefore, is an intentional omission of liabilities or other obligations from the financial statements (Dooley, 2002). A typical fraud perpetrator conceals his fraud for as long as possible, so fraud schemes usually go undetected for months. Whereas the median number of months before all types of fraud are detected is 18 months, fraudulent financial statements have gone for as long as 27 months before detection (Association of Certified Fraud Examiners, 2010).

To mitigate corporate accounting frauds over the years, several federal legislations and standards have been passed and enhanced. Some of the legislations include the Securities Act of 1933, the Securities and Exchange Act of 1934, and SOX. Standards include the GAAP and Statement of Accounting Standards (SAS). The main purpose of these federal regulations is the protection of corporate beneficiaries (stakeholders). Companies these days, perhaps more than ever, have to work hard to protect their reputations considering several accounting frauds, collapses, and

restatements that have plagued corporations and industries. Bonini, Court, and Marchi (2009) contend that "people have unprecedented access to information now and may therefore concern themselves with a surprisingly wide array of issues" (p. 78) pertaining to companies they care about or know. The information can give people an impetus to act.

The energized public and other stakeholders are more alert to and less tolerant of corporate misdeeds. Bonini et al. (2009) affirm this by stating that companies and industries with some sort of reputation problems are prone to resentment from legislators, regulators, and the public. Therefore, companies that want to maintain their positive reputations have to steer clear of corporate accounting fraud. They must also comply with federal regulations dealing with financial statements fraud. More importantly, corporations can enhance their good reputations by implementing more regulation than what federal regulations require (Alsop, 2004).

Annual and periodic financial reports, which for the most part contain financial statements and accompanying notes, are the primary means of corporate financial reporting to stakeholders. Thus, proper preparations and contents of such reports are important to ensure effective functioning and success of the market system as well as ensuring accurate depiction of the company's financial position (Garner, McKee, & McKee, 2007; Schilit, 2002). Companies must prepare and include true, fair, complete, comparable, and transparent financial information so stakeholders can make the most informed economic decisions (Garner et al., 2007), especially because many stakeholders cannot directly observe events and transactions in corporations. Failure to do so is essentially corporate accounting fraud.

Federal regulations in form of laws as well as accounting and auditing standards set operating boundaries for preparing and reporting such reports. Federal regulations in this study include both legislations and standards that set guidelines for the preparations and contents of financial statements.

1.3 Purpose of the Study

This study's focus is on the potential relationships that exist among federal regulations, corporate reputation, and corporate accounting fraud. The objective of this research is to determine which of the two, federal regulations or corporate reputation, is more effective at mitigating corporate accounting fraud. To establish a thorough understanding of the three concepts in the study, a methodical examination of prior research was conducted. The examination evaluated findings and conclusions from prior research and used this information to provide a basis for carrying out the study.

The study used a web-based survey to ask questions based on the study's hypotheses. The survey's respondents were accounting professionals with a minimum of a bachelors degree in accounting, a minimum of 1 year accounting or auditing experience, and working in an organization in the United States. Accountants prepare and work with companies' financial statements while auditors attest to such financial statements. Therefore, the accounting professionals' views on whether federal regulations and corporate reputation have been effective or ineffective in mitigating financial statements fraud are important and can help the profession, corporations, as well as regulatory bodies.

A quantitative research method was used for the study. Specifically, a descriptive research design was used. A quantitative research method was used because data were

collected from a quantifiable survey instrument. This means numerical values or categories can be assigned to each of the variables. By assigning numerical values to the data, variety of statistical analyses may be conducted (Creswell, 2009). Descriptive statistics analysis was used to assess the research question and hypotheses of the study. Descriptive statistics include calculating means, standard deviations, and a range of scores for the continuous level variables as well as frequency distributions for the categorical level variables.

1.4 Research Question

The background discussion yields a relevant research question to uncover the effectiveness of federal regulations and corporate reputation on corporate accounting fraud. The primary research question that this study explored is this: Do federal regulations or corporate reputations have a greater effect on reducing corporate accounting fraud?

1.5 Research Hypotheses

Six sets of hypotheses were developed to investigate the research question in this study. The first four sets were aimed at examining whether there is no relationship or a positive relationship between federal regulations or corporate reputation and mitigating corporate accounting fraud. No relationship means federal regulations or corporate reputations have no effect in reducing corporate accounting fraud while a positive relationship means enforcing federal regulations or corporate reputation help in reducing corporate accounting fraud. The last two sets investigate which of the two, federal

regulations or corporate reputation, has a greater effect on mitigating corporate accounting fraud.

The research hypotheses are as follows:

[H_1]: There is a strong positive relationship between federal regulations and reduced corporate accounting fraud.

[H_2]: There is no relationship between federal regulations and reduced corporate accounting fraud.

[H_3]: There is a strong positive relationship between corporate reputation and reduced corporate accounting fraud.

[H_4]: There is no relationship between corporate reputation and reduced corporate accounting fraud.

[H_5]: Federal regulations reduce corporate accounting fraud more than corporate reputation does.

[H_6]: Corporate reputation reduces corporate accounting fraud more than federal regulations do.

1.6 Limitations and Delimitations

This study has some limitations and delimitations, and it is appropriate to discuss these so readers can comprehend the study and the conclusions with these in mind. The work is primarily restricted to accounting professionals' perspectives. Therefore, the findings rely on the participants' objective and honest answers. To increase the preciseness of measurement and the validity of the results, the survey used a standardized format of feedback for the questions asked. Furthermore, because the respondents were busy professionals, the survey instrument was deliberately designed to be succinct. Some

readers or potential users of the study may consider the succinctness of the instrument as a limitation, since lengthy surveys tend to provide more information about the subject being studied. On the other hand, the study used succinctness to increase participation rate, since respondents could complete the survey in a short time.

Although it would be ideal to incorporate samples of accounting professionals from around the world, the study is limited to survey only those in the United States. This limitation is necessary because the researcher is focusing on the United States' unique regulations, corporations, and accounting issues. Accordingly the results may be applicable to regulatory bodies, accounting standards setters, accounting profession, and corporations in the United States alone.

In addition, the study is a survey of a sample of accounting professionals, since it is impossible to survey all accounting professionals in America. The sample consists of professionals with a minimum of a bachelors degree in accounting and at least 1 year experience in accounting or auditing field. The sample also includes an almost equal distribution among different levels of accounting professionals. Therefore, their positions range from CFOs, audit partners, auditors, certified public accountants (CPAs), directors of finance, business managers, controllers, treasurers, accounting supervisor, staff accountants, to entry-level accountants. Although the study integrates as large a sample size as possible to ensure that it is a representative sample of accounting professionals, the reader must be cautious in assuming from the responses to this survey instrument that the sample represents all individuals and groups of accounting professionals across the nation.

1.7 Definitions of Terms

Some terms are prevalent in this study and writing, so readers deserve applicable definitions to correctly place the terms in context. The definitions of these terms are below.

Corporate reputation is defined as observers' collective judgments attributed to a corporation based on its financial, social, and environmental impacts over time (Barnett Jermier, & Lafferty, 2006). The study adopted this comprehensive definition.

Deterrent measures are proactive means to avoid fraud, while *preventive measures* are proactive means to reduce the likelihood of fraud. If federal regulations and corporate reputation's goal is to minimize corporate accounting frauds, they serve as preventive measures.

Federal regulations, in the context of business, mean the official rules or laws that control how businesses ought to operate. For this study, federal regulations include both legislation and standards affecting financial statements' preparations and contents.

Fraud originated from the Latin word, *fraus*, which means harm, wrongdoing, and deceit (Silverstone & Sheetz, 2007). Many definitions are broad because they apply to any type of fraud. For instance, the Federal Bureau of Investigation (FBI) defines fraud as crimes "characterized by deceit, concealment, or violation of trust and do not depend on the application or threat of physical force or violence" (Silverstone & Sheetz, 2007, p. 5). Fraud is an immoral and intentional deception of another person to derive an unjust, personal, social, political, or economic advantage over that person (Riahi-Belkaoui, 2003). Silverstone and Sheetz (2007) define it as "an opportunistic infection that bursts forth when greed meets the possibility of deception" (p. 3). The American

Institute of Certified Public Accountants's (2002) definition is narrow; as it applies to corporate accounting, it is an "intentional act that results in a material misstatement in financial statements that are the subject of an audit" (p. 279). The present study adopted this definition.

White-collar crimes are economic and non-violent crimes committed in the course of conducting business, usually by an executive or a respectable individual in the organization (Sutherland, 1949). Therefore, white-collar crimes include all categories of fraud in an organization.

1.8 Significance of the Study

Out of all the types of fraud in organizations, corporate accounting fraud is a serious problem against which scholars, practitioners, and regulators have advocated control and monitoring (Albrecht, Romney, Cherrington, Paine, & Roe, 1981; Albrecht et al., 2008; Brazel, Jones, & Zimbelman, 2009; Dooley, 2002; Nott & Adjibolosoo, 2005; Riahi-Belkaoui, 2003). For this reason, there have been a number of studies on the issue. In addition to the several studies on corporate accounting fraud, federal regulations and corporate reputation are important concepts that have been studied. However, the previous studies have either been on any of the three issues separately or regulations and fraud in general. For example, Albrecht's (2008) dissertation compiled a list of articles he has authored or co-authored dealing with fraud and detection while Giroux (2008) studied the lessons learned from recent scandals and offered ways to avoid future occurrences. Kurdas (2009) discussed the relationship that exists between regulation and fraud prevention. Dalton and Croft (2003), Dowling (2004), Fombrun (1996), Marconi (2001), and Shamma (2007) discussed managing corporate reputation.

This study took a unique approach and fills a gap the in literature by investigating the effects of both federal regulations and corporate reputation on corporate accounting fraud mitigation. The lack of empirical evidence in comparing federal regulations' effects on corporate accounting fraud mitigation to corporate reputation's effects considerably adds to the significance of this study.

Accordingly, the findings of the study offer two specific benefits. First, the results can provide recommendations to amend or enhance existing legislations, standards, or other measures that target corporate accounting fraud's reduction. Subsequent to prior research on fraud, there have been amendments on legislations and standards to implement the findings of the research. The proposition of this study is that its findings on the more effective of the two subject matters can aid in regulators' and practitioners' battle against corporate accounting frauds.

Second, the findings can append to the many benefits of positive corporate reputation if it is proven that corporate reputation has greater effects on fraud mitigation than federal regulations. Ultimately, this may encourage those corporations with positive reputations to work harder in maintaining and improving their reputations and provide evidence to the corporations with negative reputations the need to strive for positive reputations.

1.9 Organization of the Chapters

The remainder of this study is organized in four chapters. The following chapter, Chapter Two, discusses prior relevant literature to allow readers to gain some general knowledge about federal regulations, corporate reputation, and corporate accounting fraud. Chapter Two also confirms the gap in previous studies and body of literature and

explains how this study fills the gap. Chapter Three discusses the research methods and design used to answer the research question and support the hypotheses. Chapter Four discusses, in detail, the results and explanations of the results. Finally, Chapter Five provides a summary of the study, conclusions, limitations, and recommendations for future research.

CHAPTER TWO: LITERATURE REVIEW

2.1 The Purpose

Based on the review of prior relevant literature, the four sections of this chapter provide some general knowledge about federal regulations, corporate reputation, and corporate accounting fraud. The chapter also confirms the gap in previous studies and body of literature regarding the effectiveness of federal accounting regulations and corporate reputation on corporate accounting fraud reduction. Consequentially, it provides rationale for undertaking this research study as well as the basis for generating the research questions and hypotheses. The chapter ends with the summary of relevant literature's results.

2.2 Overview of Federal Regulations

Federal regulations have the greatest effects when they cause people to do what they are supposed to do (Michael, 2006). For instance, federal regulations typically put corporations and people in check by ensuring fair dealings with all stakeholders. The purpose of federal regulations' creation, enhancement, or improvement after corporate accounting fraud occurrence is to avoid future instances. To obtain a thorough understanding of how federal regulations aid in mitigating corporate accounting fraud, it is essential to review literature on the policymakers as well as various regulations that have affected accounting over the years.

2.2.1 Policymakers: Standards Setters and Regulatory Bodies

Corporate accounting frauds are a great concern to companies and the accounting profession. Therefore, professional associations, governmental agencies, as well as international accounting and auditing bodies have promulgated standards and enacted legislation to lessen fraud (Seetharaman, Senthilvelmurugan, & Periyanayagam, 2004). As early as 1285, there were statutes to regulate securities (Haughey & Veler, 1982). In the 1800s, the corporate form of business emerged, and with it new fraud opportunity; so legislation was passed to curb business-related abuses (Bazley, 2008; Nott & Adjibolosoo, 2005).

To reduce fraud in states, several states' leaders enacted the *Blue Sky Laws,* so named because they were intended to check unethical stock swindlers who could sell building lots in the blue sky (Haughey & Veler, 1982). The aim of these laws was to give each state the power to detect, investigate, and punish financial fraud (Dalton,1933). Each state's commissioner or administrative officers have to ensure that any security registration and sale in the state is equitable (Dalton, 1933). However, the laws had limited impact because they only required disclosure prior to securities' issuance, and they did not apply to issuance across state lines (Hannes, 2004). Therefore, an issuer could register securities in one state but offer them for sale in other states through the mail. The issuer would then be subject only to the laws of the state in which the securities were registered.

The New York Stock Exchange (NYSE) offered an alternative, private form of regulation with listing requirements that were generally more stringent than those in the state laws. The NYSE also encouraged listing firms to make regular, audited reports on

their income and financial position (New York Stock Exchange, 2009). This practice was nearly universal on the NYSE by the late 1920s. Currently, NYSE Regulation is a subsidiary of NYSE Euronext, a company formed in April 2007 from the combination of NYSE and Euronext. NYSE Euronext strengthens both market integrity and investor protection (NYSE Euronext, 2009).

In the 1938s, creation of the National Association of Securities Dealers (NASD) was as a result of the Maloney Acts amendment to the Securities and Exchange Act of 1934 (Schilit, 2002). NASD's regulation provided oversight for the securities industry and NASDAQ stock market through the registration, education, testing, and examination of members as well as the creation and enforcement of rules (Schilit, 2002). In July 2007, the establishment of the Financial Industry Regulatory Authority (FINRA) resulted from consolidating NASD as well as the regulatory, enforcement, and arbitrational functions of the NYSE (Financial Industry Regulatory Authority, 2009). Hence, this non-governmental agency, FINRA, is responsible for every aspect of securities business. It is dedicated to investor protection and market integrity through effective regulation and enforcement (Financial Industry Regulatory Authority, 2009).

Federal regulatory bodies and standards setters strive to ensure that there are honest dealings, fair trades, and equal advantage for every party in a transaction. Put another way, standards and principles in regulations exist to protect the stakeholders' interests. For example, the Securities and Exchange Commission (SEC) is charged with protecting the interests of investors and integrity of capital markets (Riahi-Belkaoui, 2003). Its mission is to protect investors, maintain orderly and efficient markets, and make capital formation easier (Securities Exchange Commission, 2008). Therefore, it

prescribes the rules and regulations appropriate for the protection of investors and to ensure fair dealing in securities' sale and purchases (U.S. Department of Justice, n.d.). An example of the regulation is that investors must have sufficient information to make informed decisions about securities' transactions.

The National Commission on Fraudulent Financial Reporting (NCFFR) started in June 1985. The AICPA, American Accounting Association, Institute of Management Accountant, and the Financial Executives Institute co-sponsored this national commission. The primary purpose of its creation was to determine the factors that contribute to fraudulent financial reporting and to develop appropriate recommendations to reduce such incidences (Davia, Coggins, Wideman, & Kastantin, 2000). In 1987, the NCFFR issued a landmark report based on its study of incidents of financial statement frauds. The report identified causes of fraud and provided 49 recommendations for combating and alleviating financial statement fraud, which involved the roles of top management, public accountants, accounting profession, the SEC, as well as other regulatory and law enforcement bodies and the academic community (National Commission on Fraudulent Financial Reporting, 1987). Since executives intentionally misstate financial information in every financial statement fraud, the report includes several recommendations for companies and top management.

Although the AICPA and organizations created under it are professional organizations, they are nonetheless recognized by federal entities like the SEC and the U.S. Congress. The AICPA formed the Financial Accounting Standards Board (FASB) in 1973 from the Committee on Accounting Procedures (CAP). Together with the Accounting Principles Board (APB), the accounting professionals established GAAP

(Nott & Adjibolosoo, 2005). FASB is the most authoritative body for regulating the accounting profession. In April 2003, the SEC reiterated this by designating FASB as the private-sector standard setter for public companies. As of August 2009, the FASB has issued 168 Statements of Accounting Standards, as well as hundreds of interpretations, concepts, technical bulletins, and updates dealing with several issues including fraud. The Auditing Standards Board (ASB) is the senior technical committee of the AICPA. ASB's assignment is to issue auditing, attestation, and quality control standards and guidance (American Institute of Certified Public Accountants, 2009a). As of February 2010, ASB has issued 120 Statements of Auditing Standards (SAS).

2.2.2 History of Major Federal Regulations

Fisch (2005) and Kurdas (2009) posit that evidence shows that when financial crisis or disaster occurs, moves to enhance and expand regulations usually follow. Notable instances include the enactment of landmark laws such as (a) the Securities Act of 1933; (b) the Securities and Exchange Act of 1934, after the stock market crash of 1929 and the Depression that followed; as well as (c) the passage of SOX after the accounting scandals in 2001. One reason is that regulators and standard setters usually see inadequacies in existing regulations and standards at the time of crisis, so they accomodate through enhancement and expansion. Another reason is that the public typically blames regulators for their inability to hinder crisis. A case in point is when the deceptions of Enron and others started coming to light in 2001 and 2002. Many people believed that regulators failed to stop corporate executives' abuses by allowing looser standards and off-the-book accounting practices (Emerson, 2006). Hence, improvements in existing monitoring mechanisms are crucial to prevent recurrences.

Below is a chronological discussion of six major federal regulations in the accounting and securities industries from 1933 to present. Five of the federal regulations discussed are enacted legislations by the federal government. The Statement of Auditing Standards 99 is not a federal regulation per se, but it is ASB's response to the recent corporate accounting fraud. Nevertheless, it is included in the federal regulations category due to its importance in the battle against corporate fraud and this study's reference of legislations and standards that affect accounting.

2.2.2.1 The securities act of 1933. By the late 1920s, lack of regulatory oversight, exuberant culture, and risky credit behavior left stockholders vulnerable to corporate accounting fraud. Accounting fraud eventually happened in 1929 when the stock market crashed. The United States government intervened by enacting the Securities Act of 1933. The act requires public companies to make full and fair disclosure of their financial information and lists conditions that a company has to meet before it can sell shares of its stock to the public (Farrell, 2006; Nott & Adjibolosoo, 2005). Two major provisions are that the company must file accurate quarterly statements about its revenues (sales) and earnings (profits) and must hire an auditor to attest to the accuracy of the financial statements annually. Therefore, proponents of the act contend that it enhances fairness by providing availability of information to investors who can then make informed decisions.

2.2.2.2 The securities and exchange act of 1934. According to Farrell (2006), the Securities and Exchange Act of 1934 is one of the most successful laws ever enacted. The act requires companies to update their information and establishes a set of rules about stocks sales to the public (Farrell, 2006). The act regulates the sales practices

of the NYSE and other regional exchanges. In addition, the legislation created the SEC, a government-funded regulator, to enforce the new laws (Farrell, 2006). This act, like its predecessor in 1933, provides investors with information for investment decisions, especially since it mandates SEC required disclosure. As a result, the mandated disclosure enhances public confidence in the securities market.

2.2.2.3 The foreign corrupt practices of 1977 (FCPA). The Foreign Corrupt Practices of 1977 (FCPA) provides amendment to the SEC Act of 1934. FCPA regulates issuers and domestic concerns and mandates that every issuer of a security registered pursuant to this act must file with the SEC (U.S. Department of Justice, n.d.). A domestic concern includes individuals, corporations, and partnerships who have their principal place of business in the United States or its territories (U.S. Department of Justice, n.d.). Every issuer and domestic concern must keep current and disclose information quarterly or annually as the commission requires (U.S. Department of Justice, n.d.). Furthermore, the act requires management to have adequate system of internal control (Nott & Adjibolosoo, 2005).

2.2.2.4 The statement of auditing standards 99 (SAS 99). Due to the major frauds in the early part of this century, the ASB approved SAS 99. SAS 99 superseded SAS 82. SAS 99, Considerations of Fraud in a Financial Statements Audit, expanded U.S. auditors' responsibility for detecting material fraud in accordance with generally accepted auditing standards (GAAS) (Albrecht et al., 2008). SAS 99 also increased the scrutiny of auditors' compliance regarding material fraud detection (Brazel et al., 2009). For example, as part of planning the audit, the SAS required the audit team members to brainstorm or discuss the risks of material misstatement due to fraud

(American Institute of Certified Public Accountants, 2002). In essence, auditors must brainstorm about how and where the entity's financial statements might be susceptible to fraud.

The standard further requires auditors to identify the risk of material misstatement due to fraud and to evaluate the entity's programs and controls that address the identified risk (American Institute of Certified Public Accountants, 2002). They also have to exercise professional skepticism by not settling for less than persuasive evidence when gathering and evaluating such evidence. In essence, SAS 99 required that fraud be considered from the beginning and throughout the entire audit process. Since auditors now have a clear guidance of responsibility for detecting material fraud through SAS 99, they can perform their audits accordingly. The companies also know that auditors are more prepared than before in assessing, investigating, and detecting material fraud. Consequentially, SAS 99 has helped curtail, to some extent, fraudulent behaviors.

2.2.2.5 The Sarbanes-Oxley Act of 2002 (SOX). Farrell (2006) indicates that SOX is the most major legislation since the legislation passed in 1933 and 1934. The passage of SOX clearly acknowledged the need for public structures of accountability to restore stakeholders' trust (Hunnicutt, 2007). Albeit Congress passed SOX, the SEC is charged with implementing compliance. Compliance by companies means a system of current trend disclosures, evaluative data, and historical information for investors as well as real time updates to unquestionable material information; an environment that encourages companies and auditors to seek SEC's guidance in advance; an effective and transparent system of self-regulation for the accounting profession, subject to SEC's oversight; more meaningful investor protection by audit committees that have the

expertise to review the financial reporting system and the audit function; an issuance of easily interpreted and understandable financial statements; and analysts' recommendations predicated on financial data they have interpreted (Pitt, 2001; Reinstein & Weirich, 2002).

SOX demands tighter and stricter controls regarding auditor relationships with boards of directors and management (Dematosi, 2006). Therefore, it has significantly intruded on the internal governance of publicly held corporations. The legislation has also raised the bar for many corporations with mandates that they conduct business with social responsibility in mind (Fraser, 2005). For example, SOX, through the code-of-ethics provision, includes an expectation that companies adhere to the laws and also implement measures beyond the requirements of the law. In addition, it extends the auditor's work beyond the financial statements audit. For example, Section 404 of SOX requires auditors to audit management's assertion about the adequacy of internal controls over financial reporting.

The main purpose of SOX was to limit financial statement fraud and insider trading (Chhaochharia & Grinstein, 2007). For instance, it imposes new potential criminal liabilities on CEOs and CFOs who endorse financial statements that prove fraudulent (Dematosi, 2006). As a deterrent to corporate accounting fraud, SOX includes provisions for large fines and penalties on corporations and individuals that commit fraud. The SEC saves such penalties in *fair funds* to pay injured shareholders, as was the case in the $750 million, $250 million, and $150 million paid by WorldCom, Qwest, and Bristol-Myers Squibb respectively (Swartz, 2006).

Another SOX provision is the forfeiture of bonuses paid to executives of companies that restate their earnings subsequent to material non-compliance that result from misconduct in preparing financial statements (Bevan, 2003; Chhaochharia & Grinstein, 2007). Therefore, a CEO and CFO must forfeit any bonus, profit from stock option exercise, or other incentive they earned during the year upon financial statements restatements, provided the restatement is deemed due to corporate accounting fraud or manipulation.

The act also establishes the Public Company Accounting Oversight Board (PCAOB) in an effort to better oversee auditors and their responsibilities to detect fraud (Albrecht et al., 2008). SOX authorizes the PCAOB to establish auditing, ethics standards, independence, quality control, and related professional practice standards for accounting firms to follow when auditing publicly held companies. Therefore, PCAOB, through the passage of SOX, became a federal agency and financial standard setter. As part of PCAOB's power to regulate the accounting and auditing industries, it regulates the non-audit services that audit firms may offer their audit clients.

To date, the PCAOB has approved six auditing standards. PCAOB approved Auditing Standard (AS) 1, 2, and 3 in 2004; AS 4 in 2006; AS 5 (which supersedes AS 2) in 2007; and AS 6 in 2008. AS 1 directs auditors of publicly held companies to state that the auditor followed the standards of PCAOB (Public Company Accounting Oversight Board, 2009). AS 2 addresses how to audit management's assessment of the effectiveness of internal control and requires an integration of the audit of internal control with the financial statements audit (Public Company Accounting Oversight Board, 2009). Due to the harsh consequences—such as sanctions, penalties, and lawsuits—for

companies and their auditors for non SOX-compliance, the standards have helped regulate public companies and the accounting profession.

AS 3 establishes PCAOB's required audit documentation. The auditor must prepare and retain documentation that he or she uses to support the conclusions of the audit of financial statements, audit of internal control over financial reporting, as well as review of interim financial information (Public Company Accounting Oversight Board, 2009). AS 4 establishes requirements and provides direction for an auditor to report on whether a previously material weakness in internal control over financial reporting continues to exist (Public Company Accounting Oversight Board, 2009).

Since AS 5 supersedes AS 2, it provides clarification and direction for an auditor when engaged to perform an audit of management's assessment of the effectiveness of internal control over financial reporting (Public Company Accounting Oversight Board, 2009). Additionally, AS 6 provides direction for an auditor's evaluation of the consistency of the financial statements (Public Company Accounting Oversight Board, 2009). Such consistency includes changes to previously-issued financial statements and the effect of the evaluation (the auditor's report) on the financial statements.

2.2.2.6 The Dodd-Frank Wall Street Reform and Consumer Protection Act. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 was recently passed by the senate, the house, and signed into law. While this law is basically a reform of Wall Street, it is important to discuss here because many of its provisions are meant to curtail fraud and protect consumers from abusive financial practices. According to Chairman Chris Dodd of the Senate Committee on Banking, Housing, and Urban Affairs (2010), the law's intent was "to create a sound economic

foundation to grow jobs, protect consumers, rein in Wall Street, end *too big to fail*, and prevent another financial crisis" (p. 1). The senate believed that this legislation was necessary because of the 2008 financial failures and eventual collapse of Wall Street banks such as Bear Stearns. Due to these failures and collapses, many people once again lost their jobs and their savings.

The law makes it easier for the SEC to prosecute those who aid and abet securities fraud under the Securities Act of 1933, the Securities Exchange Act of 1934, and the Investment Advisers Act of 1940 (Lamoreaux, 2010). Furthermore, some of the regulation's provisions that target financial fraud include (a) shareholders' power to vote on executive compensation; (b) new rules for transparency and accountability for credit rating agencies to protect investors and businesses; (c) strengthened oversight and empowerment of regulators to pursue financial fraud, conflicts of interest, and manipulation of the system (Senate Committee on Banking, Housing, and Urban Affairs, 2010). These provisions are supposed to restore responsibility and accountability in the financial system so people can feel confident and continue to invest, causing the economy may grow and jobs to be created.

2.3 Overview of Corporate Reputation

A literature review of corporate reputation is central to better understand the importance of positive reputation in any organization. Through a review of relevant literature, this section specifically discusses its formation, history, and effects to create a framework of how corporate reputation can reduce corporate accounting fraud.

2.3.1 Corporate Reputation: Connection to Name, Identity, and Image

Fombrun (1996) suggests that a corporation's name or brand crystallizes its reputation, perhaps because the name of a company is the first thing one knows about such a company before other aspects are known, such as identity, image, and reputation. Corporate identity is the set of beliefs, values, and principles associated with a company from the employees and managers' viewpoints (Dowling, 2004; Fombrun, 1996). Corporate identity develops from individuals' experiences with the company, ranging from work approach, products and services offered, to customers and investors serviced (Fombrun, 1996). Dowling (2004) and Barnett et al. (2006) associate identity to the underlying core or basic attributes (characters) of a company. Dowling (2004) adds that corporate identity answers the question "Who are you?" (p. 21). Their definition takes a different approach from Fombun's (1996) in that it indicates what the firm actually is as opposed to what the company is identified as proposed by Fombrun. Both definitions indicate that a corporation's identity sets it apart from other corporations.

Basically, corporate image consists of what comes to mind when one hears the name of an organization or sees its logo. Fombrun (1996) and van Riel and Fombrun (2007) present corporate image as self-presentations of various corporation's actions, plans, and intentions. Similarly, Barnett et al. (2006) describe corporate image as internal and external observers' impressions of a corporation's distinct collection of representations. Corporate image answers the question about an organization "What do people think about you?" (Dowling, 2004, p. 21). Weiwei (2007) argues that corporate image is the consumer's response to the total offering, that is, the sum of the public's beliefs, ideas, and impression of an organization. Corporate image is the accumulation of

experiences and interactions with the organization over time. An organization usually builds and calls attention to some of its identity to help foster in the minds of crucial stakeholders a better image than its competitors' images (Dowling, 2004).

Nevertheless, corporate image may be accurate or inaccurate. Since the observer must have compared and contrasted various attributes of the organization, the final imagery may be distorted if the observer has more negative interactions with the organization than positive ones. For example, advertising and other forms of self-presentations as well as rumors may distort corporate image (Fombrun, 1996). An image is usually enough to determine the success or failure of a corporation and the products and services it offers (Marconi, 2001). A positive or negative corporate reputation results once corporate identity and image have been established (Dalton & Croft, 2003). Fombrun (1996) reiterated this by suggesting that corporate reputation is the most inclusive as it means the overall assessment of a company by all its constituents. The constituents, according to the author, are inside and outside stakeholders.

A positive corporate reputation is an intangible, strategic asset that can create long-term value for an organization (Suh & Amine, 2007). Authors like Dowling (2006), Fombrun (1996), Schwaiger (2004), and Suh and Amine (2007) have termed this asset *reputational capital*. In addition, the result of Ting's (2009) empirical study indicates that there is a positive relationship between the level of corporate reputation and reputational capital. The result is consistent with positive corporate reputation being an asset and negative corporate reputation carrying an inherent liability, as suggested by Preston (2004). Since it is established that reputational capital is an invaluable asset, Suh and Amine (2007) state that companies must use *strategic reputation management* to

build and preserve reputational capital. This management includes tracking changes in stakeholders' perceptions and response to reputational capital by investigating qualitative evaluation of corporate reputation (Suh & Amine, 2007).

2.3.2 History of Corporate Reputation

The concept of corporate reputation had its origins in the 1950s when a closely related concept of corporate image emerged (Weiwei, 2007). Its interest has gained momentum over the years as evident in discussions in accounting, economics, marketing, psychology, organizational theory, strategy, and sociology disciplines. Dalton and Croft (2003) assert that the increase in interest is due to factors such as corporate governance issues, corporate scandals, as well as social and environmental accountability cases that have also increased over the last decade. Although interest in the topic of corporate reputation has increased in both academic and practitioners' work, there is no consensus on a definition yet.

A review of the literature illustrates a variety of definitions for corporate reputation. Fearnley (1993) defines corporate reputation as the shared experience of employees and those who deal with the organization. Whereas Fombrun (1996) defines it as the general estimation of a company held by its empowered constituents, including employees, customers, suppliers, distributors, competitors, and the public. Dowling (2004) defines it as an overall evaluation of the way people see the organization as good or bad. According to Dalton and Croft (2003) and Shamma (2007), corporate reputation is the summation of the values that multiple stakeholders attribute to a company based on their perceptions and interpretations of past company's communications, outcomes, and behaviors. Hannington (2004) describes it as perception formed following responses to

stakeholders' questions. He adds that the questions are usually about products and services, financial performances, vision and leadership, working environment, social responsibility, emotional appeal, as well as sector specific attributes (Hannington, 2004).

Barnett et al. (2006) posit that it is imperative to have a consensus for a definition of corporate reputation. The authors review, analyze, and evaluate prior definitions of the concept and conclude that among current trends in the study of corporate reputations are terms such as *judgment, estimation, evaluation*, and *gauge*. Their definition seems to provide theoretical clarity as it defines corporate reputation more explicitly and narrowly. In trying to isolate the exact nature of corporate reputation, their definition distinguishes corporate reputation from identity and image. The authors define corporate reputation as observers' collective judgments attributed to a corporation based on the corporation's financial, social, and environmental impacts over time (Barnett et al., 2006). Barnett et al. claim that their definition is comprehensive because it encompasses estimation (which implies judgment or assessment).

Each definition shows that corporate reputation emerges from stakeholders' assertion and perception of corporations' actions. Alsop (2004) has an exhaustive list of corporate stakeholders. These are "the general public; customers; current and prospective employees, retirees, and other former employees; retailers; distributors; suppliers, franchisees; licensees; shareholders; potential investors; financial analysts; government officials; regulatory agencies; competitors; the news media; social and environmental activists; and members of the community" (Alsop, 2004, p. 39). Each category of stakeholders has unique perceptions and concerns, according to Bonini et al. (2009), and these differences pose a challenge for companies. Even so, companies must strive to

manage their reputations and strike a balance among the numerous stakeholders who are affected by the company and who influence corporate reputation. Additionally, Fombrun (1996) suggests that keeping a good relationship with the top four stakeholders—that is, employees, investors, customers, and members of the community—is critical, as they are the most important and most empowered constituents.

2.3.3 Effects of Corporate Reputation

A recurrent theme in the literature is that corporate reputation is an essential intangible and strategic asset (Fearnley, 1993; Fombrun, 1996; Suh & Amine, 2007; Weiwei, 2007). Like most assets, it is subject to risk, obsolescence, and depreciation, and it can be enhanced by innovation and investment (Preston, 2004). Furthermore, reputational capital includes creation of market barriers, customer retention, and strengthened competitive advantages (Schwaiger, 2004). Good reputation gives a company a competitive edge by attracting customers to the company's products and services, investors to its securities, employees to its jobs, suppliers' and distributors' offer of excellent contract terms, and favorable capital access, just to name a few (Dowling, 2006; Fombrun, 1996; Schwaiger, 2004; Suh & Amine, 2007). Therefore, companies with negative reputations may suffer in financial performance while companies with positive reputations may boost their bottom-line.

Although many in top management agree that reputation has value as a component of intangible and long-term assets, those that are obsessed with short-term profits have essentially lost sight of their reputations by engaging in accounting deceptions. Others have been willing to compromise ethical and professional standards to accomplish personal or corporate goals (Shaub, Collins, Holzmann, & Lowensohn,

2005). In the process of living for today, they lose their most valuable long-term asset, that is, positive reputation.

In general, it is in the best interest of a company to conduct business in a manner that is in the best interest of stakeholders. Central to building positive corporate reputation are factors such as financial performance, quality of products or services, brand values, social responsibility, compliance with regulations, corporate policy, and organizational structure, among others (Dalton & Croft, 2003). Past and present actions of a company that relate to morality and that are ultimately summed up as corporate reputation include descriptions such as credibility, reliability, trustworthiness, and responsibility (Fombrun, 1996). In this sense, corporate reputation is similar to corporate social responsibility as those factors are included in CSR.

CSR seeks to answer fundamental questions about the role and purpose corporations play in the society (Dalton & Croft, 2003). CSR is the approach by which an organization takes into account the impacts of its activities on stakeholders and balances long-term societal interests against short-term financial gains (Corbett, 2008). The goal of CSR is, therefore, to make decisions that will allow the organization to take the interests of the stakeholders and the society as a whole into account in a rational and legitimate way. Corporations must commit to be aware of their economic, social, and environmental impact on the society. Corporations can manage reputation by being socially responsible. Bertels and Peloza (2008) warn that due to changing expectations of stakeholders, corporations must each be aware of their CSR reputation and that of other corporations in the industry.

Reputational barriers or threats in form of crises, criticism by the news media and other outlets, and unethical corporate behavior can damage, taint, or impede an organization's reputation if not quickly handled (Alsop, 2004). Hence, it is imperative for companies to constantly recognize their areas of vulnerability and develop plans to deal with them in a timely manner. The commitment of senior leadership, such as the CEO, is important to remove such organization's reputational barriers and threats (Bonini et al., 2009). This commitment entails acting as swiftly as issues materialize; bolstering understanding of and relationships with significant stakeholders; and exceeding traditional public relations by triggering the actions of supporters who can influence crucial constituencies (Bonini et al., 2009). Equally important is that these activities must resonate with stakeholders as real and consistent.

2.4 Overview of Corporate Accounting Fraud

This section provides a background of prior research relevant to corporate accounting fraud. First, a review of literature for categories of frauds in organization is vital to gain a broad understanding of various types of fraud and the ones that are corporate accounting fraud. Second, the discussion of the "fraud triangle" and the "fraud diamond" provide knowledge about reasons for fraud occurrence. The "other element" for fraud describes the personality traits of a fraud perpetrator as a condition for committing fraud. Since corporate accounting fraud is a type of fraud, the conditions for fraud occurrence are relevant to how this type of fraud occurs.

2.4.1 Categorization of Fraud

Categorizations of fraud vary among organizations and scholars depending on the issues under discussion. Since the American Institute of Certified Public Accountants

(AICPA) oversees accounting and auditing issues, it categorizes corporate fraud from this perspective. The two categories are misstatements arising from fraudulent financial reporting and misstatements arising from misappropriation of assets.

The American Institute of Certified Public Accountants (2002) defines fraudulent financial reporting as intentional misstatements or omissions of information in financial statements thereby materially deceiving financial statements users. Such financial statements are not in conformity with GAAP. Management commits this type of fraud by (a) manipulating, falsifying, or altering accounting records or supporting documents used to prepare financial statements; (b) misrepresenting or intentionally omitting events, transactions, or other significant information from the financial statements; or (c) intentionally misapplying accounting principles relating to amounts, classification, manner of presentation, or disclosure (American Institute of Certified Public Accountants, 2002).

Misappropriation of assets is the theft of an entity's assets and with the effect so material that it causes the financial statements not to be presented in conformity with GAAP (American Institute of Certified Public Accountants, 2002). A perpetrator can commit the theft by embezzling receipts, stealing assets, causing an entity to pay for goods that have not been received, providing false or misleading records or documents, or circumventing controls (American Institute of Certified Public Accountants, 2002). Unlike fraudulent financial reporting that usually involves management, management may be unaware of misappropriation of assets and may thus unknowingly present materially misstated financial statements.

Several scholars such as Davia et al. (2000) as well as Golden, Skalak, and Clayton (2006) agree with the AICPA's categorization of fraud into the two broad categories. However, Riahi-Belkaoui (2003) states that there are four forms of fraud which are corporate fraud, white collar crime, fraudulent financial reporting, and audit failure. He defines corporate fraud as a type of fraud within a business organization that is perpetrated for or against an organization (Riahi-Belkaoui, 2003). White collar crime or management crime, according to Riahi-Belkaoui (2003), is perpetrated for or against the organization by management or someone in a position of trust. Fraudulent financial reporting involves the use of an accounting system by an executive or employee to portray a false image of the organization while audit failure involves a failure of the auditor to detect, correct, or reveal errors or material misstatements (Riahi-Belkaoui, 2003).

The Association of Certified Fraud Examiners (2010) uses the term *occupational fraud* to define a type of fraud that uses "one's occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization's resources or assets" (p. 6). The Association of Certified Fraud Examiners' (ACFE) definition of occupational fraud is similar to corporate fraud as defined by Riahi-Belkaoui (2003). Furthermore, the Association of Certified Fraud Examiners (2010) divided occupational fraud into three categories; that is, asset misappropriation, corruption, and financial statement fraud. The ACFE definitions for asset misappropriation and financial statement fraud are similar to the AICPA's.

Asset misappropriation is the most common type of fraud, counting for about 90% of total fraud occurrence according to Charron and Lowe (2008) and the Association

of Certified Fraud Examiners (2010). At the same time is the least costly, hardest to prevent, and arguably easiest to detect of the three categories (Association of Certified Fraud Examiners, 2010; PricewaterhouseCoopers, 2009). Examples include false invoicing, payroll fraud, and skimming (Association of Certified Fraud Examiners, 2010). Both false invoicing and payroll fraud involve fraudulent cash disbursements, so they appear on organizational records. On the other hand, since skimming is a scheme in which a perpetrator steals cash from an organization before the cash is recorded on the organization's books, it does not show on the records.

Common examples of financial statement fraud include reporting fictitious revenues or not reporting expenses or liabilities. This type of fraud is the least common, occurring in about 8% of total fraud cases, but it causes the most damage and devastating median losses of approximately $1,000,000 per case, according to Charron and Lowe (2008). Albrecht, Albrecht, and Dolan (2007) delineate that the reason for the high cost of financial statement fraud is that when companies manipulate their earnings, there are rippling effects. As an illustration of financial statement fraud's rippling effect, the market values of companies' stocks typically drop considerably, sometimes by as much as 500 times the amount of the frauds; therefore stakeholders who have pensions, mutual funds, and stocks in those companies hurt financially (Albrecht et al., 2007). Indeed, Albrecht et al. (2007) argue that the cost of the recent financial statement frauds were borne by the country as a whole, but according to Payne and Ramsay (2006) and the Association of Certified Fraud Examiners (2010), investors, creditors, and auditors incurred the most losses in those frauds.

Corruption involves fraudsters' use of their influence in business transactions to obtain benefits in a way that violates their duties to their employers (Association of Certified Fraud Examiners, 2010). Examples of corruption include bribery, extortion of funds, and conflicts of interest. Corruption is in the middle in both cost and frequency when compared to the other two categories. Corruption is most prevalent when there are dealings with government officials (especially in emerging markets) as well as in transactions that involve sales agents and distributors (PricewaterhouseCoopers, 2009).

The above categorizations point out the similarity in definitions between financial statement fraud and fraudulent financial reporting. Since the definitions of these two indicate that they are frauds that executives or managers typically perpetrate or collude on, they can also be called management fraud. Additionally, financial statements and financial reporting are results of corporate accounting records, and according to the National Commission on Fraudulent Financial Reporting (1987) and Dooley (2002), distortions of financial statements and reports usually involve misapplication of accounting principles, misrepresentation of accounting records, mischaracterization of transactions, and misleading accounting disclosures. This indicates that this type of fraud is also corporate accounting fraud. Accordingly, the four terms—financial statement fraud, fraudulent financial reporting, management fraud, and corporate accounting fraud—are identical in the aspects that are of concern in this study, and can be used interchangeably.

2.4.2 The Fraud Triangle, the Fraud Diamond, and Other Element of Fraud Occurrence

The *fraud triangle* and *fraud diamond* are similar. The only difference is that fraud triangle includes three conditions while the fraud diamond adds a fourth condition for fraud to occur. The *other element* is the personality trait of a fraud perpetrator.

2.4.2.1 The fraud triangle. Sutherland (1949) initiated the discussion about white-collar crimes. One of his former graduate students, Donald Cressey, wrote a book in 1953 based on interviews of 133 convicted embezzlers. Cressey (1953) suggested the conditions for a respected and trusted individual to commit fraud. The three conditions are financial problems (pressures), opportunity to violate trust, and rationalization for the act. About three decades later, Albrecht et al. (1981) affirmed Cressey's three conditions for fraud propensity. They named the three conditions the *fraud triangle*. They indicated that the three conditions all must be present and concluded that pressures and opportunities are perceived while rationalization is real (Albrecht et al., 1981). The AICPA also agreed that the fraud triangle was essential and formally adopted it in 2002 by incorporating it into SAS 99 to guide auditors.

The American Institute of Certified Public Accountants (2002) notes that first, management or employees have an incentive or are under pressure to commit fraud. Incentive or pressure is the most common factor (about 68%) for committing fraud (PricewaterhouseCoopers, 2009). Examples of such pressures include economic need, achieving forecasted or unrealistic operating results, and providing incentives in the form of performance-based compensation. A review of literature suggests that executive compensation plan structure, usually in the form of stock options, was a major incentive

or pressure for many corporate accounting frauds (Albrecht et al., 2007, 2008; Crutchley, Jensen, & Marshall, 2007; Giroux, 2008; PricewaterhouseCoopers, 2009).

The poorly structured options created incentives that overrode the judgments of top management. Though compensation structures are intended to align shareholder and management interests, they usually yield unintended consequences in that they can result in management's effort to boost stock prices. The Crutchley et al. (2007) empirical study shows that compensation structure is one of the factors to creating a fraud-prone corporate environment. A stunning reality is that executives still get rewarded even when their companies' performances are poor. Analyses of executive compensation in April 2002 indicated that the total compensation of many CEOs increased, while their companies' performances decreased (Garten, 2002). Additionally, Luntz's (2009) survey of over 6,400 Americans nationwide indicates that most people believe that CEOs' payments are disproportionate to their companies' performances.

Second, the opportunity for fraud perpetration must also be present. Examples of opportunity are management apathy, previous unpunished incidents, absence of controls, insufficient segregation of duties, ineffective controls, or ability to override controls (American Institute of Certified Public Accountants, 2002; Dittenhofer, 1995).

Third, perpetrators can rationalize through attitude, character, or set of ethical values that they can commit the fraudulent act (American Institute of Certified Public Accountants, 2002). Therefore, the propensity to rationalize committing fraud increases as the incentive or pressure to do so increases.

2.4.2.2 The fraud diamond. Wolfe and Hermanson (2004) add a fourth element to the classic fraud triangle and change the name to *fraud diamond*. The

rationale for the fourth element is that while fraud can occur if there is opportunity, incentive, and rationalization, it takes the right person with the right capabilities in such a position to do it before fraud can take place (Wolfe & Hermanson, 2004). In other words, just because the three elements are present does not necessarily mean that they will ultimately lead to fraud. Someone in the right position must act to perpetrate fraud,

Since the first three conditions or elements have to be present for fraud to occur, auditors can assess the risk for fraud for the three elements together (Wolfe & Hermanson, 2004). However, Wolfe and Hermanson (2004) suggest that auditors must explicitly and separately consider capabilities (the fourth element) in the assessment of fraud risk. Consequentially, the fraud diamond moves beyond the current auditing standards by considering factors other than the environmental or situational factors.

2.4.2.3 Other element. Hurley and Boyd (2007) proposed another element for fraud occurrence that they called *perception of impunity*. Impunity means the perpetrator perceives that he or she can get away with committing fraud (Hurley & Boyd, 2007). He or she thinks he or she is exempt from punishment or recrimination. Studies that have supported this element show that common characteristics of CEOs involved in accounting scandals include a certain sense of omnipotence as well as a display of irrational self-confidence and hubris (Hurley & Boyd, 2007; McFarland, 2009). These attitudes subsequently lead to another element, that is, the perception of getting away with the manipulations, according to Giroux (2008) and Hurley and Boyd (2007).

The fourth element in the fraud diamond and the *other* element are similar because someone's capability as well as his perception of impunity usually come with the

person's position in the organization. The higher the position, the higher the capability, and the higher the perception of impunity.

2.5 Summary

This chapter provides, through examination of existing literature, an overview of corporate accounting fraud, federal regulations, and corporate reputation. Its final purpose is to discuss how the study intends to measure what is lacking in prior research. Despite high interests in separately studying fraud, regulations, and corporate reputation; it is surprising that there is no empirical research to study the effects of regulations and corporate reputation on reducing fraud. Presently, no prior research has investigated whether federal accounting regulations or corporate reputation is more effective in mitigating corporate accounting fraud. The study fills this void in literature.

The greatest research effort on corporate accounting fraud has been to detect such fraud. To this end, there is an abundance of literature. Wolfe and Hermanson (2004) argue that adding an individual's capability, such as personal traits and abilities as a condition for fraud to occur, can help enhance fraud prevention and detection. A recent dissertation by Albrecht (2008) contains a compilation of several published articles that provide insight on financial statement fraud and detection. The Brazel et al. (2009) empirical study provides auditors with the use of non-financial measures (NFMs) to assess the reasonableness of financial performance and in effect to detect financial statement fraud. They claim that their study can also aid auditing policymakers that may consider the use of NFMs in auditing and provide interested parties with benchmarks for "reasonable and unreasonable inconsistencies between financial data and NFMs" (Brazel et al., 2009, p. 1161). Furthermore, some studies have pointed to means of preventing

corporate accounting fraud. Giroux (2008) offers ways to avoid future accounting scandals by detailing lessons learned from the recent frauds, while Kurdas (2009) discusses the relationship that exists between regulations and fraud prevention.

As previously noted, current federal regulations have increased scrutiny for compliance and included harsh consequences for non-compliance. For those reasons, federal regulations' common purpose is to prevent corporate accounting fraud and reduce future occurrences. However, a few studies in the body of literature suggest that regulations may fail to mitigate corporate accounting fraud. Notably, Nott and Adjibolosoo (2005) claim that regulations are faulty and weak, therefore regulations cannot provide lasting solutions to reduce corporate accounting fraud. The premise of the authors' argument is that the development of positive human qualities such as integrity, responsibility, accountability, and trustworthiness are essential to long-term corporate fraud mitigation (Nott & Adjibolosoo, 2005). As a result, the authors suggest that educating future business leaders will develop positive human qualities.

Tunick (2005) and Albrecht (2008) are two other pieces of literature that argue against regulations. Tunick, like Nott and Adjibolosoo (2005), argues that the recurrences of accounting scandals indicate that the current regulatory environment is not adequate. Albrecht (2008) discuss the fraud triangle (mentioned previously) and the elements of fraud that current accounting and auditing standards such as SAS 99 have addressed. For example, SAS 99 supposedly incorporated the three elements to guide auditors, but Albrecht (2008) suggest solutions to address the other elements SAS 99 and other current accounting regulations failed to address. Although the author concludes that long-term reduction in fraud will only occur when all the three elements of the fraud

triangle are confronted, addressed, and reduced, they fail to illustrate how standards can address the three elements.

Perhaps the problem that the researchers found with federal regulations may be that of under- or over-inclusiveness. Michael (2006) points out that if regulations are too narrow (under-inclusive), they do not prohibit what they are supposed to prohibit. Yet if they include so many things that they become unintelligible, then they are over-inclusive. In the first case, the regulations may have loopholes for companies and people who do not want to comply with the regulations, while in the second case, numerous and complex regulations can make compliance difficult for any company or individual to follow. In either case, the regulations are inconsistent with their underlying goals of reducing future fraud occurrences. Michael (2006) concludes that the over- and under-inclusiveness of regulations are unavoidable as no amount of careful rule-making can eliminate such problems as loopholes and complexity. Even though he suggested that ethics can help guide a person's behavior, he failed to offer an alternative way to reduce the inclusiveness problem of regulations and to achieve a match between regulations and the goals of such regulations.

This author acknowledges that morality is vital in making ethical business decisions, including whether or not to commit accounting fraud. Yet she argues that since federal regulations set boundaries to guide behaviors, they aid in curbing individuals from committing accounting fraud. Furthermore, she reckons that since individuals typically make decisions for corporations, it follows that positive individual reputation—similar to *positive human quality* that Nott and Adjibolosoo (2005) described in their study—reflects on corporate reputation. Therefore, since this current study

examines the effectiveness of corporate reputation on accounting fraud reduction, it extends previous research's theory for mitigating corporate accounting fraud. The following chapter, Chapter Three, discusses the research design and methods used to answer the research question and support the hypotheses presented in Chapter One.

CHAPTER THREE: METHODOLOGY

3.1 The Purpose

The objective of this study is to analyze the likely relationship among federal regulations, corporate reputation, and corporate accounting fraud. In particular, the purpose is to ascertain whether a reduction in corporate accounting fraud is related to federal regulations and corporate reputation. The study examined whether federal regulations and corporate reputation are effective in reducing corporate accounting fraud. To investigate the potentiality of the relationship among the three concepts and specifically to measure the effectiveness of federal regulations and corporate reputation, a sample of accounting professionals in the United States was selected and surveyed.

This chapter describes the research design and methodology that the study used to examine the effectiveness of federal regulations and corporate reputation on corporate accounting fraud mitigation. The chapter starts with the research design, detailing how each research question and hypotheses that originated from the question were studied. It continues with a description of the sample, population, sampling procedure, as well as rationale for the sample selection. The chapter also includes a complete description of the study's instrument and the validity, reliability, origin, and appropriateness of the instrument in the study. This chapter then discusses the assumptions and limitations and relevant generalizations of the study. It ends with a summary of the chapter.

3.2 The Research Design

The study used a quantitative research design to identify relationships between two sets of variables. According to Bickman and Rog (2009), research designs serve as "the architectural blueprint of a research project, linking design, data collection, and analysis activities to research questions" (p. 11). Quantitative descriptive research design illustrates a phenomenon as it naturally occurs, as opposed to an experimental design where effects of intervention are studied (Bickman & Rog, 2009).

Qualitative research is used in order to garner an understanding of a paradigm. In qualitative research, little is known about the problem or variables prior to study (Creswell, 2005). A small number of research subjects are involved in qualitative research. Data is in textual format and text analysis is used to describe information and stratify it into themes, according to Creswell.

In quantitative research, an analysis of the relationship between variables is conducted in order to reveal a relationship (Creswell, 2005). After selecting a topic and specifying an issue that requires clarification, a quantitative researcher collects data from a specified population and statistically analyzes that data. The explanation of the relationship between variables leads to the description of trends in quantitative research, according to Creswell.

For this research, quantitative analysis is appropriate because the study seeks to test its six hypotheses stated in Chapter One. Additionally, qualitative research method would not be appropriate for the present study, because this research involves numerous research subjects and the relationship among variables therefore must be analyzed using

quantifiable data. Alternately, in qualitative research, a limited number of subjects and textual data would have been appropriate.

Furthermore, a quantitative research method was used because data were collected from a quantifiable survey instrument. Quantitative research "is a means for testing objective theories by examining the relationship among variables" (Creswell, 2009, p. 4). The method typically involves collecting data using predetermined instruments and analyzing such data using statistical procedures (Creswell, 2009; Gerrish & Lacey, 2010). In addition, Williams and Monge (2001) suggest that quantitative method is appropriate when measurement offers a useful description of the study, when the study makes descriptive generalizations of the measure, and when the study involves calculating probabilities that generalizations are beyond simple chance occurrences. All these apply to the study.

Descriptive research or statistics can be used to summarize the relationship between two or more variables (Bickman & Rog, 2009). According to Fink (2009), "descriptive statistics provide simple summaries about the sample and the responses to some or all questions" (p. 78). Descriptive statistics for surveys include frequencies or frequency distributions (numbers and percentages), measures of tendency (the mean, median, and mode), as well as measures of variation (range and standard deviation), as Fink (2009) further explicates.

The use of descriptive research is justified for the study because numerical data were collected from a sample representing the perceptions of accountants or auditors on corporate accounting fraud for the purpose of determining whether an association exists between federal regulations, corporate reputation, and corporate accounting fraud.

Bickman and Rog (2009) suggest that, "a descriptive approach is appropriate when the researcher is attempting to answer 'what is' or 'what was' questions" (p. 16).

The methodology of this research is a quantitative descriptive design. The methodology intent is (a) to obtain data on the perceptions of accounting professionals on corporate accounting fraud and (b) to compare their perceptions on the effects of federal regulations on corporate accounting fraud to the effects of corporate reputation on corporate accounting fraud.

Correlation research is divided into two primary designs, that is, explanatory and predictive (Creswell, 2005). In a predictive design, the researcher identifies and uses one or more predictive variables. In this study, the objective is not to make predictions about outcomes. The primary objective of the study is to discover whether a relationship may exist among the variables and to explore whether the perceptions of accountants or auditors on corporate accounting fraud are related to federal regulations and corporate reputation, which falls into an explanatory design since relationship among variables are examined and described.

Descriptive statistics and correlation analysis were used to assess the research question and hypotheses of the study. Descriptive statistics include calculating means and standard deviations for the continuous level variables as well as frequency distributions for the categorical level variables. Correlation analysis was conducted to determine if there are significant relationships between two continuous level variables. Also, correlation analysis indicates if there are any linear associations between the continuous variables (Burns & Grove, 2005).

A variable is a characteristic or attribute that a researcher is trying to measure or observe and that varies among the study population (Creswell, 2009). A variable can be independent or dependent. Creswell defines an independent variable as one that causes, influences, or affects outcomes and a dependent variable as one that depends on independent variable or outcome of the influence of independent variable. An independent variable is a variable that "explains" or "accounts for" the variability in another (dependent variable). An independent variable stands alone and does not change by the other variables the researcher is trying to measure, while a dependent variable can change depending on other factors.

For this study, the independent variables are federal regulations and corporate reputation while the dependent variable is corporate accounting fraud. Federal regulations are official rules or laws that create governing standards. For the present study, federal regulations include legislation and standards affecting financial statements' preparations and contents. Corporate reputation is the observers' collective judgments attributed to a corporation based on its financial, social, and environmental impacts over time (Barnett et al., 2006). Corporate accounting fraud refers to an intentional act resulting in material misstatement in financial statements. These variables were obtained and measured using a survey instrument. Borg and Gall (1996) recommend a survey or questionnaire as one type of measure for descriptive studies. A survey is a system for collecting information "to describe, compare, or explain individual and societal knowledge, feelings, values, preferences, and behavior" (Fink, 2009, p. 1).

The items on the survey cluster around themes that emerged from the precedent literature as factors that influence corporate accounting fraud. Additionally, the

statements in the survey originate from the hypotheses and the hypotheses originate from the research question of the study. The research question includes the three variables, that is, federal regulations, corporate reputation, and corporate accounting fraud. Table 2 illustrates the relationships among the variables, hypotheses, and survey instrument items.

Table 2

Relationship among the Variables, Hypotheses, and Survey Items

Variables	Hypotheses	Survey items
Federal Regulations and Corporate Accounting Fraud	Hypotheses 1 and 2	Statements 1, 2 3, 4, 5, 6, and 7
Corporate Reputation and Corporate Accounting Fraud	Hypotheses 3 and 4	Statements 8, 9, 10, 11, 12, and 13
Federal Regulations, Corporate Reputation, and Corporate Accounting Fraud	Hypotheses 5 and 6	Statements 14, 15, and 16

Note. This table depicts how the study's variables, hypotheses, and survey instrument items are related. Therefore, the table helps the reader easily understand how the researcher uses the survey items.

3.3 The Population and Sampling Procedures

3.3.1 The Population

The target population for a study is the population on which the study focuses (Gerrish & Lacey, 2010). These authors further explain that a quantitative study's target population is the population to whom the study's results are applicable or generalizable.

For this study, the target population is accounting professionals in the United States who work as accountants or auditors. Accountants prepare and work with companies' financial statements while auditors attest to such financial statements. The study's target population criteria also include a minimum of Bachelors Degree in Accounting and a minimum of 1 year of experience in the accounting or auditing field.

Gerrish and Lacey (2010) define a study population as a subset of the target population and from whom the researcher selects the sample. In addition to fitting the inclusion criteria described above, the study population for this research comprises accounting professionals who are accessible by email. Since the study's instrumentation is a Web-based survey, it is important for prospective participants to have email addresses. There are thousands of accounting professionals in the United States who fit the inclusion criteria. However, it is not practical to survey the entire target population of accounting professionals. Therefore, the study measures a representation of the population from the members of the AICPA and the Beta Gamma Sigma (BGS).

Many accounting professionals belong to organizations such as the AICPA and the BGS. The AICPA is the national professional association of CPAs, with more than 350,000 members (American Institute of Certified Public Accountants, 2009b). These members include CPAs in business, public practice, government, and education; student affiliates; as well as international associates (American Institute of Certified Public Accountants, 2009b). Since its founding in 1887, the AICPA has represented the accounting profession in the United States in issues related to rule-making, standard-setting and legislative bodies, public interest groups, state CPA societies, and other professional organizations (American Institute of Certified Public Accountants, 2009b).

Hence, it strives to inform regulators, legislators, the public, and others of the roles and functions of CPAs in society.

BGS, founded in 1913, is the international honor society serving business programs accredited by the Association to Advance Collegiate Schools of Business (AACSB) International (Beta Gamma Sigma, 2009). Membership in BGS is the highest recognition a business student anywhere in the world can receive in a business program accredited by the AACSB International, according to Beta Gamma Sigma. As of 2009, BGS has inducted more than 625,000 outstanding students into membership. These 625,000 members have served in corporate, government, non-profit, educational, and other management positions at every level of responsibility. According to the Beta Gamma Sigma, members currently reside in all states in the United States and in more than 160 countries around the world. In addition, BGS maintains an active database with more than 480,000 members' information; has 486 collegiate chapters in all states in the United States and 19 countries; and has 21 alumni chapters to serve the needs of alumni members.

The researcher is a member of the AICPA. The AICPA did not have an online directory of its members, so the researcher selected the study population from the members who joined the AICPA group in the professional networking website LinkedIn. Through the members' profiles on LinkedIn, she identified all accounting professionals who met the requirements of the study and sent networking emails to them. She then included those who responded to her email request in the sampling frame.

The researcher is a lifetime member of the BGS and a member of the BGS Alumni Network. The BGS has an online directory for its members. The researcher

identified and selected accounting professionals who met the requirements of the study. She then included those who met the criteria and who listed their email addresses in the sampling frame. Since the researcher included only the professionals who met the study criteria, the sampling frame broadly reflect the characteristics of the target population of accounting professionals.

3.3.2 The Sampling Procedure

The number of accounting professionals in the sampling frame was 750. Each person on the list has an almost equal chance of selection. The researcher used a stratified random sampling procedure to select the sample of 600 professionals needed in the study. Stratification means that the population is divided into well-defined sub-groups based on certain characteristics (Creswell, 2009; Gerrish & Lacey, 2010). The effect of stratification is that the characteristics are proportionately represented in the sample, according to Creswell. However, the people within a stratum are more comparable to one another than across the strata, according to Gerrish and Lacey.

The positions of the professionals in the sample range from CFOs, audit partners, auditors, audit managers, CPAs, directors of finance, directors of financial reporting, business managers, controllers, treasurers, accounting managers, accounting supervisors, senior accountants, staff accountants, to entry-level accountants. To create the strata, the researcher divided the professionals into five sub-groups based on their current positions. Similar positions are organized in a stratum. The five strata are accountant, accounting supervisor, auditor, business manager, and chief financial officer. Table 3 shows how the positions are divided into strata.

Table 3

The Sample Position Strata

Sample stratum	Positions
Accountant	Staff Accountant and Entry-Level Accountant
Accounting supervisor	Senior Accountant, Accounting Supervisor, and Accounting Manager
Auditor	Auditor, Audit Partner, and Audit Manager
Business manager	Controller, Treasurer, and Business Manager
Chief financial officer	Chief Financial Officer, Director of Finance, and Director of Financial Reporting

Note. Similar positions in the sample are combined to create a stratum.

As Table 3 shows, professionals in each stratum have the same or similar positions but positions vary across the strata. The strata ensure that different levels of accounting professionals are represented in the sample. As aforementioned, the sampling frame contains 750 accounting professionals. Since 600 professionals were randomly selected from the strata, the sampling fraction of 80% (600 divided by 750) was used to draw a sample from each stratum. This means each person in the strata has an equal chance (80%) of being selected in the sample. Therefore the sample correctly reflects the study criteria in the target population. Additionally, larger groups contribute proportionally more people to sample than the smaller groups (Gerrish & Lacey, 2010). According to Gerrish and Lacey (2010), this type of random sampling increases precision

of the estimates of error and gives more confidence in results. Table 4 illustrates the number of people in each stratum and the number of people sampled from each stratum.

Table 4

Accounting Professionals' Sampling

Sample stratum	Number of professionals in stratum	Number sampled from stratum (80%)
Accountant	246	197
Accounting supervisor	218	174
Auditor	165	132
Business manager	68	55
Chief financial officer	53	42
Total	750	600

Note. Total number of people in the sampling frame is 750. Since the sample size is 600, each accounting professional has 80% chance of being in the sample. Each number of positions was multiplied by 80% to calculate the number sampled.

Gerrish and Lacey (2010) warn that studies with too small sample size can produce flawed results or fail to provide any new knowledge. Also, such studies may be inadequate to generalize to the target population. The sample size of 600 is adequate and has the same characteristics as the target population. Therefore, the results of the study can generalize to the target population. Since the researcher used stratified random sampling to select the samples from the sampling frame, there may be a random error. Nevertheless, Gerrish and Lacey suggest that random errors create less bias because the error is evenly distributed across the sampling frame and the sample. Any random error averages out across the sample, thus introducing little or no bias to the study. Gerrish and

Lacey recommend increasing sample size and having appropriate sampling technique as means of controlling random errors.

3.3.3 Protection of Human Subjects

To comply with a researcher's ethical treatment of human research participants, the Institutional Review Board (IRB) certification is included as Appendix A. The researcher emailed information about the study and the invitation to participate in the survey to accounting professionals in the sample (Appendix B). Gerrish and Lacey (2010) posit that research participants have a right to know the reason for invitation to participate, the purpose of the study, and use of the results of the study. Additionally, the researcher made reasonable effort to ensure confidentiality and anonymity of all participants.

3.4 Instrumentation

The choice of data collection method depends on the the sample frame, research topic, research objective, sample criteria, and available resources (Fowler, 2009). This study's method for data collection is survey. The study's instrumentation is a survey because the objective of the study is to study the relationship among the three variables—federal regulations, corporate reputation, and corporate accounting fraud—by generalizing the results from a sample of accounting professionals to the target population. Creswell (2009) points out that a survey is a preferable means of data collection if the intent of measuring the variables quantitatively is to relate the identified variables in the study. Surveys use questionnaires or structured interviews to collect data and with the intention of generalizing a certain characteristic, attitude, or behavior of a sample from a sample to a population (Creswell, 2009; Fowler, 2009). Since only a

representative sample is needed for a survey, survey is an economical data collection method. Other benefits of a survey include inexpensive designs of surveys and quick turnaround in data collection (Creswell, 2009).

The procedures an investigator uses to conduct a survey affect the likelihood that the resulting data will accurately describe what it intends to describe (Fowler, 2009). Schonlau, Fricker, and Elliott (2002) recommend that the entire research process—including defining survey objectives, developing sampling frame, specifying data collection strategy, and conducting data analyses—are important for a good survey outcome. For example, the sampling procedure has a major effect on the percentage of the sample that actually provides information (Fowler, 2009). Typically, the higher the response rate the better the research results. Also to collect accurate data, a researcher must include relevant content questions and definition of terms so respondents can answer with the right knowledge. Pitching language at the appropriate level for the population is a data collection strategy that Gerrish and Lacey (2010) recommend for response enhancement.

Even though the respondents are accounting professionals, they have varied backgrounds and experiences. Also, some of the terms are uniquely defined for this study. Therefore, for respondents to have an equal understanding of the statements and to correctly place the terms in context, the researcher included definitions of terms at the beginning of the survey. Respondents also had the ability to view the definitions at any time during the survey.

The survey instrument in this study contained 16 statements to which respondents could agree or disagree. Specifically, the instrument used the 5-point Likert scale for

respondents to indicate their degree of agreement or disagreement to statements about the effectiveness of federal regulations and corporate reputation in reducing corporate accounting fraud. The Likert scale states the issue or opinion and obtains the respondents' degree of agreement or disagreement by asking respondents to choose one of five points in relation to each statement (Alreck & Settle, 2004; Gerrish & Lacey, 2010). This means respondents could choose to strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with each statement. Measurements are more precise because the administered questions are standardized. Since responses are on a single dimension or continuum, they are easily comparable and readily manipulated (Alreck & Settle, 2004).

In addition to the statements, the instrument included as Appendix C includes demographical information to classify participants. The information includes gender, age range, current position, years of accounting experience, organization type, and number of employees. Variables such as the age range, years of accounting experience, and number of employees that have a range of numbers were measured as a continuous score. Gender, current position, and organization type were measured using a categorical measure by assigning numbers to each category.

While each participant was anonymous, the information collected shows important differences among the sample. Gerrish and Lacey (2010) call this a discriminating attribute of an instrument and points out that it is essential to separate the main differences among participants. The survey is cross-sectional because it was administered one time (Creswell, 2009). Also, it was a Web-based survey using the SurveyMonkey platform. SurveyMonkey is an online survey tool that enables

researchers to create surveys and collect data on their surveys. Each of the 600 professionals in the sample received an email invitation to participate (Appendix B). Additionally, at the beginning of the survey, participants consented to participate (Appendix D).

Except for the Likert scale to measure the respondents' agreement and disagreement with the statements, the survey instrument was specifically designed for this study. The quality of the instrument was pilot tested for validity and reliability, and the researcher made additional efforts to enhance and verify the validity through consultation of experts and comparison of the results with similar studies, as described in detail below. Validity is "the degree to which researchers measure what they claim to measure" (Williams & Monge, 2001, p. 29). Validity is the appropriateness of the instrument; Gerrish and Lacey (2010) also define it as a test to show whether the instrument measures what it is intended to measure. Validity has three dimensions and these are construct validity, content validity, and criterion validity.

Gerrish and Lacey (2010) suggest that increasing the number of different questions measuring the same construct increases construct validity. As aforementioned, this study includes 16 statements to measure the support of six hypotheses. Each hypothesis has at least two statements with some hypotheses having as many as six statements for measurement. Content validity is the extent to which items on an instrument adequately cover the construct being studied (Gerrish & Lacey, 2010). The researcher, under the guidance of the Dissertation Committee, endeavored to ensure that the language was clear and appropriate so that each statement would measure the hypothesis it was intended to measure. Criterion validity refers to the extent to which

items on the instrument actually measure real-world conditions or events they are intended to measure, according to Gerrish and Lacey. The researcher assessed this by comparing the responses with results from prior studies relevant to federal regulations, corporate reputation, and accounting fraud.

Reliability is " the external and internal consistency of measurement" (Williams & Monge, 2001, p. 29). Reliability means the extent to which an instrument would produce the same results if someone else repeats the study, using the same sample and conditions. It is important to have a reliable instrument because, all else being equal, unreliable tools tend to have lower correlations with other variables than reliable ones (Treiman, 2009).

Although there are three main approaches (retest, split-halves, and internal-consistency methods) to determining an instrument's reliability, the approach relevant to this study is the internal-consistency method. Internal consistency method, through the use of statistical tests, provides an estimate of reliability after a single administration of the instrument. The researcher used Cronbach's alpha statistics (Cronbach coefficient alpha) to estimate the internal-consistency reliability. Gerrish and Lacey (2010) state that Cronbach's alpha is suitable for use with instruments that have no right answer such as those measuring the degree of agreement or disagreement of respondents on a scale. This study uses the Likert scale to measure participants' agreement or disagreement, so the use of Cronbach's alpha is appropriate.

Fowler (2009) suggests that pretests of survey questions and standardized questions with objective wordings yield more precise measurements of the variables. With pretest, a researcher pilots a survey and obtains feedback. Therefore pretests may

reveal a better choice of words or phrases appropriate for the target population (Gerrish & Lacey, 2010). Pilot testing establishes validity of a survey instrument and improves statements, format, and scale (Creswell, 2009). Pilot testing, according to Fink (2009), bolsters reliability and validity because it helps ensure that a survey contains a sufficient variety of the topic and responses.

The researcher included the dissertation chairperson, the two other dissertation committee members, and 17 known accounting professionals in the pilot testing. None of these individuals participated in the actual study. Like the study, participation in the pilot testing was voluntary, and participants' responses and feedback were anonymous because identifying information was intentionally absent from the survey. The pilot study also tested the ease of navigation of the web survey as well as the understandability and usability of the survey instrument. Each pilot testing participant received an email with instructions for the survey and a response deadline of 2 weeks (Appendix E). Whereas 18 people attempted the survey, 16 people completed it. Two people provided feedback about variables' testing, one person pointed to potential problems with two statements on the survey, and one person suggested adding "*other*" as a job classification for those whose jobs were within the field but did not exactly fit among those listed. The researcher incorporated the feedback into the final survey instrument revisions.

Since this study used a representative sample, it was dependent on a good response rate. Non-respondents can introduce systematic bias into sample data. Systematic bias means the respondents from the sample are systematically different from those in the target population that do respond (Fowler, 2009). According to Keeter, Kennedy, Dimock, Best, and Craighill (2006), non-response rate may not significantly

alter a study's results, as evident in two studies that have similar results even though one had a 36% response rate and the other had 60%. However, Groves (2006) and Fowler (2009) warn that non-response rate can introduce error due to bias. In addition, Gerrish and Lacey (2010) explain that a low response rate can significantly impact the usefulness of a study's findings.

Due to universal use of emails, Web or Internet surveys have gained popularity. Web surveys' response rates can produce varying results depending on the target population. Fowler (2009) argues that while email is not yet a reasonable option for general population surveys, it was a viable option for surveying populations such as students, employees, and members of professional organizations. This study surveyed members of two professional (accounting and business) organizations. Although Kaplowitz, Hadlock, and Levine (2004) report a 30% response rate for Internet survey, a significantly less response rate than mail survey for the same study; Dillman (2007) reports a 60% response rate for Internet survey (similar rate to mail survey for the same study). The difference may be because the Dillman's (2007) report is more recent than the Kaplowitz et al. (2004) report. Emails and Web usage have increased since the earlier report.

Notwithstanding, minimizing non-response rate is a key issue for any study that employs surveys. One method to do this is to target a population that has relevant roles for the study (Fowler, 2009). This researcher understood that to maximize responses to the study, targeting a population with high interest in the research topic was reasonable and consistent with existing evidence. Accounting professionals have major interests in issues relating to accounting fraud's reduction, so using these professionals as the target

population was expected to reduce non-response rate. Additionally, she administered the survey after tax season (after April 15th) when many accounting professionals would likely not be as busy as during tax season. Therefore, they were expected to be more willing to complete surveys. The pilot testing of the survey can increase response rate as well, and as described previously, the researcher refined the survey statements through pilot testing. Fink (2009) asserts that because pilot testing's feedbacks help eliminate potential source of difficulty in a survey, pilot testing improves response rate.

Furthermore, many accounting professionals in the target population were connected to the researcher through LinkedIn. She initially emailed to connect with them and she posted comments on the website; so the familiarity with the researcher's name or others with whom the researcher was associated was expected to increase the response rate. Since it was a short Web-based survey, the convenience and succinctness may also have improved response rate for these busy professionals. As an incentive for participating, the researcher offered to e-mail the results of the survey to participants if they so desired. This incentive preserved anonymity, likely motivated participation, and possibly improved the response rate. The researcher also sent first and second reminders (Appendices F and G) by email approximately 5 days and 10 days after the initial survey invitation to non-responders and partial-responders. These reminder emails may have improved the response rate.

3.5 Methodological Assumptions and Limitations

The study's methodology and research design were bound by assumptions and limitations. Since studies with inadequate sample size can produce worthless results, the assumption of this study was that a sample size of 600 would be adequate. Another

assumption was that the results of the study would generalize to the target population because the sample had the same characteristics as the target population.

A limitation of the sampling procedure was random error. This error could have occurred because the researcher used stratified random sampling to select the samples from the sampling frame. The researcher strove to control random error by using a large sample size and using appropriate sampling technique, as Gerrish and Lacey (2010) suggest. Although the study integrated a large a sample size to ensure that it was representative of the target population, the reader must be cautious in assuming from the responses to this survey instrument that the sample represents all individuals and groups of accounting professionals in the United States.

Another limitation was a potential bias because accessibility by email was an additional criterion for inclusion in the sample frame. Therefore, accounting professionals who did not list email addresses in their LinkedIn accounts were excluded from the sample frame. The effect may be insignificant because most of the professionals listed their email addresses in their profiles.

Some readers or potential users of the study may consider the short survey instrument as a limitation because lengthy surveys tend to provide more information for researchers. The survey instrument was deliberately designed to be succinct to improve response rate for the busy accounting professionals. Since this study uses a representative sample, its findings' usefulness is dependent on a high response rate. Although Web surveys may yield low response rates in general populations, surveys involving professional populations such as those in this study typically have higher response rates (Fowler, 2009). Non-response is a major problem and a source of error in

surveys, according to Fowler. Even though a researcher can calculate a rate of response, it is impossible to know the effect of non-response on data. While non-response is an inherent limitation of this study, the researcher made every effort to improve the response rate. Such measures included using a target population that has relevant and high interest in the study, providing an incentive to participants (access to the results), and emailing reminders. The assumption was that the response rate would be appropriate for this type of study, so the study's findings would be considered useful.

3.6 Summary

This chapter describes, in detail, the research design and methodology of the study. It discusses the appropriateness of using the quantitative research design and quantitative descriptive methodology. It further describes the validation of the data collection method, that is, the use of a survey instrument. The researcher believed, through a review of prior similar studies, that the data collection and analysis methods employed were the most effective means of collecting and analyzing the opinions of accounting professionals on the effectiveness of federal regulations and corporate reputations on accounting fraud reduction.

Subsequent to the data collection, statistical analyses of distributions were conducted using the Statistical Analysis System (SAS) software. These analyses are presented in the next chapter, Chapter Four, in tabular format, while charts are used to visually illustrate the *strongly agree* and *disagree* responses to the 16 statements on the survey instrument. The pictorial view of the data analysis helps a reader better understand the study's results.

Whereas the actual data analyses related to the research question are included in Chapter Four, Chapter Five discusses the summary, conclusions, and recommendations of the study. Other pertinent information and analyses that are related to the study and may be interesting to a reader are included in appropriately labeled appendices at the end of Chapter Five.

CHAPTER FOUR: DATA ANALYSIS AND RESULTS

4.1 The Purpose

This chapter presents the results of the data analyses pertaining to this study's research question: do federal regulations or corporate reputations have a greater effect on reducing corporate accounting fraud? A 16-item survey instrument was developed to generate answers to the research question. The purpose of this study is to determine which of the two, federal regulations or corporate reputation, is more effective at mitigating corporate accounting fraud. The raw responses of the survey were collected using the SurveyMonkey platform and were analyzed using SAS® Version 9.1. The data analyses of the information from the survey provide the reader with important findings relative to the purpose of the study.

The first section presents the respondent groups' and non-respondent groups' demographic composition. It also discusses the respondents' distribution by gender, age range, current position, years of accounting experience, organizational type, and number of employees in organization. The second section discusses the data analysis by presenting Cronbach's alpha statistics and the distribution of survey responses. The third section presents the results of the survey responses and their support of the hypotheses. This section also compares the percentages of accounting professionals' agreement to the statements on the survey. The fourth section presents the analysis of variance (ANOVA) results by comparing the different positions' survey responses. The fifth section discusses the correlation analyses of the survey responses based on years of accounting

experience and number of organizational employees. This chapter ends with a chapter summary.

4.2 Respondents' Description and Distribution

The researcher e-mailed 600 accounting professionals who were randomly selected from a sampling frame of 750. Out of the 600 emails, 206 emails bounced back as undeliverable or unavailable (out of office). Hence, the actual number of professionals who presumably received the survey was 327. Of those who presumably received the survey, 67 opted out of the survey. The number of actual respondents was 160. The high number of emails that bounced back was disappointing; however, it was expected because the researcher was not able to verify the validity of email addresses before sending out the survey. The number of opt-outs (n = 67) was within the expected range. About 49% of the 327 prospective respondents participated in the survey. The researcher expected a 50% response rate, which is considered high for a web survey. The actual 49% response rate was adequate for the study's results to be useful and valid.

Whereas 160 responded, one response was incomplete and 159 were complete. The incomplete response was included in the analysis because the respondent completed the 16 statements needed for the study but only failed to complete the demographic section. In description of the data analysis, the researcher made note for the reader about the missing information whenever it is applicable. Table 5 describes the composition of the respondents and the non-respondents.

Table 5

Respondents and Non-Respondents' Composition

Description	*f* (*n* = 327)	%	Cumulative *f*	Cumulative %
Respondents	160	48.93	160	48.93
Non-respondents	167	51.07	327	100.00

Note. This table illustrates respondents and non-respondents' composition. The *f* column contains the number of respondents and non-respondents. The column is calculated by dividing the frequency of the respondents or the non-respondents by the total of 327, the sum of which is 100%. The cumulative *f* column is the cumulative sum of the *f* column or 327. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 6 shows the distribution of respondents by gender. The respondents' composition includes 83 females and 76 males for a total of 159 respondents who completed this section. The male and female respondents were almost the same proportion.

Table 6

Respondents' Gender Composition

Gender	*f* (*n* = 159)	%	Cumulative *f*	Cumulative %
Female	83	52.20	83	52.20
Male	76	47.80	159	100.00

Note. This table illustrates respondents' gender composition. The *f* column contains the number of respondents who are females and males, that is *n* = 159. One frequency is missing because a respondent could not be identified due to incomplete information. The % column is computed using 159 respondents who completed the section, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 159 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

The ages of the respondents range from 21 years to over 61 years. The highest age range was between 41 and 50 years (*n* = 51) and the lowest age range was the *more*

than 61 years category (n =10). Additionally, the other age ranges were well-represented as Table 7 shows.

Table 7

Respondents' Age Range Composition

Age range	f (n = 159)	%	Cumulative f	Cumulative %
21-30 years	21	13.21	21	13.21
31-40 years	41	25.79	62	38.99
41-50 years	51	32.08	113	71.07
51-60 years	36	22.64	149	93.71
61+ years	10	6.29	159	100.00

Note. This table shows respondents' age range composition. The f column contains the number of respondents in each age range. One frequency is missing because a respondent could not be identified due to incomplete information. The % column is computed using 159 respondents who completed the section, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the f column or 159 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 8 illustrates the various current positions of the accounting professionals who responded to the survey. Whereas accountants were the most respondents (n = 39), accounting supervisors were only 12. Comparing the number of respondents to the sample of accounting professionals depicted in Table 4 reveals that more business managers and CFOs proportionately responded than accountants, accounting supervisors, and auditors. While 23 out of 55 business managers and 21 out of 42 CFOs responded, only 39 out of 197 accountants, 12 out of 174 accounting supervisors, and 27 out of 132 auditors responded. This was a surprising finding, because one would assume that

managers and CFOs are typically busier and less inclined to complete surveys than accountants, supervisors, and auditors.

Additionally, 37 accounting professionals chose the *other* position category because their current positions were not listed. Some of the declared positions were audit director, controller, treasurer, CEO, assistant director of finance, finance director, partner public, CPA, and contracting officer, among others. With a few exceptions, these positions were close to the listed positions. The choice of the *other* position category by many respondents may have led to the low frequencies in accountant, accounting supervisor, and auditor categories. The analysis in Table 8 indicates that each position has between 8% and 25% representation, so professional perspectives were still diverse.

Table 8

Respondents' Position Composition

Position	*f* (*n* = 159)	%	Cumulative *f*	Cumulative %
Accountant	39	24.53	39	24.53
Accounting supervisor	12	7.55	51	32.08
Auditor	27	16.98	78	49.06
Business manager	23	14.47	101	63.52
Chief financial officer	21	13.21	122	76.73
Other	37	23.27	159	100.00

Note. This table depicts respondents' position composition. The *f* column contains the number of respondents by their current positions. The *other* category of 37 accounting professionals comprises those who have different titles than the ones listed. One frequency is missing because a respondent could not be identified due to incomplete information. The % column is computed using 159 respondents who completed the section, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 159 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 9 shows that the highest accounting experience of the respondents is the *more than 21 years* category (n = 47). The lowest accounting experience is the *16 to 20 years* category (n = 19). Interestingly, the 6 to 10 years and the 11 to 15 years have the same number of frequency (n = 32). The 1 to 5 years of experience category also has good representations with n = 19. This analysis reveals that there was a balance of respondents' years of accounting experience.

Table 9

Respondents' Years of Accounting Experience Composition

Years of experience	*f* (n = 159)	%	Cumulative *f*	Cumulative %
1-5 years	29	18.24	29	18.24
6-10 years	32	20.13	61	38.36
11-15 years	32	20.13	93	58.49
16-20 years	19	11.95	112	70.44
21+ years	47	29.56	159	100.00

Note. This table shows respondents' years range of accounting experience composition. The *f* column contains the number of respondents in each range of years. One frequency is missing because a respondent could not be identified due to incomplete information. The % column is computed using 159 respondents who completed the section, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 159 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Respondents who work for governmental organizations were the most with n = 59; respondents who work for not-for-profit organizations were the least because there were only n = 14, as Table 10 depicts. The organization types where the accounting professionals' work included accounting firms, for-profit corporations, and *other*

category for those respondents whose organizations were not among the four listed on the survey.

Table 10

Respondents' Organization Type Composition

Organizational type	*f* (*n* = 159)	%	Cumulative *f*	Cumulative %
Accounting firm	36	22.64	36	22.64
For profit corporation	32	20.13	68	42.77
Government	59	37.11	127	79.87
Not for profit organization	14	8.81	141	88.68
Other	18	11.32	159	100.00

Note. This table shows respondents' organization type composition. The *f* column contains the number of respondents who work in each organizational category. One frequency is missing because a respondent could not be identified due to incomplete information. The % column is computed using 159 respondents who completed the section, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 159 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

As Table 11 illustrates, the number of employees in organizations where the respondents work varied. Approximately 65% of the respondents work for organizations with more than 201 employees. The respondents who work for organizations with employees between 151 and 200 were only 3%.

Table 11

Respondents' Organizational Number of Employees Composition

Organization employees	*f* (*n* = 159)	%	Cumulative *f*	Cumulative %
1-50	34	21.38	34	21.38
51-100	7	4.40	41	25.79
101-150	10	6.29	51	32.08
151-200	5	3.14	56	35.22
201+	103	64.78	159	100.00

Note. This table depicts respondents' organization size composition by the number of employees. The *f* column contains the number of respondents who work in each organizational category. One frequency is missing because a respondent could not be identified due to incomplete information. The % column is computed using 159 respondents who completed the section, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 159 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

4.3 Data Analysis

4.3.1 Cronbach's Alpha Statistics

A Cronbach's alpha (Cronbach coefficient alpha) was calculated to assess the reliability of the survey instrument. Reliability is the consistency in measurement; that is, different measures of the same concept or the same measurements repeated over time should produce the same results (Treiman, 2009). Three ways to assess reliability of a scale include test-retest (retest method), alternate-forms (split-halves method), and Cronbach's alpha (internal consistency method). A test-retest measures the correlation between scores of a scale administered at two points in time, alternate-forms measure the correlation between two different scales measuring the same dimension, and Cronbach's

alpha is an internal-consistency measure of the correlation among the items on a scale (Treiman, 2009).

Even though there are several methods to measure the internal-consistency reliability of a tool, Treiman (2009) states that Cronbach's alpha is the most widely used method. In addition, Cronbach's alpha is used to measure an instrument that is administered once. Gerrish and Lacey (2010) explain the suitability of Cronbach's alpha for use with instruments that have no right answer but that measure the degree of agreement or disagreement of respondents on a scale, such as the one used in this survey. The reasons discussed by these authors show that Cronbach's alpha is the appropriate method to use for measuring this survey instrument's reliability.

As defined previously, Cronbach's alpha is a statistical test of how well the items on a scale correlate with one another (Bernard, 2000). Therefore, the higher the correlation, the more reliable the instrument tends to be. Peat (2002) notes that like other correlation coefficients, Cronbach's alpha value, denoted as α, ranges from 0 (no reliability) to 1 (perfect reliability). Nunnally (1978) recommends that instruments used in basic research have a Cronbach's alpha of .70 or better, while he recommends that those in applied settings where important decisions may be affected by each score should have higher α value. He adds that increasing α value of a basic research beyond .80 may be a wasteful effort.

Field (2009) reiterates Nunnally's (1978) recommendation of alpha value for a reliable tool. Field states that the consensus is that alpha value of between .70 and .80 is acceptable for Cronbach's alpha and that values that are substantially lower indicate an unreliable instrument (Field, 2009). However, Field (2009) recommends caution in using

general guidelines like these because α value depends on the number of items on the survey. Field (2009) contends that it is a well-known fact that the number of items on an instrument affects its reliability coefficients. Since the alpha value increases as the number of items on the survey increases, it is possible to attain a large alpha value because of the number of items and not necessarily because of a reliable scale (Field, 2009).

As Table 12 depicts, α value for the raw data in this study was .67, which was below the cut point of .70 that is indicative of a reliable tool. Responses to statements 7, 13, and 14 were reverse scored because the statements were worded negatively. These statements were intentionally worded in this way in order to ensure that respondents were paying attention to the statements on the survey instrument. Therefore, the three statements were phrased so that an agreement with any of them represents a relatively low level of the attribute being measured. Reverse-scoring these negatively-phrased statements ensures that all of the items, that is those that are originally negatively-phrased and those that are positively-phrased, are consistent with each other, in terms of what an *agree* or *disagree* response implies. After the reverse scoring, two questions from the instrument, that is statements 7 and 14, were found to have the lowest reliability (α scores) as the more detailed table in Appendix H demonstrates.

Table 12

Cronbach's Alpha Statistics

Variables	α
Raw	.67
Standardized	.68

Note. This table depicts the Cronbach coefficient alpha result. The raw value was based on item correlation whereas standardized value was based on item covariance (measures of distribution or spread of variables). Raw value is often used and the study used it as well. The α value for the raw data was .67, which was below but close to the cut point of .70, the value for a reliable instrument.

If statements 7 and 14 were removed and the Cronbach's alpha were re-run, then the value would have been .72, which would have made it a reliable tool. Table 13 shows the summary of the Cronbach's alpha statistics without statements 7 and 14, while Appendix I shows the individual statement's value for the Cronbach's alpha without statements 7 and 14.

Table 13

Cronbach's Alpha Statistics Without Statements 7 and 14

Variables	α
Raw	.72
Standardized	.73

Note. This table depicts the Cronbach coefficient alpha result without statements 7 and 14. The raw value was based on item correlation whereas standardized value was based on item covariance (measures of distribution or spread of variables). Raw value is often used and the study used it as well. The α value for the raw data was .72 which makes a reliable tool if the two statements were removed.

Polit and Beck (2008) and Field (2009) suggest that if an instrument has subscales, then internal consistency (α) should be applied separately to the subscales.

The survey instrument has subscales because groups of statements on it measure different variables. Statements 1 to 7 measured the effectiveness of federal regulations, statements 8 to 13 measured the effectiveness of corporate reputation, and statements 14 to 16 measured the effectiveness of either federal regulations or corporate reputation.

The researcher assessed Cronbach's alpha on the subscales separately. The result for statements 1 to 7 measuring the effectiveness of federal regulations on corporate accounting fraud showed raw data alpha value of .76. This shows that the subscale is reliable. Statement 7 was reverse-scored because it was negatively phrased originally. The Cronbach's alpha for these statements is depicted in Table 14, but the value for each statement in this subscale is presented in Appendix J.

Table 14

Cronbach's Alpha Statistics for Statements 1 Through 7

Variables	α
Raw	.76
Standardized	.77

Note. This table depicts the Cronbach coefficient alpha result for subscale that includes statements 1 to 7. The raw value was based on item correlation whereas standardized value was based on item covariance (measures of distribution or spread of variables). Raw value is often used and the study used it as well. The α value for the raw data was .76 which makes the subscale reliable.

The result of statements 8 to 13 measuring the effectiveness of corporate reputation on corporate accounting fraud revealed raw data alpha value of .85. This is depicted in Table 15. The value indicates that this subscale is a reliable tool. Statement 8 was reverse-scored because it was negatively phrased originally. Cronbach's alpha value for individual statement in this subscale is included in Appendix K.

Table 15

Cronbach's Alpha Statistics for Statements 8 Through 13

Variables	α
Raw	.85
Standardized	.85

Note. This table depicts the Cronbach coefficient alpha result for subscale that includes statements 8 through 13. The raw value was based on item correlation whereas standardized value was based on item covariance (measures of distribution or spread of variables). Raw value is often used and the study used it as well. The α value for the raw data was .85 which makes the subscale reliable.

The result for statements 14 to 16 measuring which of the two, federal regulations or corporate reputation, is more effective in reducing corporate accounting fraud revealed raw data alpha value of .84. The result, in Table 16, showed that this subscale is reliable. Appendix L contains the Cronbach's alpha value for each statement in the subscale.

Table 16

Cronbach's Alpha Statistics for Statements 14 Through 16

Variables	α
Raw	.84
Standardized	.84

Note. This table depicts the Cronbach coefficient alpha result for subscale that includes statements 14 through 16. The raw value was based on item correlation whereas standardized value was based on item covariance (measures of distribution or spread of variables). Raw value is often used and the study used it as well. The α value for the raw data was .84 which makes the subscale reliable.

As previously discussed, the Cronbach's alpha statistics on the aggregate and subscale items on the instrument revealed that statements 7 and 14 have negative correlation values. These two statements make the aggregate Cronbach's alpha value for

the instrument unreliable (α = .67) since the α value was .72 without the two statements. Even though the instrument without statements 7 and 14 suggested a reliable survey instrument, it is improper to remove the two lowest Cronbach's alpha value and re-run the same sample. The proper process is to remove the two statements, administer the survey to a new sample, and test reliability of the instrument. It is impractical for this researcher to re-administer the survey to a new sample at this time, so reliability of the survey instrument is a limitation of this study. This limitation has been discussed in more detail in Chapter Five.

Whereas it is desirable to have a reliable survey instrument so the researcher can include a summative analysis of all the statements, the low α value means that statements were analyzed individually. The next section, section 4.3.2, details individual analysis of the 16 statements.

4.3.2 Distribution of Responses on the Survey

Table 17 shows the frequency and percentage of responses to the first statement on the survey. Statement 1 states that more regulations are still needed to reduce corporate accounting fraud. As the table illustrates, n = 45 or 28.1% either strongly disagree or disagree, n = 30 or 18.8% neither agree nor disagree, while n = 85 or 53.1% either strongly agree or agree. Most respondents agreed with this statement. The correlation between the responses to this statement and the associated hypotheses are discussed in section 4.4.

Table 17

Distribution of Responses to Statement 1

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	5	3.13	5	3.13
Disagree	40	25.00	45	28.13
Neither agree nor disagree	30	18.75	75	46.88
Agree	53	33.13	128	80.00
Strongly agree	32	20.00	160	100.00

Note. Statement 1 restated: More regulations are still needed to reduce corporate accounting fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Statement 2 states that federal regulations often guide people to do the right thing. The level of agreement or disagreement of respondents to this statement on the survey is presented in Table 18. The table shows that $n = 32$ or 20.0% either strongly disagree or disagree, $n = 26$ or 16.2% neither agree nor disagree, while $n = 102$ or 63.8% either strongly agree or agree with statement 2. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 18

Distribution of Responses to Statement 2

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	5	3.13	5	3.13
Disagree	27	16.88	32	20.00
Neither agree nor disagree	26	16.25	58	36.25
Agree	87	54.38	145	90.63
Strongly agree	15	9.38	160	100.00

Note. Statement 2 restated: Federal regulations often guide people to do the right thing. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 19 presents the distribution of frequency and percentage for statement 3. Statement 3 states that federal regulations help in reducing corporate accounting fraud. The table shows that $n = 18$ or 11.2% either strongly disagree or disagree, $n = 24$ or 15.0% neither agree nor disagree, whereas $n = 118$ or 73.8% either strongly agree or agree with statement 3. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 19

Distribution of Responses to Statement 3

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	3	1.88	3	1.88
Disagree	15	9.38	18	11.25
Neither agree nor disagree	24	15.00	42	26.25
Agree	102	63.75	144	90.00
Strongly agree	16	10.00	160	100.00

Note. Statement 3 restated: Federal regulations help in reducing corporate accounting fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 20 illustrates the frequency and percentage of responses to the fourth statement on the survey. Statement 4 states that federal regulations are necessary to prevent fraudulent behavior. As the table shows, $n = 27$ or 16.9% either strongly disagree or disagree, $n = 20$ or 12.5% neither agree nor disagree, while $n = 113$ or 70.6% either strongly agree or agree. Most respondents agreed with this statement. The correlation between the responses to this statement and the associated hypotheses are discussed in section 4.4.

Table 20

Distribution of Responses to Statement 4

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	3	1.88	3	1.88
Disagree	24	15.00	27	16.88
Neither agree nor disagree	20	12.50	47	29.38
Agree	78	48.75	125	78.13
Strongly agree	35	21.88	160	100.00

Note. Statement 4 restated: Federal regulations are necessary to prevent fraudulent behavior. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Statement 5 states that consequences for corporate accounting fraud under current federal regulations are weak. The level of agreement or disagreement of respondents to this statement on the survey is presented in Table 21. The table shows that $n = 36$ or 22.5% either strongly disagree or disagree, $n = 30$ or 18.7% neither agree nor disagree, while $n = 94$ or 58.8% either strongly agree or agree with statement 5. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 21

Distribution of Responses to Statement 5

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	4	2.50	4	2.50
Disagree	32	20.00	36	22.50
Neither agree nor disagree	30	18.75	66	41.25
Agree	65	40.63	131	81.88
Strongly agree	29	18.13	160	100.00

Note. Statement 5 restated: Consequences for corporate accounting fraud under current federal regulations are weak. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Statement 6 states that harsher consequences reduce corporate accounting fraud. The level of agreement or disagreement of respondents to this statement on the survey is presented in Table 22. The table shows that $n = 22$ or 13.8% either strongly disagree or disagree; $n = 20$ or 12.5% neither agree nor disagree; whereas $n = 118$ or 73.7% either strongly agree or agree with statement 6. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 22

Distribution of Responses to Statement 6

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	3	1.88	3	1.88
Disagree	19	11.88	22	13.75
Neither agree nor disagree	20	12.50	42	26.25
Agree	70	43.75	112	70.00
Strongly agree	48	30.00	160	100.00

Note. Statement 6 restated: Harsher consequences reduce corporate accounting fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 23 illustrates the frequency and percentage of responses to the statement 7 on the survey. Statement 7 states the costs associated with complying with federal regulations outweigh the benefits of compliance. As the table shows, $n = 51$ or 43.1% either strongly disagree or disagree, $n = 40$ or 25.0% neither agree nor disagree, while $n = 69$ or 31.9% either strongly agree or agree. Most respondents agreed with this statement. The correlation between the responses to this statement and the associated hypotheses are discussed in section 4.4.

Table 23

Distribution of Responses to Statement 7

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	12	7.50	12	7.50
Disagree	57	35.63	69	43.13
Neither agree nor disagree	40	25.00	109	68.13
Agree	43	26.88	152	95.00
Strongly agree	8	5.00	160	100.00

Note. Statement 7 restated: The costs associated with complying with federal regulations outweigh the benefits of compliance. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 24 depicts the frequency and percentage of responses to statement 8 on the survey. Statement 8 states that companies with positive corporate reputation often prevent corporate accounting fraud. As the table shows, $n = 41$ or 25.6% either strongly disagree or disagree, $n = 40$ or 25.0% neither agree nor disagree, while $n = 79$ or 49.4% either strongly agree or agree. About one-half of the respondents agreed with this statement. The correlation between the responses to this statement and the associated hypotheses are discussed in section 4.4.

Table 24

Distribution of Responses to Statement 8

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	3	1.88	3	1.88
Disagree	38	23.75	41	25.63
Neither agree nor disagree	40	25.00	81	50.63
Agree	65	40.63	146	91.25
Strongly agree	14	8.75	160	100.00

Note. Statement 8 restated: Companies with positive corporate reputation often prevent corporate accounting fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Statement 9 states that corporate reputation helps in reducing corporate accounting fraud. The level of agreement or disagreement of respondents to this statement on the survey is presented in Table 25. The table demonstrates that $n = 48$ or 30.0% either strongly disagree or disagree, $n = 42$ or 26.2% neither agree nor disagree, whereas $n = 70$ or 43.8% either strongly agree or agree with statement 9. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 25

Distribution of Responses to Statement 9

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	4	2.50	4	2.50
Disagree	44	27.50	48	30.00
Neither agree nor disagree	42	26.25	90	56.25
Agree	57	35.63	147	91.88
Strongly agree	13	8.13	160	100.00

Note. Statement 9 restated: Corporate reputation helps in reducing corporate accounting fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 26 depicts the frequency and percentage of responses to statement 10. This statement states that corporate reputation influences employees and management to do the right thing. As the table shows, $n = 28$ or 17.5% either strongly disagree or disagree, $n = 40$ or 25.0% neither agree nor disagree, while $n = 92$ or 57.5% either strongly agree or agree. More than half of the respondents agreed with this statement. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 26

Distribution of Responses to Statement 10

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	5	3.13	5	3.13
Disagree	23	14.38	28	17.50
Neither agree nor disagree	40	25.00	68	42.50
Agree	68	42.50	136	85.00
Strongly agree	24	15.00	160	100.00

Note. Statement 10 restated: Corporate reputation influences employees and management to do the right thing. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 27 shows the frequency and percentage of responses to statement 11 on the survey. The statement states that companies with negative reputation tend to engage in corporate accounting fraud. As the table illustrates, $n = 60$ or 37.5% either strongly disagree or disagree, $n = 72$ or 45.0% neither agree nor disagree, while $n = 28$ or 17.5% either strongly agree or agree. Only a few respondents agreed with this statement, and almost half of the respondents failed to state an opinion. The correlation between the responses to this statement and the associated hypotheses are discussed in section 4.4.

Table 27

Distribution of Responses to Statement 11

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	6	3.75	6	3.75
Disagree	54	33.75	60	37.50
Neither agree nor disagree	72	45.00	132	82.50
Agree	26	16.25	158	98.75
Strongly agree	2	1.25	160	100.00

Note. Statement 11 restated: Companies with negative reputation tend to engage in corporate accounting fraud. The *f* column contains the number of responses described by the degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 28 illustrates the frequency and percentage of responses to statement 12 on the survey. Statement 12 states that damaged corporate reputation increases corporate accounting fraud. As the table shows, $n = 58$ or 36.2% either strongly disagree or disagree, $n = 63$ or 39.4% neither agree nor disagree, whereas $n = 39$ or 24.4% either strongly agree or agree. About 8 out of 10 respondents disagreed with or failed to make an opinion on this statement, while only a little over 2 out of 10 respondents agreed with this statement. The correlation between the responses to this statement and the associated hypotheses are discussed in section 4.4.

Table 28

Distribution of Responses to Statement 12

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	7	4.38	7	4.38
Disagree	51	31.88	58	36.25
Neither agree nor disagree	63	39.38	121	75.63
Agree	34	21.25	155	96.88
Strongly agree	5	3.13	160	100.00

Note. Statement 12 restated: Damaged corporate reputation increases corporate accounting fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Statement 13 states that corporate reputation does not affect corporate accounting fraud. The level of agreement or disagreement of respondents to this statement on the survey is presented in Table 29. The table shows that $n = 71$ or 44.4% either strongly disagree or disagree, $n = 39$ or 24.4% neither agree nor disagree, whereas $n = 50$ or 31.2% either strongly agree or agree with statement 13. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 29

Distribution of Responses to Statement 13

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	8	5.00	8	5.00
Disagree	63	39.38	71	44.38
Neither agree nor disagree	39	24.38	110	68.75
Agree	42	26.25	152	95.00
Strongly agree	8	5.00	160	100.00

Note. Statement 13 restated: Corporate reputation does not affect corporate accounting fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Statement 14 states that federal regulations are more effective at reducing frauds than corporate reputation. The level of agreement or disagreement of respondents to this statement on the survey is presented in Table 30. The table shows that $n = 37$ or 23.1% either strongly disagree or disagree, $n = 31$ or 19.4% neither agree nor disagree, whereas $n = 92$ or 57.5% either strongly agree or agree with statement this statement. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 30

Distribution of Responses to Statement 14

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	3	1.88	3	1.88
Disagree	34	21.25	37	23.13
Neither agree nor disagree	31	19.38	68	42.50
Agree	68	42.50	136	85.00
Strongly agree	24	15.00	160	100.00

Note. Statement 14 restated: Federal regulations are more effective at reducing frauds than corporate reputation. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Table 31 shows the frequency and percentage of responses to statement 15 on the survey. This statement states that corporate reputation works just as effectively as federal regulations in reducing fraud. As the table illustrates, $n = 72$ or 45.0% either strongly disagree or disagree, $n = 44$ or 27.5% neither agree nor disagree, while $n = 44$ or 27.5% either strongly agree or agree. Only a few respondents agreed with or failed to state an opinion on this statement, but almost half of the respondents disagreed with the statement. The correlation between the responses to this statement and the associated hypotheses are discussed in section 4.4.

Table 31

Distribution of Responses to Statement 15

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	6	3.75	6	3.75
Disagree	66	41.25	72	45.00
Neither agree nor disagree	44	27.50	116	72.50
Agree	39	24.38	155	96.88
Strongly agree	5	3.13	160	100.00

Note. Statement 15 restated: Corporate reputation works just as effective as federal regulations in reducing fraud. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

Statement 16 states that corporate reputation is more effective at reducing frauds than federal regulations. The level of agreement or disagreement of respondents to this statement on the survey is presented in Table 32. The table displays that $n = 76$ or 47.5% either strongly disagree or disagree, $n = 46$ or 28.8% neither agree nor disagree, whereas $n = 38$ or 23.7% either strongly agree or agree with statement 16. The correlation between the responses to this statement and the related hypotheses are discussed in section 4.4.

Table 32

Distribution of Responses to Statement 16

Responses	*f* (*n* = 160)	%	Cumulative *f*	Cumulative %
Strongly disagree	9	5.63	9	5.63
Disagree	67	41.88	76	47.50
Neither agree nor disagree	46	28.75	122	76.25
Agree	32	20.00	154	96.25
Strongly agree	6	3.75	160	100.00

Note. Statement 16 restated: Corporate reputation is more effective at reducing frauds than federal regulations. The *f* column contains the number of responses described by degree of agreement or disagreement with the statement. The % column is computed using 160 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the *f* column or 160 respondents. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

4.4 Research Question and Hypotheses Testing Results

As aforementioned, this study has a sole research question: Do federal regulations or corporate reputations have a greater effect on reducing corporate accounting fraud? Six sets of hypotheses were developed to investigate the research question in the study. The following is a discussion of the results from the survey statements that prove or disprove the specific hypotheses. The percentage distributions quoted here are the result of the accounting professionals' responses (agreement or disagreement) to the statements on the survey.

4.4.1 Hypotheses One and Two

Hypothesis one (H_1) states that there is a strong positive relationship between federal regulations and reduced corporate accounting fraud; hypothesis two (H_2) states

that there is no relationship between federal regulations and reduced corporate accounting fraud. Statements 1 through 7 on the survey statements measure hypotheses one and two.

Statement 1 restated: More regulations are still needed to reduce corporate accounting fraud. Whereas 53.1% either strongly agree or agree, 28.1% either strongly disagree or disagree, and 18.8% neither agree nor disagree with this statement as depicted in Figure 2. Since more than half of the respondents, that is 53.1%, either strongly agree or agree with the statement that more federal regulations are still needed to reduce accounting fraud, one can arguably conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. In other words, the result indicates that H_1 was upheld, but H_2 was not.

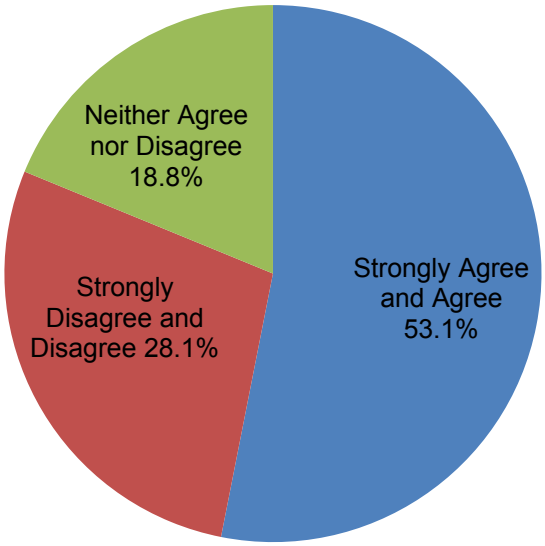

Figure 2. Breakdown of percentage of response categories to statement 1. Statement 1 states that more regulations are still needed to reduce corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 2 restated: Federal regulations often guide people to do the right thing. While 63.8% either strongly agree or agree, 20.0% either strongly disagree or disagree, and 16.2% neither agree nor disagree with this statement, as Figure 3 illustrates. People who do the right thing usually will not engage in accounting fraud. Therefore, because 63.8% respondents either strongly agree or agree with the statement that federal regulations often guide people's behavior, one can properly conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Therefore, the analysis shows that H_1 was upheld, but H_2 was not.

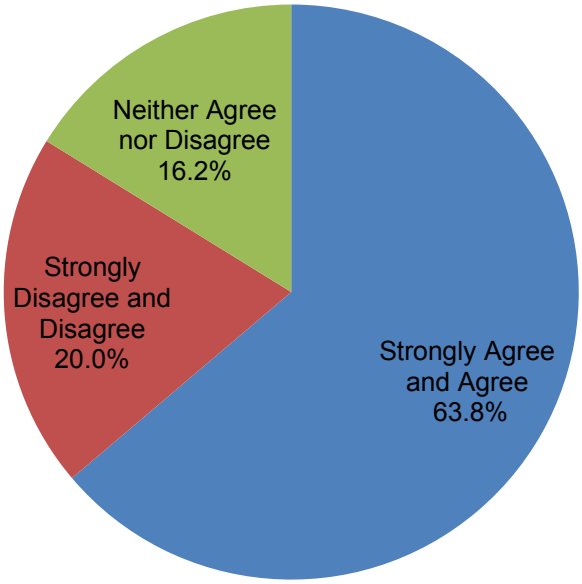

Figure 3. Breakdown of percentage of response categories to statement 2. Statement 2 states that federal regulations often guide people to do the right thing. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 3 restated: Federal regulations help in reducing corporate accounting fraud. As Figure 4 shows, 73.8% either strongly agree or agree, 11.2% either strongly disagree or disagree, and 15.0% neither agree nor disagree with this statement. An overwhelming 73.8% of the accounting professionals either strongly agree or agree with the statement that federal regulations help in reducing accounting fraud. Interestingly, this statement has the highest level of agreement out of the 16 statements. Therefore, one can correctly conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Thus, the result shows that H_1 was upheld, but H_2 was not.

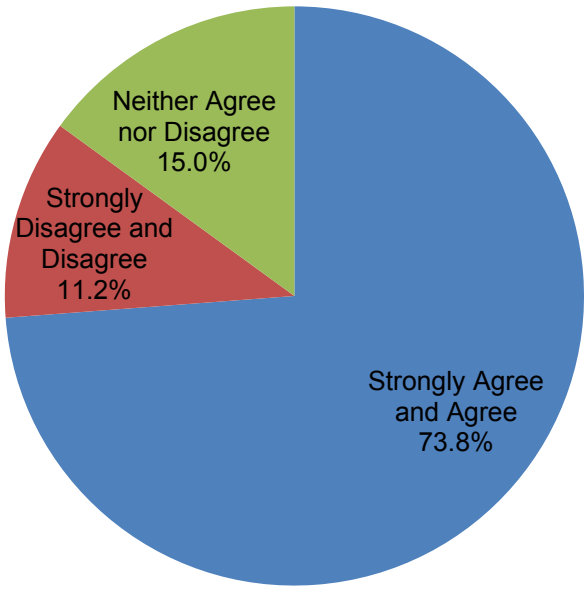

Figure 4. Breakdown of percentage of response categories to statement 3. Statement 3 states that federal regulations help in reducing corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 4 restated: Federal regulations are necessary to prevent fraudulent behavior. Whereas 70.6% either strongly agree or agree, 16.9% either strongly disagree or disagree, and 12.5% neither agree nor disagree with this statement, as demonstrated in Figure 5. Since 70.6% of the respondents either strongly agree or agree with the statement that federal regulations are important in preventing fraudulent behavior, one can correctly conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Hence, the analysis reveals that H_1 was supported but H_2 was not.

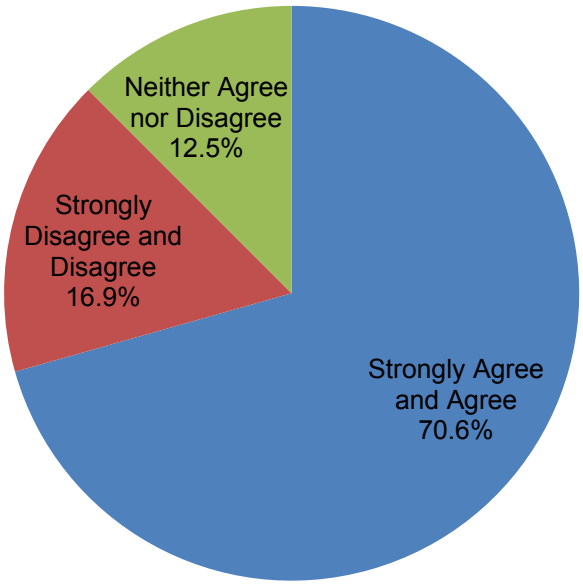

Figure 5. Breakdown of percentage of response categories to statement 4. Statement 4 states that federal regulations are necessary to prevent fraudulent behavior. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 5 restated: Consequences for corporate accounting fraud under current federal regulations are weak. Figure 6 depicts that whereas 58.8% either strongly agree or agree, 22.5% either strongly disagree or disagree, and 18.7% neither agree nor disagree with this statement. An interesting finding was that the percentage (58.8%) of respondents who either strongly agree or agree with the statement that current federal regulations' consequences are weak is similar to the percentage (53.1%) of respondents who feel that there should be more federal regulations (statement 1). Again, the responses indicate that accounting professionals believe federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Therefore, the analysis shows that H_1 was upheld, while H_2 was not.

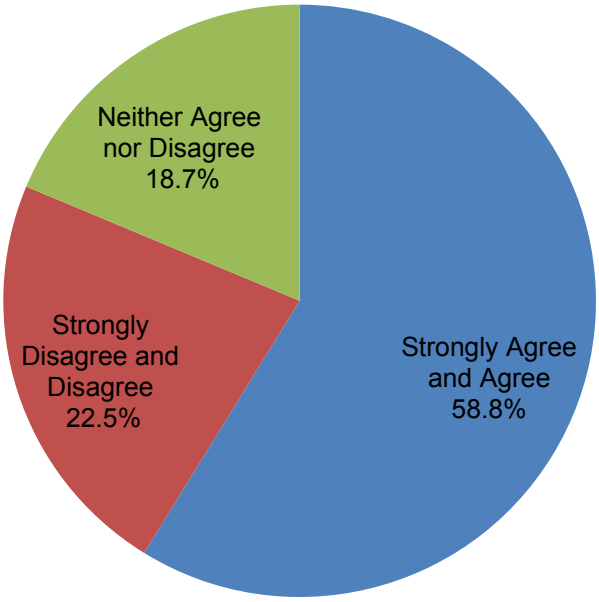

Figure 6. Breakdown of percentage of response categories to statement 5. Statement 5 states that consequences for corporate accounting fraud under current federal regulations are weak. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 6 restated: Harsher consequences reduce corporate accounting fraud. While 73.7% either strongly agree or agree, 13.8% either strongly disagree or disagree, and 12.5% neither agree nor disagree with this statement, as shown in Figure 7. Since 73.7% of the respondents either strongly agree or agree with the statement that harsher consequences reduce accounting fraud, one can accurately conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. In other words, the analysis reveals that H_1 was supported but H_2 was not.

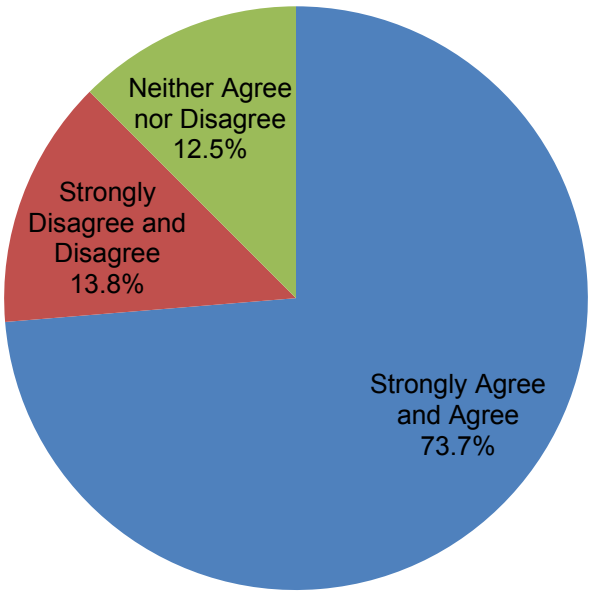

Figure 7. Breakdown of percentage of response categories to statement 6. Statement 6 states that harsher consequences reduce corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 7 restated: The costs associated with complying with federal regulations outweigh the benefits of compliance. While 31.9% either strongly agree or agree, 43.1% either strongly disagree or disagree, and 25.0% neither agree nor disagree with this statement, as Figure 8 illustrates. Unsurprisingly, 43.1% of the respondents either strongly disagree or disagree with the statement that costs of compliance with federal regulations outweigh their benefits. This result implies that more accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction than those who disagree that federal regulations have a positive relationship with accounting fraud reduction. Stated differently, more reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Thus, the result shows that whereas H_1 was upheld, H_2 was not.

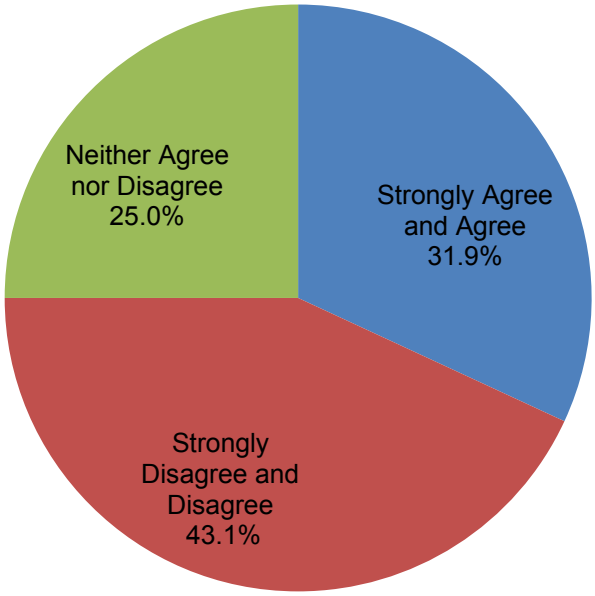

Figure 8. Breakdown of percentage of response categories to statement 7. Statement 7 states that the costs associated with complying with federal regulations outweigh the benefits of compliance. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Figure 9 (bar-chart) shows the percentage of accounting professionals who strongly agree or agree with the seven statements measuring hypotheses one and two. The chart illustrates the statements in descending order of 3, 6, 4, 2, 5, 1, and 7 from the highest percentage to the lowest percentage of *strongly agree* and *agree* responses. As the table depicts, statements 3 and 6 have the highest level of agreement (about 80% each), while statement 7 has the lowest level of agreement (about 32%).

It must be noted that statement 7, having the lowest level of agreement (32%), is distant from statement 1, with the next lowest level of agreement (53%). Additionally, the low level of agreement with statement 7 is consistent with the responses to the other six statements because statement 7 is phrased as a negative, while the other six statements are phrased as a positive. If statement 7 were positively-phrased, the level of agreement would have been the current level of disagreement, that is, 43%. Therefore, the low level

of agreement to statement 7, that costs of compliance with federal regulations outweigh the benefits, may be interpreted as respondents' opinion that federal regulations' benefits outweigh compliance costs. In summary, the level of agreement to the seven statements indicates that most accounting professionals concurred that federal regulations are effective at reducing corporate accounting fraud.

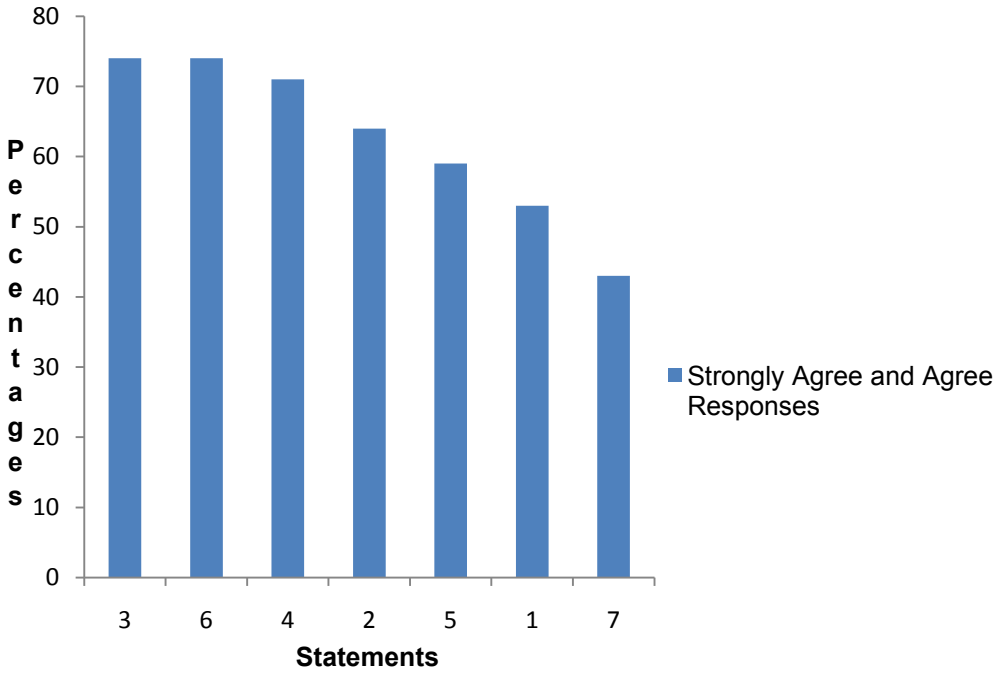

Figure 9. Percentages of strongly agree and agree responses to statements 1 through 7. Since statement 7 was negatively-phrased, it was flipped to the current disagreement level of 43% to show what it would have been had it been a positive statement.

4.4.2 Hypotheses Three and Four

Hypothesis three (H_3) states that there is a strong positive relationship between corporate reputation and reduced corporate accounting fraud; hypothesis four (H_4) states that there is no relationship between corporate reputation and reduced corporate accounting fraud. Statements 8 through 13 on the survey statements measure hypotheses three and four.

Statement 8 restated: Companies with a positive corporate reputation often prevent corporate accounting fraud. Whereas 49.4% either strongly agree or agree, 25.6% either strongly disagree or disagree, and 25.0% neither agree nor disagree with this statement, as illustrated in Figure 10. Since almost one-half of the respondents, that is 49.4%, either strongly agree or agree with the statement that companies with corporate reputation often prevent accounting fraud, one can conclude that many accounting professionals believe that corporate reputation has a positive relationship with accounting fraud reduction, and they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. This result shows that H_3 was upheld, but H_4 was not.

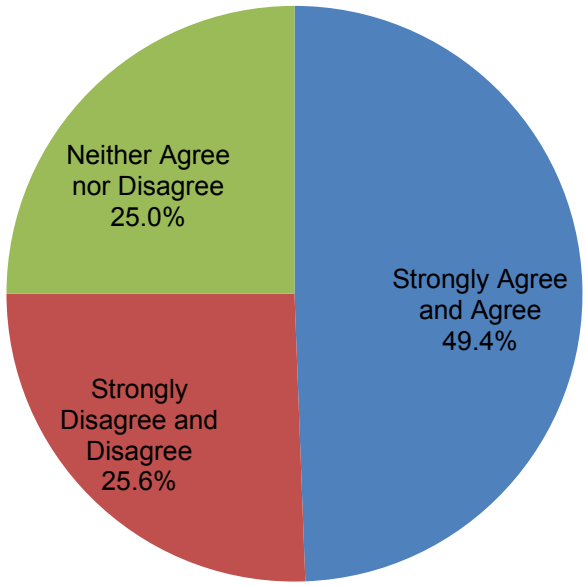

Figure 10. Breakdown of percentage of response categories to statement 8. Statement 8 states that companies with positive corporate reputation often prevent corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 9 restated: Corporate reputation helps in reducing corporate accounting fraud. Figure 11 demonstrates that 43.8% either strongly agree or agree, 30.0% either strongly disagree or disagree, and 26.2% neither agree nor disagree with this statement. Less than half of the respondents, that is 43.8%, either strongly agree or agree with the statement that corporate reputation often helps to reduce accounting fraud. Yet, one can argue that more accounting professionals believe that corporate reputation has a positive relationship with accounting fraud reduction than those that believe the reverse, and more reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction than those who support that proposition. In other words, H_3 was supported more than H_4.

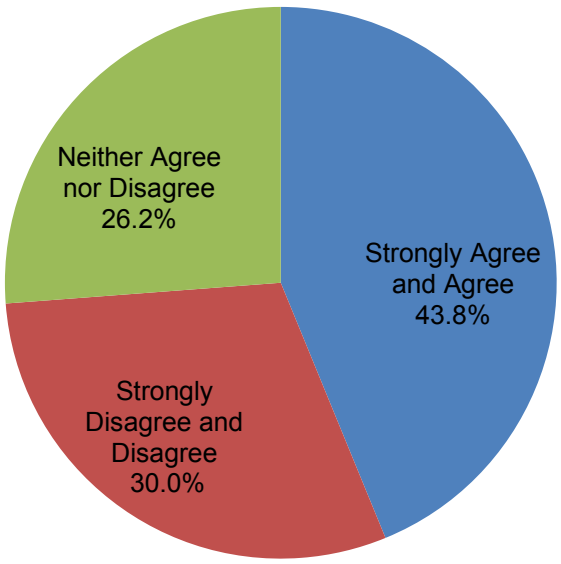

Figure 11. Breakdown of percentage of response categories to statement 9. Statement 9 states that corporate reputation helps in reducing corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 10 restated: Corporate reputation influences employees and management to do the right thing. While 57.5% either strongly agree or agree, 17.5%

either strongly disagree or disagree, and 25.0% neither agree nor disagree with this statement, as Figure 12 shows. Since over one-half of the respondents, 57.5%, either strongly agree or agree with the statement that companies with corporate reputation often guide employees and management to do the right thing, including honest financial reporting, many accounting professionals believe that corporate reputation has a positive relationship with accounting fraud reduction and they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. Therefore, the analysis reveals that H_3 was upheld, but H_4 was not.

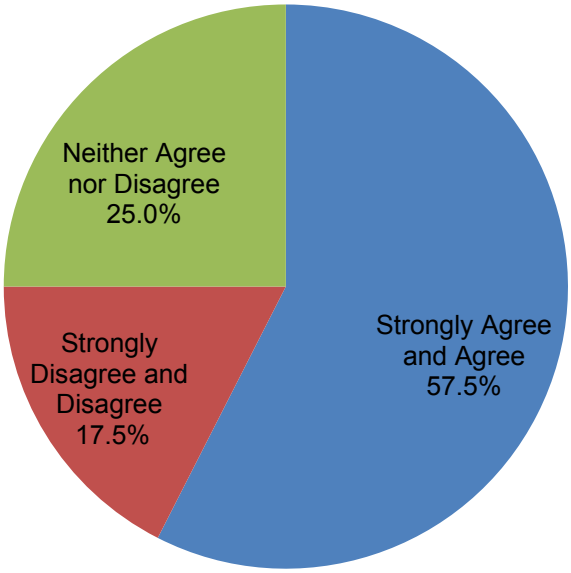

Figure 12. Breakdown of percentage of response categories to statement 10. Statement 10 states that corporate reputation influences employees and management to do the right thing. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 11 restated: Companies with negative reputation tend to engage in corporate accounting fraud. Surprisingly, only 17.5% either strongly agree or agree, while 37.5% strongly disagree or disagree, and 45.0% neither agree nor disagree with the

statement that companies with negative corporate reputation often engage in accounting fraud. It may be of interest to the reader that statement 11 has the highest percentage of respondents who neither agreed nor disagreed, that is, respondents largely remained neutral. These responses, illustrated in Figure 13, imply that many accounting professionals do not believe that corporate reputation has a positive relationship with accounting fraud reduction, yet they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. This means that neither H_3 nor H_4 was upheld.

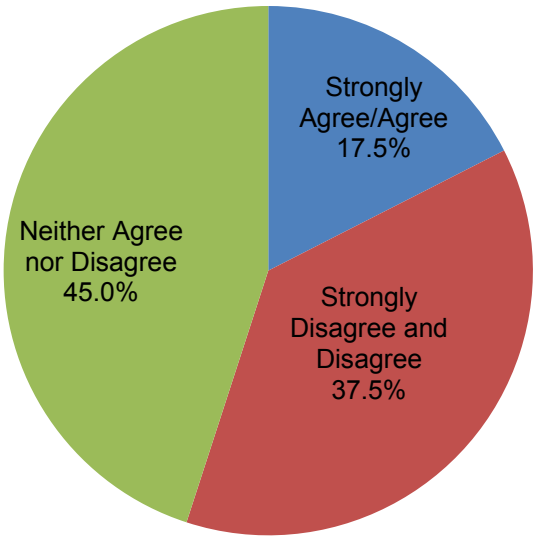

Figure 13. Breakdown of percentage of response categories to statement 11. Statement 11 states that companies with negative reputation tend to engage in corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 12 restated: Damaged corporate reputation increases corporate accounting fraud. Whereas 24.4% either strongly agree or agree, 36.2% either strongly disagree or disagree, and 39.4% neither agree nor disagree with this statement, as displayed in Figure 14. Like the responses to the previous statement, accounting

professionals largely do not agree with the statement that damaged corporate reputation increases accounting fraud. Interestingly, this statement has the second highest level of neutral responses (after statement 11), since more respondents chose the *neither agree nor disagree* response than the *disagree* or *agree* responses. This means that the majority of accounting professionals do not believe that corporate reputation has a positive relationship with accounting fraud reduction, yet they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. Therefore, the analysis shows that H_3 and H_4 were not supported.

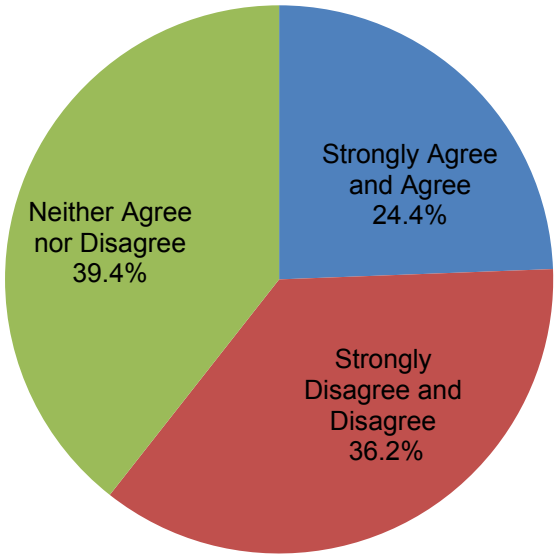

Figure 14. Breakdown of percentage of response categories to statement 12. Statement 12 states that damaged corporate reputation increases corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 13 restated: Corporate reputation does not affect corporate accounting fraud. Whereas 31.2% either strongly agree or agree, 44.4% either strongly disagree or disagree, and 24.4% neither agree nor disagree with this statement, as illustrated in Figure 15. This statement is phrased in the negative, so the result implies that 44.4% of the

respondents believe that corporate reputation has a positive relationship with accounting fraud reduction; in other words, these reject the proposition that corporate reputation does not have a relationship with accounting fraud reduction. The analysis shows that H_3 was upheld, but H_4 was not.

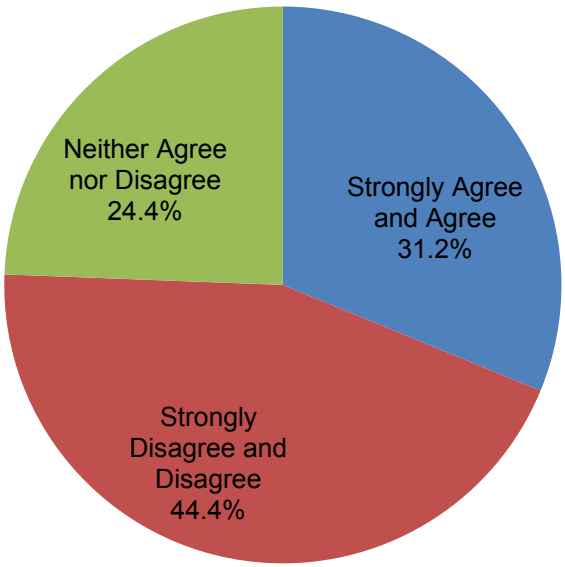

Figure 15. Breakdown of percentage of response categories to statement 13. Statement 13 states that corporate reputation does not affect corporate accounting fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

The *strongly agree* and *agree* answers to statements 8 through 13 are collapsed together in Figure 16. The percentages of the *strongly agree* and *agree* responses are demonstrated in descending order, that is, from statement 10, 8, 9, 13, 12, to 11. It must be noted that statement 10 has the highest percentage of agreement, and it is the only statement with over 50% positive agreement. Statement 11 has the lowest percentage of agreement with only about 18%.

This result shows a split among accounting professionals, because while many strongly agree or agree with statements 8, 9, and 10, many failed to agree with statements

11, 12, and failed to disagree with 13. Again, statement 13 is phrased in the negative; it states that corporate reputation does not affect corporate accounting fraud. Therefore, its low agreement percentage of about 31% and higher disagreement percentage of about 44% can be interpreted as a higher agreement percentage, had the question been positive. In this context, only statements 11 and 12 have the lowest percentage of agreement; 24% and 18% respectively.

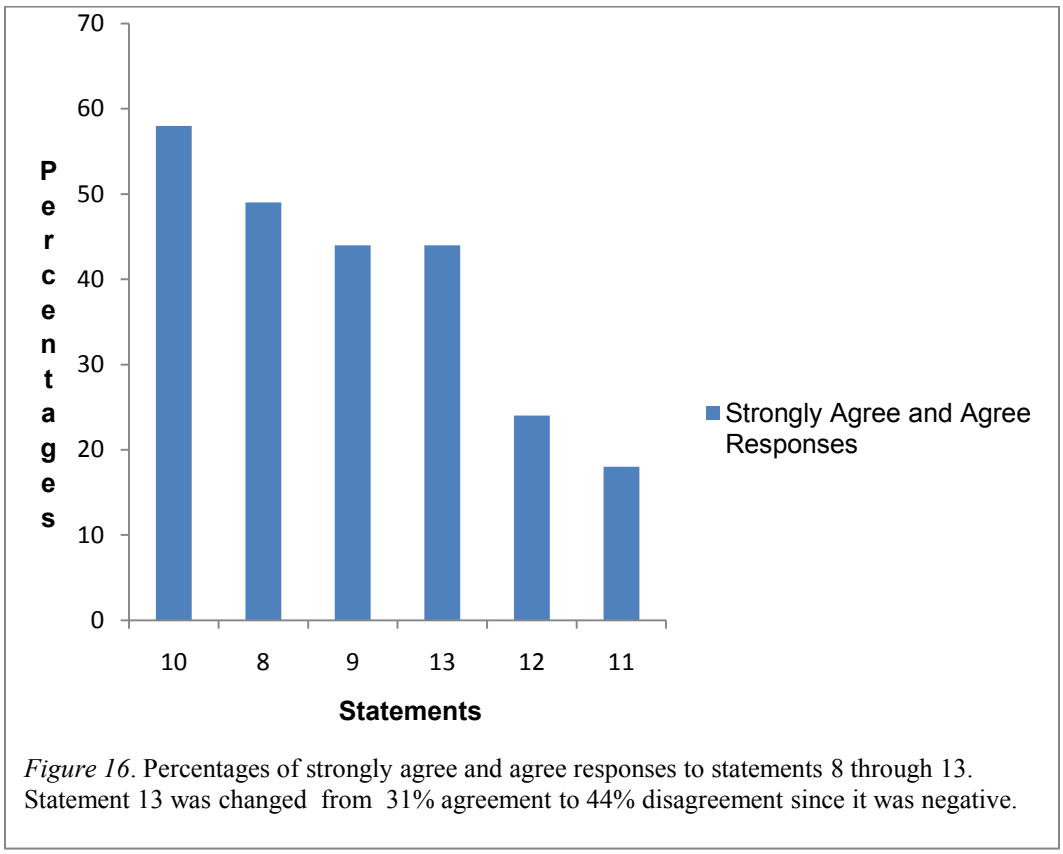

Figure 16. Percentages of strongly agree and agree responses to statements 8 through 13. Statement 13 was changed from 31% agreement to 44% disagreement since it was negative.

As mentioned previously, statements 1 to 7 measured the effectiveness of federal regulations and statements 8 to 13 measured the effectiveness of corporate reputation in reducing accounting fraud. The responses of accounting professionals to statements 1 to 13 can be used to compare the percentage of agreement on the effectiveness of federal regulations in reducing accounting fraud to that of corporate reputation. This comparison reveals that accounting professionals' opinion was that while both are effective, federal

regulations are more effective than corporate reputation for accounting fraud reduction. The next sub-section, section 4.4.3, specifically discusses the direct comparison of federal regulations and corporate reputation's effectiveness.

4.4.3 Hypotheses Five and Six

Hypothesis five (H_5) states that federal regulations reduce corporate accounting fraud more than corporate reputation does, while hypothesis six (H_6) states that corporate reputation reduces corporate accounting fraud more than federal regulations do. Statements 14 through 16 on the survey statements measure hypotheses five and six.

Statement 14 restated: Federal regulations are more effective at reducing frauds than corporate reputation. While 57.5% either strongly agree or agree, 23.1% either strongly disagree or disagree, and 19.4% neither agree nor disagree with this statement, as shown in Figure 17. More than half of the respondents, that is 57.5%, either strongly agree or agree with the statement that federal regulations are more effective at reducing frauds than corporate reputation. Hence, one can conclude that many accounting professionals consider federal regulations to be more effective than corporate reputation in reducing accounting fraud, and they reject the proposition that corporate reputation is more effective than federal regulations in reducing accounting fraud. The analysis shows that whereas H_5 was upheld, H_6 was not.

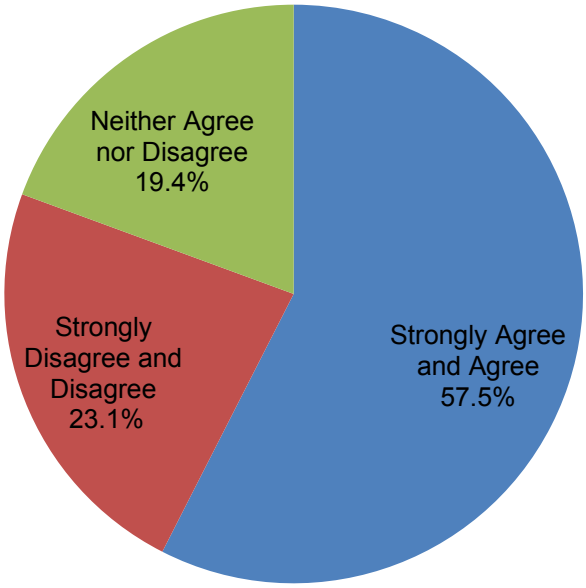

Figure 17. Breakdown of percentage of response categories to statement 14. Statement 14 states that federal regulations are more effective at reducing frauds than corporate reputation. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 15 restated: Corporate reputation works just as effectively as federal regulations in reducing fraud. Figure 18 depicts an interesting finding that 27.5% either strongly agree or agree, 27.5% neither agree nor disagree, and 45.0% either strongly disagree or disagree with this statement. Since about half the respondents, or 45.0%, strongly disagree or disagree that corporate reputation works just as effectively as federal regulations in reducing fraud, one can conclude that many accounting professionals consider federal regulations to be more effective than corporate reputation in reducing accounting fraud, and they reject the proposition that corporate reputation is more effective than federal regulations in reducing accounting fraud. The analysis reveals that while H_5 was upheld, H_6 was not.

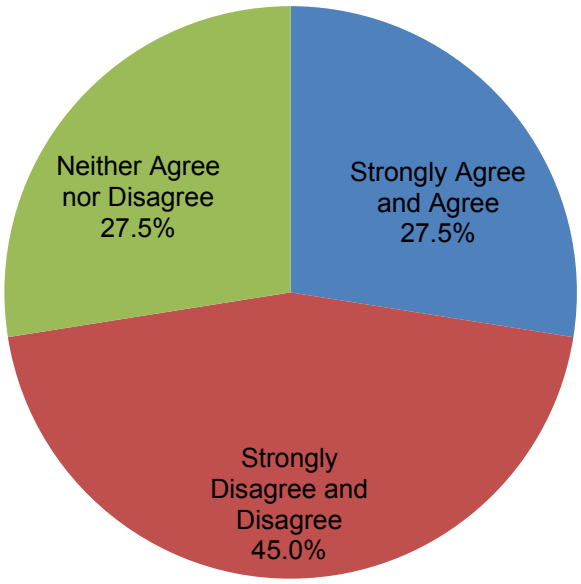

Figure 18. Breakdown of percentage of response categories to statement 15. Statement 15 states that corporate reputation works just as effective as federal regulations in reducing fraud. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Statement 16 restated: Corporate reputation is more effective at reducing frauds than federal regulations. Whereas 23.7% either strongly agree or agree, 47.5% either strongly disagree or disagree, and 28.8% neither agree nor disagree with this statement, as depicted in Figure 19. Since about half the respondents, or 47.5%, strongly disagree or disagree that corporate reputation is more effective at reducing accounting fraud than federal regulations, one can conclude that many accounting professionals consider federal regulations to be more effective than corporate reputation in reducing accounting fraud, and they reject the proposition that corporate reputation is more effective than federal regulations in reducing accounting fraud. The analysis shows that whereas H_5 was supported, H_6 was not.

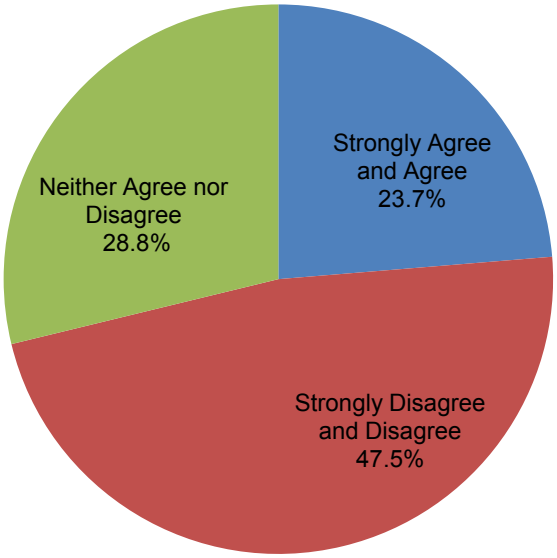

Figure 19. Breakdown of percentage of response categories to statement 16. Statement 16 states that corporate reputation is more effective at reducing frauds than federal regulations. Strongly agree and agree responses were combined, while strongly disagree and disagree responses were combined.

Figure 20 represents strongly agree and agree answers collapsed together for statements 14 through 16. The presentation of the percentages of the strongly agree and agree responses are in descending order. An interesting finding is that the percentages are in numerical order since the statements' percentages descend from statement 14, 15, to 16. Statement 14 has the highest percentage of agreement and it is the only one with over 50%. Statement 16 has the lowest percentage of agreement with only about 24%.

The result indicates that accounting professionals' percentage of agreement was higher for federal regulations than corporate reputation's effectiveness on accounting fraud reduction. This is evident with about 58% agreement for federal regulations' effectiveness in statement 14 and about 24% agreement for corporate reputation's effectiveness in statement 16. The percentage of agreement to statement 15 was about

28%, indicating that only a few accounting professionals agree that corporate reputation works just as effectively as federal regulations in reducing accounting fraud.

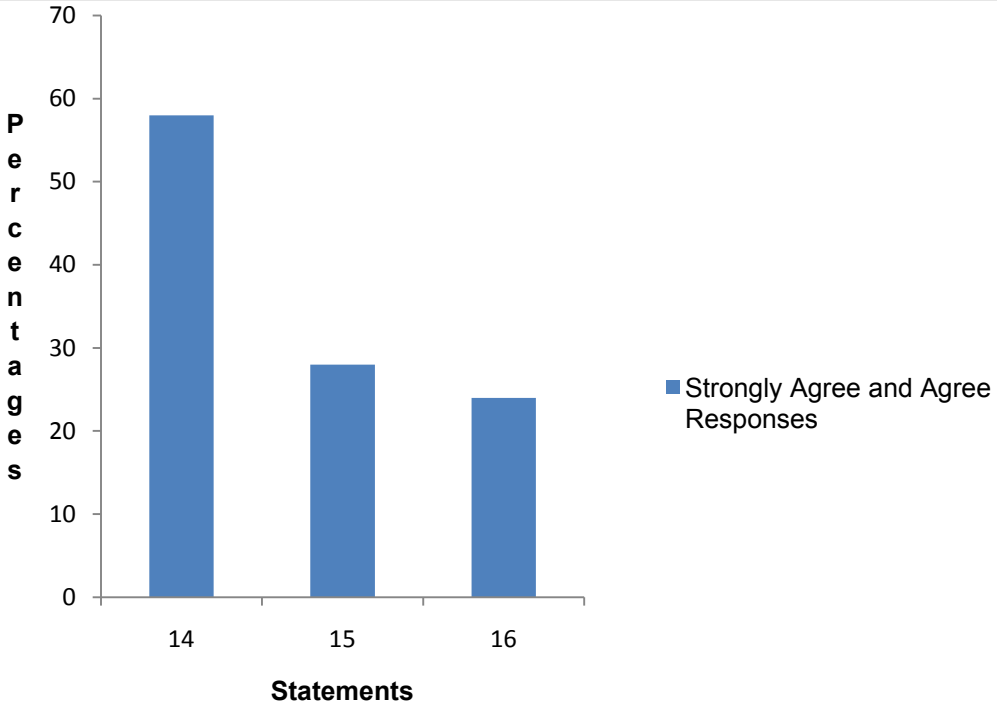

Figure 20. Percentages of strongly agree and agree responses to statements 14 through 16.

The strongly agree and agree responses to statements 14 through 16 are consistent with the analysis of the percentages of agreement to the first 13 statements. Therefore, a review of the percentages of agreement of accounting professionals to the 16 statements indicates most professionals' concurrence that federal regulations are more effective at reducing corporate accounting fraud than corporate reputation.

4.5 Analysis of Variance

This section tests the hypothesis that survey responses differ by position. Although the composition of the respondents' positions has been previously discussed, this section discusses an analysis in which positions are combined into three categories to

have increased statistical power. Specifically, the section discusses the analysis of variance (ANOVA) model run to assess differences among the responses by position to the 16 survey statements.

4.5.1 Combined Position Analysis

Table 8 illustrates the current positions of the survey respondents. The researcher combined those positions for greater statistical power. Statistical power is the probability of detecting a change or an effect of a certain size given that a change has truly occurred, that is, the probability of obtaining a statistically significant result allowing one to reject the null hypothesis (Bezeau & Graves, 2001). For categorical variables, too many variables may result in ineffective ability to detect differences among the variables. This may happen because data may be spread too thinly; thus the results may be underpowered to detect small differences among the groups. Therefore, the larger the sample size in a category, the greater the power of detection of differences.

To maximize the power to detect an effect in this ANOVA, the researcher used as few categories as possible with as large sample size as possible in each position category. Therefore, accountant and accounting supervisor positions were combined; business manager and CFO positions were combined, auditor position was not combined with any position, and *other* position category was removed. The *other* position was removed because it was not a category of interest to the study. The focus of the study was to obtain the opinions of accounting professionals mainly working as accountants, auditors, accounting supervisors, business managers, and CFOs. Although entries of respondents who chose the *other* position category showed they were accounting professionals, their positions were not exactly consistent with one of the five positions listed. The condensed

position analysis included was $n = 122$. Table 33 shows the positions as they were combined for analysis.

Table 33

Combined Position Analysis

Position	f ($n = 122$)	%	Cumulative f	Cumulative %
Accountant and supervisor	51	41.80	51	41.80
Auditor	27	22.13	78	63.93
CFO and business manager	44	36.07	122	100.00

Note. This table depicts the combined respondents' position for an adequate statistical power. The f column contains the number of respondents from the three condensed positions. The *other* position category of 37 accounting professionals comprises those who have different titles than the ones listed. This *other* position category was dropped from the analysis and a respondent could not be identified due to incomplete information. Therefore, $n = 122$ for this analysis. The % column is computed using the 122 respondents, the sum of which is 100%. The cumulative frequency column is the cumulative sum of the f column, that is, $n = 122$. The cumulative % column is the cumulative sum of the % column, the total of which is 100%.

4.5.2 Response Differences Among Positions

ANOVA models were run to assess differences between the three condensed position categories and survey responses. ANOVA lets the researcher statistically test the difference between means for the condensed position categories. The p value for the test shows whether the analyses reveal statistically significant differences. As Table 34 shows, the analysis revealed no statistically significant difference among the three positions in terms of their opinions on the survey statements. A result is statistically significant if it is unlikely that the result happens by chance (Fink, 2009).

Table 34

ANOVA on Responses to Survey Statements

Statement	*F* value	*P* value
1	1.15	.32
2	0.38	.68
3	0.32	.73
4	1.67	.19
5	1.02	.36
6	0.28	.76
7	0.49	.61
8	0.46	.63
9	0.05	.95
10	0.19	.83
11	0.90	.83
12	0.17	.84
13	1.12	.33
14	0.23	.80
15	0.01	.99
16	0.39	.68

Note. This table illustrates the results of type 3 tests of fixed effects run on the condensed positions' responses to the survey statements. The numerator degree of freedom (*df)* for the analysis is *k*-1 where *k* is the number of positions; because there are three positions the value is 3-1 or 2. The denominator *df* is *n-k* where *n* is the total number of respondents and *k* is the number of positions. Since the *other* category is removed for this analysis, $n = 122$, $k = 3$, so the value of denominator *df* is 122-3 or 119. There is no statistically significant difference among the three positions regarding their opinions on the 16 statements, because the *p* value for each statement was greater than .05, the level of significance used.

4.6 Correlation Analyses

Although correlation analysis explains the degree to which two variables relate to each other, it does not however explain the cause and effect between variables (Fink, 2009). This means that correlation analysis can identify relationships between variables, but it cannot establish causation. The correlation coefficient, *r*, is used to express the degree of correlation or linear relationship between two variables; it is reported within a range of +1 to -1 (Fink, 2009). The score of +1 is expressed as perfect positive correlation, 0 is expressed as no correlation, and -1 is expressed as perfect negative correlation. Section 4.6.1 describes the testing of the hypothesis of whether there was a correlation between survey responses and years of respondent's accounting experience, while section 4.6.2 describes the testing of the hypothesis of whether there was a correlation between survey responses and number of employees in the respondent's organization.

4.6.1 Years of Accounting Experience Analysis

Fink (2009) states that a Spearman rank-order correlation (correlation coefficients) is used with data that come from categorical or ordinal scales. It provides a measure for the degree of association or equivalence between two sets of ranks, Fink explains further. Spearman correlation coefficients, abbreviated as $r_{s,}$ were run to assess correlation between survey responses and years of accounting experience. Both variables being measured are ordinal variables.

The analysis results indicate that statement one, which states more regulations are still needed to reduce corporate accounting fraud, has r_s value of -0.19 and *p* value of 0.015. Similarly, statement 4, which states federal regulations are necessary to prevent

fraudulent behavior, has a statistically significant correlation. The analysis shows that statement four has r_s value of -0.25 and p value of 0.002. Statement 11 states that companies with negative reputation tend to engage in corporate accounting fraud, and it has a statistically significant correlation because of r_s value of -0.15 and p value of 0.05. Statement 12, which states damaged corporate reputation increases corporate accounting fraud, has a statistically significant correlation because it has r_s value of -0.19 and p value of 0.02.

The negative correlation and statistical significance in statements 1, 4, 11, and 12 indicate that more experienced accounting professionals are more likely to agree with these statements than the less experienced ones. This analysis shows that more experienced respondents tend to agree that more regulations are still needed to combat accounting fraud, federal regulations are necessary to prevent fraudulent behavior, companies with negative reputations engage in accounting fraud, and damaged corporate reputation increases accounting fraud. No other variables show a significant correlation because all other p values are greater than 0.05. Table 35 illustrates the results of the analysis.

Table 35

Spearman Correlation Coefficients for Years of Accounting Experience

Statement	r_s	*P* value
1	-.19	.015
2	-.14	.077
3	-.12	.136
4	-.25	.002
5	-.08	.342
6	-.07	.354
7	-.25	.751
8	-.02	.796
9	-.09	.272
10	.00	.963
11	-.16	.050
12	-.19	.018
13	.01	.890
14	-.05	.492
15	-.00	.927
16	-.02	.829

Note. Spearman correlation coefficients (r_S) based on respondents' years of accounting experience. The number of observations is 159, which represents the respondents who provided this information. The *p* value is the statistical significance. A negative value for r_S is negative correlation and a positive value is negative correlation. A *p* value of less than or equal to .05 is a statistically significant correlation, whereas a *p* value of greater than .05 means no statistically significant correlation. As the values indicate, statements 1, 4, 11, and 12 have statistically significant correlation. The other statements do not.

4.6.2 Number of Organizational Employees Analysis

Spearman correlation coefficients were run to assess correlation between survey responses and number of employees in the respondent's organization. Both these variables were ordinal variables. The analysis results indicate that only statement 15 has a statistically significant correlation because it has a correlation coefficient of -0.17 and *p* value of 0.03. The negative correlation and statistical significance in statement 15 indicate that accounting professionals who work in organizations with a greater number of employees are more likely to agree with the statement than those who work in an organization with a lesser number of employees.

The result means respondents who work in larger organizations are more likely to agree that corporate reputation works just as effectively as federal regulations in reducing fraud, as statement 15 states. The reason for this result may be because larger organizations often have to work harder to protect their reputations than smaller ones. Any wrongdoing in a larger company will more likely make headlines than if it were a smaller company. Therefore, larger companies may be more motivated to prevent fraud instances, thereby decreasing recurrences of fraud. No other variables show a significant correlation because all other *p* values are greater than .05, the level of significance used. Table 36 illustrates results of the analysis.

Table 36

Spearman Correlation Coefficients for Number of Organizational Employees

Statement	r_s	*P* value
1	.11	.161
2	.05	.566
3	-.03	.697
4	.07	.384
5	.03	.747
6	-.01	.856
7	-.14	.077
8	-.04	.613
9	-.08	.347
10	.00	.954
11	-.13	.106
12	-.11	.169
13	.05	.563
14	.14	.087
15	-.17	.033
16	-.05	.498

Note. This table illustrates the results of Spearman correlation coefficients for responses based on years of accounting experience of the respondents. The number of observations is 159, which represents the respondents who provided this information. The Spearman correlation coefficients is r_s and the *p* value is the statistical significance. A negative value for r_s means a negative correlation, while a positive value indicates a negative correlation. A *p* value of less than or equal to .05 shows a statistically significant correlation, whereas a *p* value of greater than .05 means there is no statistically significant correlation. As the values indicate, statement 15 has a statistically significant correlation; the other statements do not.

4.7 Summary

This chapter has presented the statistical results of the survey of accounting professionals' responses concerning the effectiveness of federal regulations and corporate regulations on accounting fraud. The focus of the chapter was the analyses of the data resulting from the professionals' gradient degrees of agreement or disagreement to the 16-statement survey. The chapter started with descriptive statistics of the results, continued with the analysis of variance, and ended with the correlation analyses.

Hypotheses one and two were aimed at examining whether there is no relationship or there is a positive relationship between federal regulations and corporate accounting fraud reduction. Hypothesis one states that there is a strong positive relationship between federal regulations and reduced corporate accounting fraud, and hypothesis two states there is no relationship between federal regulations and reduced corporate accounting fraud. The analysis of the responses to the statements (statements 1 through 7) measuring the two hypotheses proved that hypothesis one was upheld, while hypothesis two was not. Therefore, the majority of the accounting professionals surveyed believed that federal regulations are effective in reducing corporate accounting fraud.

Hypothesis three states that there is a strong positive relationship between corporate reputation and reduced corporate accounting fraud, while hypothesis four states that there is no relationship between corporate reputation and reduced corporate accounting fraud. Hence, the two hypotheses' intent was to investigate whether there is no relationship or there is a positive relationship between corporate reputation and accounting fraud reduction. The analysis of responses to statements 8 through 13 showed that statements 8, 9, 10 and 13 were supported, but statements 11 and 12 were not. Since these statements assessed hypotheses three and four, the results showed that there were

differences of respondents' opinions about the effectiveness of corporate reputation on accounting fraud reduction. This means there was no consensus of opinions on the effectiveness of corporate reputation in accounting fraud mitigation.

Hypotheses five and six specifically compare the effectiveness of federal regulations and corporate reputation on accounting fraud reduction. Whereas hypothesis five states that federal regulations reduce corporate accounting fraud more than corporate reputation does, hypothesis six states that corporate reputation reduces corporate accounting fraud more than federal regulations do. The analysis of statements 14 through 16, which target hypotheses five and six, indicated that accounting professionals supported statement 14, but not statements 15 and 16. Statement 14 measured hypothesis five; statement 15 and 16 measured hypothesis six. The result indicated hypothesis five was upheld, but hypothesis six was not.

The analysis of responses to statements 1 through 16 indicated that accounting professionals' confirmed the effectiveness of both federal regulations and corporate reputation. However, accounting professionals concurred that federal regulations are more effective than corporate reputation at reducing the corporate accounting fraud.

ANOVA revealed no statistically significant difference among the positions in terms of their opinions on the survey statements. Spearman correlation coefficients were run to assess correlation between survey responses and years of accounting experience. The analysis showed that there is a negative correlation and statistically significance in statements 1, 4, 11, and 12. This indicated that more experienced accounting professionals are more likely to agree with these statements than the less experienced ones. In other words, more experienced respondents tend to agree that more regulations

are still needed to combat accounting fraud, federal regulations are necessary to prevent fraudulent behavior, companies with negative regulations engage in accounting fraud, and damaged corporate reputation increases accounting fraud.

Additionally, Spearman correlation coefficients were run to assess correlation between survey responses and number of employees in respondent's organization. Only statement 15 showed a negative correlation and statistically significance. In other words, accounting professionals who work in organizations with greater number of employees are more likely to agree with the statement that corporate reputation works just as effectively as federal regulations in reducing fraud than those who work in organization with a lesser number of employees.

The following chapter, Chapter Five, provides a discussion of conclusions and recommendations originating from the study. Chapter Five concludes with the researcher's suggestions for future relevant studies.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.1 The Purpose

This final chapter presents the summary of the data as well as the conclusions and recommendations generated from the data collected in this study. It starts with a summary of the study. Any noted limitation, strength, or weakness in the study is also discussed. Furthermore, this chapter discusses the results of the data collected, the conclusions drawn from the results, and implications for practice and research. This chapter ends with recommendations for future studies.

5.2 Summary of the Study

This dissertation focused on corporate accounting fraud reduction. A quantitative research methodology was employed to study accounting professionals' perceptions about the effectiveness of federal regulations and corporate reputation on corporate accounting fraud. The methodology intent was to obtain data on the perceptions of accounting professionals on corporate accounting fraud and compare their perceptions on the effects of federal regulations on corporate accounting fraud to the effects of corporate reputation on corporate accounting fraud.

Chapter One provided background information about corporate accounting fraud, federal regulations, and corporate reputation. Corporate accounting fraud is a type of fraud that has serious negative consequences for stakeholders. Therefore, the chapter explained legislation that has been passed or enhanced to curtail corporate accounting fraud. The chapter also discussed corporate reputation, its importance for a company,

and the possible consequences if besmirched by fraud. The potential relationship among federal regulations, corporate reputation, and corporate accounting fraud reduction were also discussed, since that relationship is the framework of this study.

The idea for this study developed after reading the abundance of studies that have been conducted on fraud. Even though many of the prior studies specifically targeted reducing accounting fraud, none of the studies compared the effectiveness of federal regulations and corporate reputation on accounting fraud as this study did. The researcher thought the result of the sole research question of this study may be interesting, that is: Do federal regulations or corporate reputations have a greater effect on reducing corporate accounting fraud?

Six hypotheses evolved from the research question, and they are discussed later in this chapter (section 5.4). The first four hypotheses were aimed at examining the perceived effectiveness of federal regulations or corporate reputation in mitigating corporate accounting fraud. The last two hypotheses investigate which of the two, federal regulations or corporate reputation, has a greater effect on mitigating corporate accounting fraud.

Chapter Two provided overviews of federal regulations, corporate reputation, and corporate accounting fraud. The overview of federal regulations contained a history of major laws, regulations, and standards over the years. The historical review showed that some forms of statutes were passed as early as 1285 to regulate securities (Haughey & Veler, 1982). The major federal regulations discussed started with the Securities Act of 1933 and ended with the Financial Reform Bill of 2010. It is important for the reader to

note that federal regulations, as defined in this study, encompass laws, regulations, and standards that are relevant to accounting fraud.

Chapter Two continued with the overview of corporate reputation including how corporate reputation usually evolves from combined perceptions of a company's name, identity, and image. The concept of corporate reputation started as early as the 1950s (Weiwei, 2007). It has garnered interest in various academic disciplines. The importance of positive reputation in a company's success was also discussed.

The types of fraud, definitions of types of fraud, and elements of a typical fraud were discussed under the overview of corporate accounting fraud section in Chapter Two. The chapter ended with a summary of the greatest research effort in this important subject of accounting fraud reduction. The review of literature confirmed that accounting fraud is a great concern to companies, accounting scholars, and practitioners, as is evident in the abundance of literature on the subject. In reviewing literature, no research comparing the effectiveness of federal regulations and corporate reputation on corporate accounting fraud was discovered. The expectation was that this study would fill that void and add to the body of knowledge in the area of accounting fraud mitigation.

Chapter Three described the research design and methodology that the study used to examine the effectiveness of federal regulations and corporate reputation on corporate accounting fraud reduction. A 16-statement web survey was used to collect data from a sample of accounting professionals in the United States. Chapter Four presented the results of the data collected from the study. This presentation included both descriptive and correlative analyses of the results. The descriptive analysis included the respondents' description and distribution, while the correlative analyses include ANOVA of the

respondents' positions and analyses of the survey responses based on years of accounting experience and number of organizational employees. Details about the results are discussed in section 5.4.

5.3 Study's Limitations

This research has limitations that must be disclosed so readers and users can understand the study and the conclusions with these in mind. The researcher is grateful to accounting professionals who responded (n = 160, which was 49% of the prospective respondents who received the survey invitation). It is important for the reader to note that this is considered a high response rate for a Web survey. However, the reader must be cautious in concluding that the responses of the sample to this survey represented all individuals and groups of accounting professionals in the United States.

Since this study used a representative sample, its findings' usefulness is dependent on a high response rate. Non-response is a major problem and a source of error in surveys (Fowler, 2009). While non-response was an inherent limitation of this study, the researcher made every effort to improve the response rate.

Another limitation of the study was briefly discussed in Chapter Four, section 4.3.1. Cronbach's alpha statistics were run to assess the reliability of the survey instrument. Cronbach's alpha is a statistical test of how well the items on a scale correlate with one another (Bernard, 2000). An alpha value of .7 is desirable as it shows that the instrument is internally consistent or reliable. The value of this study's survey instrument was 0.67, which was close to but not quite 0.7. Furthermore, the analysis showed that statements 7 and 14 were found to have the lowest reliability or alpha scores.

If statements 7 and 14 were removed and the Cronbach's alpha was re-run, then the value would have been .72, which would have made it a reliable tool. To make sure the administered instrument is reliable, the researcher would need to remove the two lowest-scored statements and administer the survey to a new sample. However, the researcher cannot practically re-administer the survey at this time. Hence, the reliability score becomes a limitation to the study.

Peat (2002) concurs with the removal of the items that have low alpha values. She asserts that Cronbach's alpha can help determine the extent to which responses to different questions address the same dimension because they draw closely related answers, so eliminating items that do not correlate with each other automatically increases internal consistency, according to Peat. She warns, however, that eliminating items may result in an instrument that has a limited range of domains, thereby having a restricted value according to Peat. She suggests that generally it is better to sacrifice internal consistency for content validity so as to include only comprehensive and easily-understood questions (Peat, 2002).

Content validity was good because ambiguities on the survey statements were detected and removed after the pilot survey. Additionally, no respondent in the actual survey complained or asked questions about the content's understandability. In the future, this researcher or any researcher with similar interests should eliminate statements 7 and 14 before administering the survey to a new sample.

5.4 Results' Discussion

The following is a discussion of the results generated by the accounting professionals' responses to the 16 statements on the survey instrument. The levels of

agreement or disagreement on the survey statements were sometimes surprising, because one would expect statements that complement one another to yield similar levels of agreement or disagreement. This was not the case in some of this study's results, especially statements 8 to 13 measuring the effectiveness of corporate reputation on accounting fraud. Therefore, analysis of each statement's result is important for an accurate conclusion.

The research question of this study is: Do federal regulations or corporate reputations have a greater effect on reducing corporate accounting fraud? Six hypotheses that were developed from the research question include:

[H_1]: There is a strong positive relationship between federal regulations and reduced corporate accounting fraud.

[H_2]: There is no relationship between federal regulations and reduced corporate accounting fraud.

[H_3]: There is a strong positive relationship between corporate reputation and reduced corporate accounting fraud.

[H_4]: There is no relationship between corporate reputation and reduced corporate accounting fraud.

[H_5]: Federal regulations reduce corporate accounting fraud more than corporate reputation does.

[H_6]: Corporate reputation reduces corporate accounting fraud more than federal regulations do.

Statements 1 to 7 on the survey instrument measured hypotheses one and two or the effectiveness of federal regulations, statements 8 to 13 measured hypotheses three and

four or the effectiveness of corporate reputation, and statements 14 to 16 measured hypotheses five and six or comparison of the effectiveness of federal regulations and corporate reputation. The responses for each statement and implications for each hypothesis and variable were discussed in detail in Chapter Four and summarized below.

5.4.1 The Effectiveness of Federal Regulations Results

Statements 1 to 7 measured the effectiveness of federal regulations on corporate accounting fraud, that is, the statements either supported or denied H_1 and H_2. Statement 1 restated: More regulations are still needed to reduce corporate accounting fraud. The responses for statement 1 indicated that 53.1% either strongly agree or agree, 28.1% either strongly disagree or disagree, and 18.8% neither agree nor disagree with this statement. This means more than half of the respondents believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. In other words, the result indicates that H_1 was upheld, while H_2 was not.

Statement 2 restated: Federal regulations often guide people to do the right thing. While 63.8% either strongly agree or agree, 20.0% either strongly disagree or disagree, and 16.2% neither agree nor disagree with this statement. Since 63.8% respondents either strongly agree or agree with the statement that federal regulations often guide people's behavior, one can properly conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Therefore, the analysis shows that H_1 was upheld, but H_2 was not.

Statement 3 restated: Federal regulations help in reducing corporate accounting fraud. The result indicated that 73.8% either strongly agree or agree, 11.2% either strongly disagree or disagree, and 15.0% neither agree nor disagree with this statement. An overwhelming 73.8% of the accounting professionals either strongly agree or agree with the statement that federal regulations help in reducing accounting fraud. Interestingly, this statement has the highest level of agreement out of the 16 statements. Therefore, one can correctly conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Thus, the result shows that H_1 was upheld, but H_2 was not.

Statement 4 restated: Federal regulations are necessary to prevent fraudulent behavior. Whereas 70.6% either strongly agree or agree, 16.9% either strongly disagree or disagree, and 12.5% neither agree nor disagree with this statement. Since 70.6% of the respondents either strongly agree or agree with the statement that federal regulations are important in preventing fraudulent behavior, one can correctly conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Hence, the analysis reveals that H_1 was supported but H_2 was not.

Statement 5 restated: Consequences for corporate accounting fraud under current federal regulations are weak. Although 58.8% either strongly agree or agree, 22.5% either strongly disagree or disagree, and 18.7% neither agree nor disagree with this statement. An interesting finding was that the percentage (58.8%) of respondents who

either strongly agree or agree with the statement that current federal regulations' consequences are weak is similar to the percentage (53.1%) of respondents who believe that there should be more federal regulations (statement 1). Again, the responses indicate that accounting professionals believe federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Therefore, the analysis shows that H_1 was upheld, while H_2 was not.

Statement 6 restated: Harsher consequences reduce corporate accounting fraud. While 73.7% either strongly agree or agree, 13.8% either strongly disagree or disagree, and 12.5% neither agree nor disagree with this statement. Since 73.7% of the respondents either strongly agree or agree with the statement that harsher consequences reduce accounting fraud, one can accurately conclude that accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. In other words, the analysis reveals that H_1 was supported, but H_2 was not.

Statement 7 restated: The costs associated with complying with federal regulations outweigh the benefits of compliance. While 31.9% either strongly agree or agree, 43.1% either strongly disagree or disagree, and 25.0% neither agree nor disagree with this statement. The reader should note that since statement 7 was negatively-worded, its level agreement is actually disagreement and vice-versa. Unsurprisingly, only 31.9% of the respondents either strongly agree or agree with the statement that costs of compliance with federal regulations outweigh their benefits. This result implies that

accounting professionals believe that federal regulations have a positive relationship with accounting fraud reduction and that they reject the proposition that federal regulations do not have any relationship with accounting fraud reduction. Thus, the result shows that whereas H_1 was upheld, H_2 was not.

As discussed above, the level of agreement and disagreement to the seven statements revealed that most accounting professionals supported the notion that federal regulations are effective at reducing corporate accounting fraud. Consistently, at least about half of the respondents agreed with each of the seven statements. Impressively, about three-fourths of the respondents agreed with two of the seven statements, that is, statements 3 and 6. Overall, H_1 was upheld, but H_4 was not.

5.4.2 The Effectiveness of Corporate Reputation Results

Statements 8 through 13 measured the effectiveness of corporate reputation on corporate accounting fraud, that is, the statements either supported or denied H_3 and H_4. Statement 8 restated: Companies with positive corporate reputation often prevent corporate accounting fraud. Whereas 49.4% either strongly agree or agree, 25.6% either strongly disagree or disagree, and 25.0% neither agree nor disagree with this statement. Since almost one-half of the respondents, that is 49.4%, either strongly agree or agree with the statement that companies with corporate reputation often prevent accounting fraud, one can conclude that many accounting professionals believe that corporate reputation has a positive relationship with accounting fraud reduction, and they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. This result shows that H_3 was upheld, but H_4 was not.

Statement 9 restated: Corporate reputation helps in reducing corporate accounting fraud. While 43.8% either strongly agree or agree, 30.0% either strongly disagree or disagree, and 26.2% neither agree nor disagree with this statement. Less than half of the respondents, that is 43.8%, either strongly agree or agree with the statement that corporate reputation often helps to reduce accounting fraud. Yet, one can argue that more accounting professionals believe that corporate reputation has a positive relationship with accounting fraud reduction than those that believe the reverse, and more reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction than those who support that proposition. In other words, H_3 was supported more than H_4.

Statement 10 restated: Corporate reputation influences employees and management to do the right thing. While 57.5% either strongly agree or agree, 17.5% either strongly disagree or disagree, and 25.0% neither agree nor disagree with this statement. Over one-half of the respondents, 57.5%, either strongly agree or agree with the statement that companies with corporate reputation often guide employees and management to do the right thing, including honest financial reporting. Thus many accounting professionals believe that corporate reputation has a positive relationship with accounting fraud reduction, and they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. Therefore, the analysis reveals that H_3 was upheld, but H_4 was not.

Statement 11 restated: Companies with a negative reputation tend to engage in corporate accounting fraud. Surprisingly, only 17.5% either strongly agree or agree while 37.5% strongly disagree or disagree and 45.0% neither agree nor disagree with the

statement that companies with negative corporate reputation often engage in accounting fraud. These responses imply that many accounting professionals do not believe that corporate reputation has a positive relationship with accounting fraud reduction, and they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. This means that neither H_3 nor H_4 was upheld.

Statement 12 restated: Damaged corporate reputation increases corporate accounting fraud. Whereas 24.4% either strongly agree or agree, 36.2% either strongly disagree or disagree, and 39.4% neither agree nor disagree with this statement. Like the responses to the previous statement, accounting professionals do not agree with the statement that damaged corporate reputation increases accounting fraud. Interestingly, more respondents chose the *neither agree nor disagree* response than *disagree* or *agree* responses. This means that the majority of accounting professionals do not believe that corporate reputation has a positive relationship with accounting fraud reduction, and they reject the proposition that corporate reputation does not have any relationship with accounting fraud reduction. Therefore, the analysis shows that H_3 and H_4 were not supported.

Statement 13 restated: Corporate reputation does not affect corporate accounting fraud. Whereas 31.2% either strongly agree or agree, 44.4% either strongly disagree or disagree, and 24.4% neither agree nor disagree with this statement. This statement was negatively worded, so the 44.4% of the respondents who either strongly disagree or disagree with statement 13 believe that corporate reputation has a positive relationship with accounting fraud reduction, and they reject the proposition that corporate reputation

does not have a relationship with accounting fraud reduction. The analysis shows that H_3 was upheld, but H_4 was not.

The level of agreement and disagreement to statements 8 to 13 as discussed above revealed mixed results. These results indicate that responses to statements 8, 9, 10, and 13 upheld H_3, but not H_4; responses to statements 11 and 12 upheld neither H_3 nor H_4. This means statements 8, 9, 10, and 13 showed that there is a strong positive relationship between corporate reputation and reduced corporate accounting fraud and do not support the proposition that there is no relationship between corporate reputation and reduced corporate accounting fraud. This is evident in the level of agreement to the statements at about 49%, 44%, and 58% to statements 8, 9, and 10 respectively.

Statements 11 and 12 failed to show whether or not there is any relationship between corporate reputation and reduced corporate accounting fraud since the responses to both statements indicate that 45% and about 43% neither agree nor disagree with statements 11 and 12 respectively. Statement 8 states that companies with positive corporate reputation often prevent corporate accounting fraud; statement 9 states that corporate reputation helps in reducing corporate accounting fraud. Statement 11 states that companies with negative reputation tend to engage in corporate accounting fraud, while statement 12 states that damaged corporate reputation increases corporate accounting fraud.

One would have expected that the responses to statements 11 and 12 would complement statements 8 and 9 since the questions were opposites. In other words, one would have expected similar levels of agreement with statements 8 and 9 and the levels of disagreement with statements 11 and 12. This was not the case. Levels of agreement

with statement 8 and 9 were about 49% and 44% respectively, while their corresponding levels of disagreement were about 26% and 30%. Conversely, levels of agreement with statement 11 and 12 were about 18% and 24% respectively, while their corresponding levels of disagreements were about 38% and 36%. Flipping the levels of disagreement to statement 11 and 12 as if they were levels of agreement to the corollary of the same statement would yield about 38% and 36%. The levels of agreement to statements 8 and 9 and the flipped levels of agreement for statements 11 and 12 indicate about 49% and 44% for statement 8 and 9 and about 38% and 36% for statement 11 and 12 respectively. This shows that the complementary statements have unexpected results, possibly because the wording was interpreted differently than was expected by the researcher.

The results of statements 8 to 13 may be confusing and surprising at first glance, especially since statements 11 and 12 failed to support either H_3 or H_4. It is important for the reader to note that responses statements 11 and 12 were consistent and similar. The responses seem to indicate that accounting professionals do not believe that negative or damaged corporate reputation necessarily means companies will engage or have engaged in accounting fraud. This is especially true if such damaged or negative reputation occur from other parties or circumstances beyond the company's control and not from unethical or fraudulent behaviors of company's management and employees.

5.4.3 Comparison of the Effectiveness of Federal Regulations and Corporate Reputation Results

Statements 14 through 16 compared the effectiveness of federal regulations to the effectiveness of corporate reputation on corporate accounting fraud; that is, the statements either supported or denied H_5 and H_6. Statement 14 restated: Federal

regulations are more effective at reducing frauds than corporate reputation. While 57.5% either strongly agree or agree, 23.1% either strongly disagree or disagree, and 19.4% neither agree nor disagree with this statement. More than half of the respondents, that is 57.5%, either strongly agree or agree with the statement that federal regulations are more effective at reducing frauds than corporate reputation. Hence, one can correctly conclude that many accounting professionals consider federal regulations to be more effective than corporate reputation in reducing accounting fraud, and they reject the proposition that corporate reputation is more effective than federal regulations in reducing accounting fraud. The analysis shows that whereas H_5 was upheld, H_6 was not.

Statement 15 restated: Corporate reputation works just as effectively as federal regulations in reducing fraud. An interesting finding is that 27.5% either strongly agree or agree, 27.5% neither agree nor disagree, and 45.0% either strongly disagree or disagree with this statement. Since about half the respondents, or 45.0%, strongly disagree or disagree that corporate reputation works just as effectively as federal regulations in reducing fraud, one can conclude that many accounting professionals consider federal regulations to be more effective than corporate reputation in reducing accounting fraud, and they reject the proposition that corporate reputation is more effective than federal regulations in reducing accounting fraud. The analysis reveals that while H_5 was upheld, H_6 was not.

Statement 16 restated: Corporate reputation is more effective at reducing fraud than federal regulations. Whereas 23.7% either strongly agree or agree, 47.5% either strongly disagree or disagree, and 28.8% neither agree nor disagree with this statement. Since about half the respondents, or 47.5%, strongly disagree or disagree that corporate

reputation is more effective at reducing accounting fraud than federal regulations, one can conclude that many accounting professionals consider federal regulations to be more effective than corporate reputation in reducing accounting fraud, and they reject the proposition that corporate reputation is more effective than federal regulations in reducing accounting fraud. The analysis shows that whereas H_5 was supported, H_6 was not.

The responses to statements 14 to 16 show that H_5 was consistently upheld and H_6 was not. As these results indicate, the level of agreement and disagreement to statements 14 to 16 means that most accounting professionals believe that while both federal regulations and corporate reputation are effective at reducing corporate accounting fraud, federal regulations tend to be more effective. Specifically, about 58% were for and 23% were against federal regulations' effectiveness in statement 14, whereas about 24% were for and 45% were against corporate reputation's effectiveness in statement 16. The percentage of agreement to statement 15 was about 28%, and the percentage of disagreement was 48%. This indicates that only a few accounting professionals agree that corporate reputation works just as effectively as federal regulations in reducing accounting fraud, and almost half of the professionals do not perceive that corporate reputation works just as effectively as federal regulations in reducing accounting fraud.

The responses to statements 14 through 16 were consistent with the analysis of the responses to the first 13 statements. Therefore, the implication of the 16-statement survey results was that respondents agreed that while corporate reputation is also effective, they concurred that federal regulations are more effective in accounting fraud reduction. Put another way, in this study the accounting professionals' perceptions as a

whole was that federal regulations are more effective than corporate reputation's effectiveness in mitigating accounting fraud.

5.5 Conclusions

5.5.1 Major Statements Related to Federal Regulations

Accounting professionals' consensus in this study is that corporations need federal regulations to do what is right and to curb fraudulent behavior, as nearly three-fourths of the respondents consistently concurred with statements related to these. When both variables—that is, federal regulations and corporate reputation's effectiveness on corporate accounting fraud—are directly compared in statements 14 to 16, about 58% concurred that federal regulations are more effective, only about 24% concurred that corporate reputation is more effective, and just about 28% believed that corporate reputation is just as effective as federal regulations in reducing accounting fraud.

In contrast to their responses on the effectiveness of corporate reputation discussed in sub-section 5.5.2 below, the professionals believed in the effectiveness of federal regulations to the extent that over 53% concurred that more federal regulations are needed in the fight against corporate accounting fraud, almost 64% concurred that federal regulations guide behavior, and about 74% strongly agreed or agreed that harsher consequences reduce corporate accounting fraud.

Possibly, accounting professionals believed that if corporations, executives, and employees know they will get severely punished, they would refrain from engaging in corporate fraud. This result is consistent with Hurley and Boyd's (2007) and McFarland's (2009) findings that CEOs involved in accounting scandals usually have a certain sense of omnipotence as well as a display of irrational self-confidence and hubris.

In other words, those CEOs think they are exempt from punishment or recrimination. Therefore, consequences or punishments can prevent instances of corporate accounting fraud thereby reducing such instances.

The accounting professionals surveyed in this study have shown their perceptions of the effectiveness of federal regulations and corporate reputation. In the consensus of professionals' opinion, both federal regulations and corporate reputation are effective in reducing corporate accounting fraud. However, the professionals concurred that federal regulations are more effective than corporate reputation in reducing corporate accounting fraud.

This result is consistent with the intent of laws and regulations. As noted in Chapter Two, current federal regulations have increased scrutiny for compliance and included harsh consequences for non-compliance. In other words, regulations' greatest effects occur when they cause people to do the right thing (Michael, 2006) and punish them when they do not. For those reasons, federal regulations' common purpose is to prevent corporate accounting fraud and reduce future occurrences. Since enhancement and expansion of regulations usually follow an occurrence of financial crisis or disaster (Fisch, 2005; Kurdas, 2009), the effectiveness of federal regulations targeting corporate accounting fraud lies in decreasing or preventing future instances.

5.5.2 Major Statements Related to Corporate Reputation

Many accounting professionals in this study believed that corporate reputation is important and can be effective in reducing accounting fraud. Nearly one-half (49%) concurred that corporate reputation prevents accounting fraud, almost half (43%) concurred that it helps in reducing account fraud, about 58% believed that it guides

behavior, and about 44% believed that corporate reputation somehow affects corporate accounting fraud. One can correctly conclude that approximately one-half of the respondents agreed that corporate reputation is an effective tool in combating accounting fraud.

However, one may ask why only about half of the respondents believed in corporate reputation's effectiveness in reducing accounting fraud? The answer may relate to the responses to two items on the survey, statements 11 and 12. Recall that statements 11 and 12 are part of the statements measuring corporate reputation. Only 18% concurred with the statement that companies with a negative reputation tend to engage in corporate accounting fraud, while only 24% concurred that damaged corporate reputation increases corporate accounting fraud. Interestingly, 45% and about 39% of the respondents were neutral to statements 11 and 12. Statement 11 has the highest percentage and statement 12 has the second highest percentage of neutral responses of the 16 statements. The high percentages of *neither agree nor disagree* responses to both statements and the low percentages of agreement of responses to both statements indicate that most respondents do not consider either damaged or negative reputation as having an effect on accounting fraud.

Therefore, perhaps the reason for the almost equal division of responses on the effectiveness of corporate reputation in preventing accounting fraud is the belief that damaged or negative corporate reputation does not necessarily mean the company has engaged in accounting fraud. Corporate reputation can be tarnished due to different reasons; accounting fraud is just one of those reasons.

As discussed in sections 5.5.1 and 5.5.2, the conclusion is that accounting professionals opined that federal regulations are more effective than corporate reputation in mitigating accounting fraud. Nevertheless, the conclusion based on the results of the findings is that both variables are effective in fighting accounting fraud. Practitioners and scholars who oppose regulations cite reasons like regulations' short-term solution to combating fraud, passive response to mitigating fraud, and cumbersome documentation requirements (Nott & Adjibolosoo, 2005; Coenen, 2006). For example, Coenen (2006) points out while criticizing SOX that it basically requires detailed documentation and procedures. Put another way, these opponents imply that regulations are effective and will do what they are supposed to do only if they are enforced and not just documented. Hence, the findings of this study as well as prior literature are similar.

Furthermore, Coenen (2006) points out the importance of ethical corporate culture in addition to policies and procedures in reducing fraud. The premise of Nott and Adjibolosoo (2005)'s argument is that development of positive human qualities such as integrity, responsibility, accountability, and trustworthiness are essential to long-term corporate fraud mitigation. Both arguments are similar and this study reinforces the prior arguments. Ethical culture and positive human qualities contribute to positive corporate reputation. Earnings and profits based on compromise of individual or corporate reputation as well as failure to obey laws and regulations are short-lived. What provides lasting effects on accounting fraud reduction are combining the two, regulations and reputation. Therefore, the overall conclusion is that maintaining positive corporate reputation in conjuction with enforcing applicable federal regulations are effective in

mitigating accounting fraud. This involves organizations doing what is right and not just what is expected by applicable regulators.

5.6 Implications

This study's findings have implications for practice and future research. Sub-sections 5.6.1 and 5.6.2 describe these implications.

5.6.1 Implications for Practice

Since the study revealed the effectiveness of federal regulations on corporate accounting fraud reduction, the implication for practice is that congress, regulators, and standard setters should be proactive instead of reactive. Fisch (2005) and Kurdas (2009) posit that regulators are usually reactive when it comes to federal regulations, since evidence shows that when financial crisis or disaster occurs, moves to enhance and expand regulations usually follow. A recent evidence is the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. According to Senate Committee on Banking, Housing, and Urban Affairs (2010), one of the law's intents was to prevent a recurrence of the 2008 financial crisis.

This researcher agrees that it is important to close loopholes in existing federal regulations if crisis or disaster occurs, but she also opines that regular monitoring and enhancement of existing regulations is important. Most accounting professionals in this study (74%) opined that harsher consequences reduce accounting fraud, while 59% opined that current consequences for accounting fraud are weak. The implication of these results, therefore, is that regulators, policy makers, and standard setters must frequently review and strengthen areas of weaknesses in current regulations. Amending current regulations to bolster punishments of violators can discourage recurrences and

boost the success of the fight against corporate accounting fraud. Nevertheless, regulators, policy makers, and standard setters must not wait until there is a crisis before amending or enhancing federal regulations. Amendments should be proactive, not reactive.

Since 53% of the respondents supported more federal regulations, the implication is that if there is any gap that an amendment or enhancement cannot fill, then a new regulation may be passed. As discussed previously, the results showed that accounting professionals favored federal regulations in reducing corporate accounting fraud. The statements the professionals overwhelmingly agreed to include those that supported federal regulations' guidance of behavior (64%), federal regulations as a preventive tool for accounting fraud (71%), and federal regulations as a tool for reduction of accounting fraud (74%).

The monitoring, amendments, and enhancements of existing regulations as well as the creation of new ones are proactive measures that can reduce and prevent corporate accounting fraud. Similarly, maintaining positive corporate reputation can reduce and prevent corporate accounting fraud to some extent. Many respondents, 49% and 44% respectively, agreed that corporate reputation can prevent and reduce corporate accounting fraud. As the Association of Certified Fraud Examiners (2010) states, preventive measure is the most cost-effective way to deal with fraud and to limit fraud losses. In addition, fraud prevention is good for organizations; those that proactively prevent fraud typically produce reliable financial statements (Coenen, 2006).

Therefore, federal regulations, corporate reputation, and other similar measures can increase the likelihood for more ethical and less misguided corporate conducts.

Other anti-fraud measures in practice include creating and implementing policies and procedures that surpass the usual internal controls and federal regulations and that have the specific purpose of preventing accounting fraud (Coenen, 2005). The implication of effectively reducing and preventing accounting fraud is continuous monitoring and enhancement of the anti-fraud measures. Wallace (2007) advises that investors and users of financial statements deal with organizations that strive to improve anti-fraud efforts with or without laws and regulations.

5.6.2 Implications for Research

A review of literature indicated that there have been numerous studies on corporate accounting fraud because it is a serious problem that must be controlled, managed, and monitored. Some of the schorlarly studies include Albrecht et al. (1981), Albrecht et al. (2008), Brazel et al. (2009), Dooley (2002), Nott and Adjibolosoo (2005), and Riahi-Belkaoui (2003). In addition to the several studies on corporate accounting fraud, federal regulations and corporate reputation are important concepts that have been studied. However, the previous research studies have either been on any of the three issues separately or regulations and fraud in general.

This study filled the gap in literature by investigating the effects of both federal regulations and corporate reputation on corporate accounting fraud mitigation. The lack of empirical evidence in comparing federal regulations' effects on corporate accounting fraud mitigation to corporate reputation's effects considerably added to the significance of this study.

As the results and conclusions discussed in sections 5.4 and 5.5 respectively revealed, most accounting professionals opined that federal regulations are more effective

than corporate reputation at reducing corporate accounting fraud. Accordingly, the implication of these findings is that proactive legislation should be continued rather than relying on the pressure of reputation to prevent fraud.

5.7 Recommendations

This study generated useful results about federal regulations and corporate reputation's effectiveness in mitigating accounting fraud. It is clear from the study's results that accounting professionals' opinion was that federal regulations are more effective than corporate reputation for the purpose of corporate accounting fraud reduction. The impressive response rate of 49% for the Web survey was a good indication that accounting professionals were interested in the subject. There are some recommendations from the study based on what has been learned from the results. The section has been divided into recommendations for practice and research.

5.7.1 Recommendations for Practice

Given the serious consequences of corporate accounting fraud and research findings consistently indicating federal regulations' effectiveness in reducing corporate accounting fraud, federal regulations are important in practice. One recommendation is for regulators to continue amending and enhancing existing legislations, standards, or other measures that target corporate accounting fraud reduction. New federal regulations must also be as stringent in fighting accounting fraud as the existing ones to maintain or exceed the level of effectiveness that the accounting professionals believe is present in the existing federal regulations.

Another recommendation is that companies must ensure that they have effective compliance and enforcement of applicable federal regulations in place. Although

accounting professionals believe that federal regulations are effective tools in combating accounting fraud, regulations are ineffective and worthless unless they are enforced. Companies must ensure that executives and employees enforce such regulations. Each company must have an enforcement committee that monitors regulations' enforcement and reports to the highest level of company's management.

A compliance officer may be valuable as well. Such a position ensures that people comply with federal regulations. Research has shown that people in an organization are typically an organization's top fraud detection method (Association of Certified Fraud Examiners, 2010). This researcher believes that staff members can also be the best source of information about whether each department, division, or the company as a whole is in compliance with federal regulations. Employees' access to the compliance office without being identified can encourage communication and reporting. The compliance officer must report findings to top management on a regular basis.

Although corporate reputation was not viewed as being as effective as federal regulations, it cannot be ignored because it is still effective. The research study results indicate that many accounting professionals believed that companies with positive reputation often reduce and even prevent accounting fraud. Additionally, they believed that corporate reputation influences behaviors. Thus, this researcher recommends that companies strive to maintain their positive reputations.

Even though negative or damaged reputation may not strongly deter accounting fraud, according to this study's respondents, it is recommended that companies should not ignore their reputations. As stated in Chapter Two, corporate identity is the set of beliefs, values, and principles associated with a company from the employees and

managers' viewpoints (Dowling, 2004; Fombrun, 1996). Since corporate identity eventually evolves to corporate reputation, the researcher recommends that an organization ensures that its internal stakeholders identify the organization as one that discourages fraudulent behaviors and one that encourages ethical behaviors. It is better for a company to have positive reputation than to have to repair negative identity, image, or reputation.

As discussed in the review of prior literature (Chapter Two), reputational capital is one of the benefits of corporate reputation since it includes creation of market barriers, customer retention, and strengthened competitive advantages (Schwaiger, 2004). Additionally, compliance with regulations is one of the methods for building a positive corporate reputation according to Dalton and Croft (2003). This researcher recommends that in all their actions and dealings, practitioners and organizations where they work must establish ethical guidelines and thresholds which no one must cross. The tone for ethical behaviors and compliance with regulations must be set from senior leadership, and communicated and enforced throughout the organization.

5.7.2 Recommendations for Research

This study's respondents may have wanted to express opinions if provided space for comments, but since a Likert Scale was used for the study, respondents could not communicate to the researcher additional thoughts on the subject. Despite this, a few respondents took the liberty to email the researcher their opinions. The recommendation is for future studies in this research area to employ mixed methodology. This means using a combination of quantitative and qualitative methods. For example, a study with a Likert scale could include open-ended questions and space for comments. The researcher

believes that the respondents' comments would complement and enrich future research findings.

To date, this researcher has not discovered any research comparing the effectiveness of federal regulations and another variable. Hence and as aforementioned, this study is the first to study such a comparison. In extending this study, future studies may compare the effectiveness of federal regulations and a variable other than corporate reputation. Such researchers could use the same parameters as used in this study in that either the results point to federal regulations or another variable as more effective in reducing corporate accounting fraud than another. These studies could then be used in future measures combating fraud.

Another area of research that could be explored and that could yield important information is changing the dependent variable from corporate accounting fraud to another category of fraud. That is, investigating the effectiveness of federal regulations on another type of fraud. As literature such as Davia et al. (2000), Golden et al. (2006), Riahi-Belkaoui (2003), as well as American Institute of Certified Public Accountants (2002) shows, categories of fraud other than accounting fraud include audit failure and misappropriation of assets. Such research would have the benefit of comparison with the findings from this study.

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APPENDICES

APPENDIX A

IRB Certification

Application for IRB Review and Certification of Compliance
Expedited Cover Sheet

IRB#: B01-10_____
Date Logged:
_____

Expedited Review (Level 2) Application, Moderate Risk

(Review by one or more IRB Members—May lead to Full IRB Review)

Principal Investigator/Researcher's Name: Felicia O. Olagbemi Student ID Number: 0700621192

Type of Research Project (CRP, Dissertation, describe other): Dissertation

Title of Research Project: The Effectiveness of Federal Regulations and Corporate Reputation on Mitigating Corporate Accounting Fraud.

Principal Investigator/Researcher's Address: 3627 Lakearies Ln, Katy, TX 77449

Telephone Number: 281.579.2549

Research Supervisor/CRP or Dissertation Committee Chair's Name: Dr Robert Goldwasser

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College: BUS ■ PBS ☐ EDUC ☐

HS ☐ OTHER ☐

Program of Study: Accounting Degree: Doctor of Business Administration

Project Proposed Start Date: 05/08/2009 Project Proposed Completion Date: 11/01/2010

Signature of Principal Investigator/Researcher: Felicia Ogevale Olagbemi/April 19, 2010
Date

Signature of Research Supervisor/CRP or Dissertation Committee Chair:

Dr. Bob Goldwasser

April 19, 2010
_____/_____
Date

IRB Certification Signatures:

Nancy R. Hoover

Digitally signed by Nancy R. Hoover, email=nhoover@argosy.edu>Argosy University Online, Pittsburgh. 2010/04/26 12:58:07 -05'00'

_____/_____
Date

The above named research project is certified for compliance with Argosy University's requirements for the protection of human research participants with the following conditions:

1. Research must be conducted according to the research project that was certified by the IRB.
2. Any changes to the research project, such as procedures, consent or assent forms, addition of participants, or study design must be reported to and certified by the IRB.
3. Any adverse events or reactions must be reported to the IRB immediately.
4. The research project is certified for the specific time period noted in this application; any collection of data from human participants after this time period is in violation of IRB policy.
5. When the study is complete, the investigator must complete a Completion of Research form.
6. Any future correspondence should be through the principal investigator's research supervisor and include the assigned IRB research project number and the project title.

****

APPENDIX B

Informed Consent (Email Invitation)

Subject: Invitation to Participate in my Dissertation Study

Dear (Respondent's Name),

You are cordially invited to participate in a research study. The purpose of this research is to examine the effectiveness of federal regulations and corporate reputation on corporate accounting fraud reduction through the opinions of accounting professionals. The research study is a Dissertation and a doctorate degree requirement at Argosy University. If you participate in this research, you will be asked to complete a 16-question, web-based survey that requires minimal responses from you and provide demographic information for results' classification.

Your participation will take approximately ten minutes.

Your participation in this research is strictly voluntary. You may refuse to participate at all, or choose to stop your participation at any point in the research, without fear of penalty or negative consequences of any kind.

The information/data you provide for this research will be treated confidentially, and all raw data will be securely kept by the researcher. Results of the research will be reported as aggregate summary data only, and no individually identifiable information will be presented.

You also have the right to review the results of the research if you wish to do so. A copy of the results may be obtained by checking yes and entering your email address in the space provided at the end of the survey.

The results of the research may contribute to enhancing current regulations that target corporate accounting fraud and encouraging positive corporate reputation.

I have read and understand the information explaining the purpose of this research study and my rights and responsibilities as a participant. Clicking on the link to the survey below designates my consent to participate in this study, according to the terms and conditions outlined above.

To participate in the survey, please click on this link
http://www.surveymonkey.com/s/accountingfraud

Please respond to the survey by May 14, 2010. For more information or question about the study, you may contact the investigator, Felicia Olagbemi, by email at blessola@hotmail.com or by phone at 281.579.2549. You may also contact the Dissertation Chairperson, Dr. Bob Goldwasser, at rgoldwasser@argosy.edu or 504.701.4254.

Thank you for your participation.

Sincerely,

Felicia Olagbemi
Doctoral Candidate

APPENDIX C

Survey Instrument

The Effects of Federal Regulations and Corporate Reputation on Corporate Accounting Fraud

I would like your perceptions about the effects of federal regulations and corporate reputation on corporate accounting fraud. Operational definitions for the study are

Federal regulations include both legislations and standards affecting financial statements' preparations and contents.

Corporate reputation is observers' collective judgments of a corporation based on its financial, social, and environmental impacts over time.

Corporate accounting fraud is intentional material misstatement or misrepresentation of an organization's financial statements.

Please indicate how much you agree or disagree with the statements using the scale. Please select one response for each statement.

1. More regulations are still needed to reduce corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

2. Federal regulations often guide people to do the right thing.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

3. Federal regulations help in reducing corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

4. Federal regulations are necessary to prevent fraudulent behavior.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

5. Consequences for corporate accounting fraud under current federal regulations are weak.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

6. Harsher consequences reduce corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

7. The costs associated with complying with federal regulations outweigh the benefits of compliance.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

8. Companies with positive corporate reputation often prevent corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

9. Corporate reputation helps in reducing corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

10. Corporate reputation influences employees and management to do the right thing.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

11. Companies with negative reputation tend to engage in corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

12. Damaged corporate reputation increases corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

13. Corporate reputation does not affect corporate accounting fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

14. Federal regulations are more effective at reducing frauds than corporate reputation.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

15. Corporate reputation works just as effective as federal regulations in reducing fraud.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

16. Corporate reputation is more effective at reducing frauds than federal regulations.

__Strongly Agree __Agree __Neither Agree Nor Disagree __Disagree __Strongly Disagree

The following statements are for demographical classification only. Please check one response per statement.

Gender (Please Check One): __ Male __ Female

Age (Please Check One): __ 21-30 Years __31-40 Years __41-50 Years __51-60 Years __61+ Years.

Current Position (Please Check One): __ Accountant __ Accounting Supervisor

__ Auditor __ Business Manager __ Chief Financial Officer __Other.

If Other, please specify below

_____.

Years of Accounting Experience (Please Check One): __ 1-5 Years __ 6-10 Years __ 11-15 Years __ 16-20 Years __ 21+ Years.

Organization Type (Please Check One): __ Not for Profit Organization __ For Profit Corporation __ Accounting Firm __ Government __ Other.

Number of Employees in Organization (Please Check One): __ 1-50 __ 51-100 __ 101-150 __151-200 __ 201+.

APPENDIX D

Survey's Introductory Paragraph

The purpose of this research is to examine the effectiveness of federal regulations and corporate reputation on corporate accounting fraud reduction through the opinions of accounting professionals. By completing and submitting this survey, you are giving your consent for the researcher to include your responses in her data analysis. Your participation in this research study is strictly voluntary, and you may choose not to participate without fear of penalty or any negative consequences. Individual responses will be treated confidentially. No individually identifiable information will be disclosed or published, and all results will be presented as aggregate, summary data. If you wish to receive a copy of the results of this research study, please check yes and enter your email address in the space provided at the end of the survey.

APPENDIX E

Pilot Testing Participation Email

Dear (Respondent's Name),

Thank you for agreeing to participate in the pilot testing of the survey for my Dissertation. The focus of my Dissertation is on the potential relationships that exist among federal regulations, corporate reputation, and corporate accounting fraud. The purpose of the study is to determine which of the two, federal regulations or corporate reputation, is more effective at reducing corporate accounting fraud.

As previously discussed, I am testing the usability and readability of the survey instrument at this time. Please respond to the survey in entirety and it should take about 20 minutes of your time. If any statement appears confusing or unclear, please note that in the space provided at the end of the survey. Your responses and comments will be anonymous but they are valuable to me in this stage of the dissertation process. Therefore, your comments will be incorporated in revising the final survey instrument.

To participate in the survey, please click on this link http://www.surveymonkey.com/s/corporateaccountingfraud.

If you need more information or have any question, please feel free to contact me. My email address is blessola@hotmail.com and my phone number is 281.579.2549. Please respond to the survey by March 10, 2010. Once again, thank you for your participation and support.

Sincerely,

Felicia Olagbemi
Doctoral Candidate

APPENDIX F

First Reminder

Subject: Reminder to Participate in My Dissertation Study

Dear (Respondent's Name),

A few days ago, you were sent an email inviting you to participate in my Dissertation study. Unfortunately, my records show that you have not responded. Please accept this as a cordial reminder to complete the survey. Below is the original email which includes the link to the survey. I am interested in your opinion on the effectiveness of federal regulations and corporate reputation on accounting fraud.

If you have completed and submitted the survey, please accept my sincere thanks and appreciation for your participation and please pardon this subsequent request.

Thank you for your willingness to participate in this research study on the effectiveness of federal regulations and corporate reputation in reducing corporate accounting fraud. If you have any question or need more information, please email me at blessola@hotmail.com.

The original email follows:

You are cordially invited to participate in a research study. The purpose of this research is to examine the effectiveness of federal regulations and corporate reputation on corporate accounting fraud reduction through the opinions of accounting professionals. The research study is a Dissertation and a doctorate degree requirement at Argosy University. If you participate in this research, you will be asked to complete a 16-question, web-based survey that requires minimal responses from you and provide demographic information for results' classification.

Your participation will take approximately ten minutes.

Your participation in this research is strictly voluntary. You may refuse to participate at all, or choose to stop your participation at any point in the research, without fear of penalty or negative consequences of any kind.

The information/data you provide for this research will be treated confidentially, and all raw data will be securely kept by the researcher. Results of the research will be reported as aggregate summary data only, and no individually identifiable information will be presented.

You also have the right to review the results of the research if you wish to do so. A copy of the results may be obtained by checking yes and entering your email address in the space provided at the end of the survey.

The results of the research may contribute to enhancing current regulations that target corporate accounting fraud and encouraging positive corporate reputation.

I have read and understand the information explaining the purpose of this research and my rights and responsibilities as a participant. Clicking on the link to the survey below designates my consent to participate in this research study, according to the terms and conditions outlined above.

To participate in the survey, please click on this link http://www.surveymonkey.com/s/accountingfraud

Please respond to the survey by May 14, 2010. For more information or question about the study, you may contact the investigator, Felicia Olagbemi, by email at blessola@hotmail.com or by phone at 281.579.2549. You may also contact the Dissertation Chairperson, Dr. Bob Goldwasser, at rgoldwasser@argosy.edu or 504.701.4254.

Thank you for your participation.

Sincerely,
Felicia Olagbemi, Doctoral Candidate

APPENDIX G

Second Reminder

Subject: Reminder to Participate in My Dissertation Study

Dear (Respondent's Name),

Approximately 1 week ago, you were sent an email inviting you to participate in my Dissertation study. Unfortunately, my records show that you have not responded. Please accept this as a cordial reminder to complete the survey. Below is the original email which includes the link to the survey. I am interested in your opinion on the effectiveness of federal regulations and corporate reputation on accounting fraud.

If you have completed and submitted the survey, please accept my sincere thanks and appreciation for your participation and please pardon this subsequent request.

Thank you for your willingness to participate in this research study on the effectiveness of federal regulations and corporate reputation in reducing corporate accounting fraud. If you have any question or need more information, please email me at blessola@hotmail.com.

The original email follows:

You are cordially invited to participate in a research study. The purpose of this research is to examine the effectiveness of federal regulations and corporate reputation on corporate accounting fraud reduction through the opinions of accounting professionals. The research study is a Dissertation and a doctorate degree requirement at Argosy University. If you participate in this research, you will be asked to complete a 16-question, web-based survey that requires minimal responses from you and provide demographic information for results' classification.

Your participation will take approximately ten minutes.

Your participation in this research is strictly voluntary. You may refuse to participate at all, or choose to stop your participation at any point in the research, without fear of penalty or negative consequences of any kind. The information/data you provide for this research will be treated confidentially, and all raw data will be securely kept by the researcher. Results of the research will be reported as aggregate summary data only, and no individually identifiable information will be presented.

You also have the right to review the results of the research if you wish to do so. A copy of the results may be obtained by checking yes and entering your email address in the space provided at the end of the survey.

The results of the research may contribute to enhancing current regulations that target corporate accounting fraud and encouraging positive corporate reputation.

I have read and understand the information explaining the purpose of this research and my rights and responsibilities as a participant. Clicking on the link to the survey below designates my consent to participate in this research study, according to the terms and conditions outlined above.

To participate in the survey, please click on this link http://www.surveymonkey.com/s/accountingfraud

Please respond to the survey by May 20, 2010. For more information or question about the study, you may contact the investigator, Felicia Olagbemi, by email at blessola@hotmail.com or by phone at 281.579.2549. You may also contact the Dissertation Chairperson, Dr. Bob Goldwasser, at rgoldwasser@argosy.edu or 504.701.4254.

Thank you for your participation.

Sincerely,
Felicia Olagbemi, Doctoral Candidate

APPENDIX H

Cronbach Coefficient Alpha

Cronbach Coefficient Alpha with Deleted Variable

	Raw variables		Standardized variables	
Deleted variable	Correlation with total	α	Correlation with total	α
1	.31	.65	.32	.66
2	.13	.67	.13	.68
3	.23	.66	.22	.67
4	.19	.66	.20	.68
5	.09	.68	.09	.69
6	.20	.66	.19	.68
7	-.06	.69	-.06	.71
8	.47	.63	.48	.64
9	.51	.62	.52	.63
10	.46	.63	.47	.64
11	.56	.62	.57	.63
12	.56	.62	.57	.63
13	.47	.62	.48	.64
14	-.06	.70	- .05	.70
15	.23	.66	.24	.67
16	.22	.66	.22	.67

Note. A Cronbach's alpha statistic (α) was calculated to assess the reliability of the survey instrument. The α value was .67, which was below but close to the cut point of .70 for a reliable tool. Individual statement and correlation with the total showed that statements 7 and 14 have the lowest correlation with the total. Therefore, the two statements should either be removed or rewritten before future use of the instrument.

APPENDIX I

Cronbach Coefficient Alpha-Aggregate With Statements 7 and 14 Removed

Cronbach Coefficient Alpha Without Statements 7 and 14

	Raw variables		Standardized variables	
Deleted variable	Correlation with total	α	Correlation with total	α
1	.33	.70	.33	.71
2	.17	.72	.17	.73
3	.27	.71	.25	.72
4	.25	.71	.25	.72
5	.12	.73	.11	.74
6	.23	.72	.22	.72
8	.46	.69	.47	.70
9	.48	.68	.50	.69
10	.44	.69	.45	.70
11	.59	.68	.60	.68
12	.59	.67	.61	.68
13	.44	.69	.45	.70
15	.18	.72	.19	.73
16	.17	.72	.18	.73

Note. A Cronbach's alpha statistic was calculated to assess the reliability of the survey instrument after removing statements 7 and 14. The raw value was based on item correlation; standardized value was based on item covariance (measures of distribution or spread of variables). The raw α value is often used and used in this study. The raw α value was .72, which confirmed that the instrument was reliable without statements 7 and 14.

APPENDIX J

Cronbach Coefficient Alpha for Subscale Including Statements 1 Through 7

Cronbach Coefficient Alpha for Statements 1 Through 7

	Raw variables		Standardized variables	
Deleted variable	Correlation with total	α	Correlation with total	α
1	.57	.71	.56	.73
2	.55	.72	.60	.72
3	.60	.72	.60	.72
4	.62	.70	.63	.71
5	.27	.78	.26	.79
6	.51	.73	.51	.74
7	.32	.77	.33	.77

Note. A Cronbach's alpha statistic was calculated to assess the reliability of the survey instrument subscale that includes statements 1 through 7. The raw value was based on item correlation; standardized value was based on item covariance (measures of distribution or spread of variables). The raw value is often used and was used in this study. The raw α value was .76, which made the subscale reliable.

APPENDIX K

Cronbach Coefficient Alpha for Subscale Including Statements 8 Through 13

Cronbach Coefficient Alpha for Statements 8 Through 13

	Raw variables		Standardized variables	
Deleted variable	Correlation with total	α	Correlation with total	α
8	.64	.82	.63	.82
9	.75	.80	.74	.80
10	.66	.81	.65	.82
11	.56	.83	.56	.83
12	.60	.83	.62	.82
13	.56	.83	.56	.83

Note. A Cronbach's alpha statistic was calculated to assess the reliability of the survey instrument subscale that includes statements 8 through 13. The raw value was based on item correlation; standardized value was based on item covariance (measures of distribution or spread of variables). The raw value is often used and was used in this study. The raw α value was .85, which made the subscale reliable.

APPENDIX L

Cronbach Coefficient Alpha for Subscale Including Statements 14 Through 16

Cronbach Coefficient Alpha for Statements 14 Through 16

	Raw variables		Standardized variables	
Deleted variable	Correlation with total	α	Correlation with total	α
14	.64	.84	.64	.84
15	.70	.78	.70	.78
16	.78	.71	.78	.71

Note. A Cronbach's alpha statistic was calculated to assess the reliability of the survey instrument subscale that includes statements 14 through 16. The raw value was based on item correlation; standardized value was based on item covariance (measures of distribution or spread of variables). The raw value is often used and used in this study. The raw α value was .84, which made the subscale reliable.