AN INVESTIGATION OF THE MOTIVATION OF MANAGEMENT ACCOUNTANTS TO REPORT FRAUDULENT ACCOUNTING ACTIVITY: APPLYING THE THEORY OF PLANNED BEHAVIOR

By
Jerry B. Hays

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Nova Southeastern University
2013

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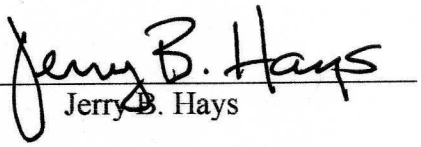
Signed 
Jerry B. Hays

ABSTRACT

AN INVESTIGATION OF THE MOTIVATION OF MANAGEMENT ACCOUNTANTS TO REPORT FRAUDULENT ACCOUNTING ACTIVITY: APPLYING THE THEORY OF PLANNED BEHAVIOR

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The perpetration of accounting fraud still remains a prevalent and significantly costly issue in today's business world. The names Enron, WorldCom, HealthSouth, and Madoff are still all too recent reminders of the devastating cost of financial statement fraud. Management accountants, as preparers of these statements, are in the best position to detect such fraud. Yet there exists no current measurement instrument or methodology designed to measure a management accountant's intention to report fraud. The primary purpose of this study was to investigate the beliefs, concepts, and antecedents that provide the motivation to, or the deterrent from, the reporting of fraudulent accounting activity when witnessed by professional management accountants, and develop an instrument that might measure that motivation.

The theoretical basis that framed this research was the Theory of Planned Behavior which provides for an analysis of a participant's attitude, subjective norm, and perceived behavioral control in the development of the intention to perform a specific behavior. The population studied was the U.S. membership of the Institute of Management Accountants, and grant assistance and support was provided by the Institute's Research Foundation. The sample from this population formed a very appropriate representation of experienced, professional management accountants.
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No previous research involving this population with the application of the Theory of Planned Behavior and the investigation of the reporting of fraudulent accounting activity had been conducted. Therefore, there were no existing survey instruments that could be applied. The development of an original survey questionnaire to specifically address this research was required.

The distribution of this survey questionnaire resulted in 285 complete and usable responses. These responses measured the strength of the participant's positive or negative beliefs concerning the antecedents related to the three exogenous constructs of the Theory of Planned Behavior - attitude, subjective norm, and perceived behavioral control, and the endogenous construct of intention.

Structural Equation Modeling (SEM) with measured variables was chosen as the methodology for the analysis of the results measured in the survey responses. Confirmatory Factor Analysis was applied to each construct individually, and construct items were modified to obtain the most reasonable model fit, validity, and reliability.

Items were combined into composites to represent the constructs of interest in the theory, as measured by the survey. The relations among the constructs of the Theory of Planned Behavior were then specified using these composites in an SEM model.

The results of the data and the findings of the SEM model indicated that professional management accountants form a strong positive intention to report the witnessing of accounting fraud. The positive beliefs that formed the exogenous variables that showed statistically significant effects on the endogenous variable of the formation of a positive intention to report fraudulent accounting activity were: support of the system of internal control, prevention of financial loss, retention of the integrity and ethical values of the profession, perceived support of significant others, and limited impediment due to fear of retaliation. A surprising result was that 32% of all respondents indicated a lack of easy/any access to an anonymous fraud reporting hotline, which is an issue for further research.

This study provides additional insight into the concepts, beliefs, and antecedents that form a professional management accountant's intention to report fraudulent accounting activity. The study also presents the basis of a preliminary instrument for the measurement of the intention of management accountants to report fraudulent accounting activity. Further research is suggested for the identification of additional concepts, antecedents, and beliefs related to fraud reporting and for the development of an even more effective measurement instrument.

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I am extremely grateful to Kathleen Cool, who maintained a calm, yet purposeful, guiding hand down the difficult path that all dissertations seem destined to travel. Additionally, the support of the IMA Research Foundation was immeasurable.

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CHAPTER I

INTRODUCTION

Purpose of the Study

The purpose of this study is to add to the recent research on whistle-blowing as a method of fraud deterrence and detection by studying the relationship of the supporting beliefs and the related strength of the intention of management accountants to whistle-blow when they have observed fraudulent accounting activity. This research will examine the response of management accountants to a stated situation in which accounting statement fraud has occurred. These responses will be measured within the constructs of the Theory of Planned Behavior (TPB; Ajzen, 1991) which involve the individual's attitude toward the behavior, their perception of the subjective norm of the behavior, and their perception of their ability to control the behavior. The targeted population, management accountants, is very pertinent to the study of financial statement fraud in that accounting data is usually analyzed and recorded by management accountants. Also, management accountants are responsible for the creation and issuance of virtually all financial statements. This situation places management accountants in the position of being the most likely to observe the creation of inappropriate accounting entries or statements. The application of TPB will also allow for the measurement of the motivation to report or not report an accounting impropriety by the three specific factors measured by TPB: attitude, subjective norm, and perceived behavioral control. Data obtained from a management accountant specific TPB instrument will measure the intention of these

subjects to blow the whistle on accounting fraud. Such information will not only lead to a better understanding of the motivations for whistle-blowing but may also suggest improvements to deterrents that could include improved management policies, training programs, and stronger internal controls.

Background of the Problem

Consistent and repeated examples of significant financial frauds have darkened the landscape of global business in the past decade. The debacles at Enron, WorldCom, HealthSouth, Tyco, Global Crossings, Adelphia, and more recently in the Madoff Ponzi scheme, are all too well known by those in both business practice and academia and often by the public in general. Compounding this history is the continued and recent indication that the potential for fraudulent activity is considered still prevalent. All four of the "Big Four" CPA firms complete annual global fraud surveys and assessments. While a variety of issues were reported by each firm in their most recent fraud reports, the consistent finding of expectation of higher levels of fraud is reported by all four surveys.

PricewaterhouseCoopers (PWC) reported in their *Global Economic Crime Survey* (PricewaterhouseCoopers, 2009) that fraud was "pervasive, persistent and pernicious" (p.4). They also found that 30% of the survey respondents had experienced an incident of fraud in the last 12 months. Additionally, PWC found that almost half of the respondents reported that the incidence of fraud during that timeframe was greater than the previous 12 months. "Hence we conclude that economic crime remains a pervasive business risk, which does not discriminate among its victims based upon the relative degree of their financial performance" (PricewaterhouseCoopers, 2009). PWC (2009)

went on to point out that, of the three primary categories of fraud (accounting fraud, bribery and corruption, and asset misappropriation), accounting fraud has grown the fastest by far, almost quadrupling (from 10% to 38%) in this decade as a form of reported fraud.

KPMG, in their *Fraud Survey 2009* (KPMG, 2009), found that 65% of executives surveyed cite fraud as being a significant risk to their company and 80% of respondents expect fraudulent activity to either maintain at the current levels or increase in the next 12 months. They went on to report that "Inadequate controls of compliance programs heighten the risks of fraud and misconduct. Two-thirds of executives (66%) reported that inadequate internal controls or compliance programs at their organizations enable fraud and misconduct to go unchecked" (KPMG, 2009, p. 1).

A similar report published by Deloitte (Deloitte, 2010) indicated that 63.3% of 2100 surveyed executives responded that they expected accounting fraud to increase during the 2010 -2011 timeframe as compared to the last three years. Of these responses, 38% also cited that manipulation of revenue recognition was the area where they expected to see the highest incidence of misstatement.

Ernst & Young also recently completed their *11th Global Fraud Survey* (Ernst & Young, 2010). In their executive summary, Ernst &Young (2010) listed four primary findings:

- A substantial number of respondents reported suffering a significant fraud in the past two years…
- Despite the increased incidents of fraud, corporate entities' responses to fraud allegations appear ad hoc and inconsistent…
- Proactive measures to manage risk of fraud were also not universally contemplated…

- Measures to mitigate corruption and bribery exposure are still not standard practice for companies, including those looking to drive growth through acquisitions…(p.2)

The combination of these recent surveys speaks to the continuing significance of the incidence of business fraud in general and specifically fraud in accounting. As mentioned, the most recent decade began with the largest business frauds in U.S. history, "The wave of financial scandals at the turn of the 21st century elevated the awareness of fraud and the auditor's responsibilities for detecting it" (Hogan, Rezaee, Riley, & Velury, 2008, p.232). However, despite this renewed emphasis on fraud detection auditing remains one of the least effective methods of fraud detection. The Association of Certified Fraud Examiners (ACFE) has consistently shown in their *ACFE Report to the Nations* (ACFE, 2010) that over the last decade both internal and especially external auditing have scored low in fraud detection success: In their most recent report (ACFE, 2010) internal auditing was reported as having been the method of fraud detection in 13.7% of the cases reported, with external auditing only representing 4.2% of the reported fraud detections. Fraud, by its very nature is typically surreptitious and therefore difficult to detect, so it is not surprising that audits, whether internal or external, do not often uncover fraudulent activity. It is perplexing that after decades of development of formalized control devices (internal audit, external audit, management review, internal control programs) that the number one detection methodology continues to be whistle-blowing (tips) as shown consistently by the *ACFE Report to the Nations* (ACFE, 2010). The ACFE (2010) stated the following:

> One of the principal goals of our research is to identify how past frauds were detected so that organizations can apply that knowledge to their future anti-fraud efforts. Tips were by far the most common detection method in our study, catching nearly three times as many frauds as any other form of detection. This is consistent with the findings in our prior reports. Tips have been far and away the

> most common means of detection in every study since 2002, when we began tracking the data. (p.16)

These results show consistently that whistle-blowing is the most effective method for the detection of fraudulent activity. The *ACFE Report to the Nations* (ACFE, 2010) also reports fraudulent activity by category, frequency, and magnitude. In their most recent report, financial statement fraud, while listed on the low end of frequency (averaging just over 7% in the last two reports) has resulted in by far the greatest monetary losses with a median cost of just over four million dollars per fraudulent event. This median cost is over 10 times the average cost of the next largest category, bribery and corruption. A significant related issue is that these financial statement frauds invariably involve, by the nature of their duties and responsibilities, management accountants. The significant frauds listed as previous examples all included, in one way or another, a management accountant making an erroneous accounting entry that lead to material misstatement of the financial reports. In many instances the management accountants were heavily involved in the perpetration of the fraud (Enron, WorldCom, HealthSouth, for example), and a number of them have been convicted for this fraudulent activity and sentenced to prison.

In addition to the substantial financial costs and potential criminal penalties associated with financial statement fraud, recent studies also show that if the fraud ultimately results in external whistle-blowing, stock values can be negatively impacted (Bowen, Call, & Rajgopal, 2010). Their study reviewed the stock performance of 81 companies whose whistle-blowing had been reported in the media. The stock price of these accused companies dropped an average of 2.84% compared to the market; however, if the reported allegations concerned earnings management, then the stock price dropped

even more - an average of 7.3%. These issues, actual financial loss to the company, criminal penalties, and stock depreciation, are all significant reasons to create a strong internal whistle-blowing process that effectively detects erroneous accounting activity at its initial point so that the magnitude of the malfeasance can be contained and the impact/corrections can be minimized. Also, the Sarbanes-Oxley Act (Sarbanes & Oxley, 2002) contains specific requirements that organizations covered by the act maintain an internal whistle-blowing system and that corporate officers must provide evaluations of the effectiveness of these systems. This legislative formalization of whistle-blowing has added to the importance of better understanding the motivations that lead to an individual's intention to whistle-blow.

It is this background that motivates this study of management accountants with an attempt to apply a theoretical analysis to identify the incentives and deterrents involved in the development of the intention to whistle-blow.

Theoretical Basis

As was first noted by Miceli and Near (1988), there is no comprehensive theory to explain whistle-blowing behavior. In their recent book entitled *Whistle-blowing in Organizations* (Miceli, Near, & Dworkin, 2008) the authors do an excellent job of reviewing the body of academic research that has focused on the whistle-blowing of the last few decades. In a review of this book it was commented, "In summary, this is a remarkable text on whistle-blowing. It is truly worthy of review by scholars, students, and practitioners interested in whistle-blowers and whistle-blowing" (King, 2010, p. 17). Miceli, et al. (2008) discuss the concepts of constructive deviance, social information

processing, power perspective and prosocial organizational behavior as the primary theoretical approaches previously used in the study of whistle-blowing. These approaches will be further discussed in chapter 2. Within these theories they outline and review over ninety individual papers in which almost one hundred separate characteristics and potential predictors of whistle-blowing are studied. The approach of studying specific personal, situational, and organizational factors forms the predominant past research methodology in attempting to determine the antecedents to whistle-blowing. These specific characteristics cover a range from demographic (age, gender, marital status, education, etc.), characteristics of the wrongdoing (magnitude, nature, evidence, perceived fairness, etc.), job situation (pay, performance, supervision, satisfaction, responsibility, etc.) and numerous others. An excellent example of this previous research, that is very relevant to this study, was that of Shawver and Clements (2008) in which they studied the reasons that might motivate a management accountant to report fraudulent activity. Their study measured responses across six philosophical beliefs (justice, deontology, utilitarianism, relativism, egoism and compassion) in reference to frauds at three levels of materiality. They also measured the potential of fraud reporting in regard to anonymity, reward, ethical climate and code, organizational commitment, job satisfaction, and job security. They conclude that "this sample of accounting professionals has not identified any philosophical views as significant reasons for whistle-blowing to an internal manager" (Shawver & Clements, 2008, p. 34). Their results reinforce the purpose of this study in reference to the investigation of additional concepts/theories that might further the understanding of the motivation to whistle-blow. The results of Shawver and Clements (2008) and the studies outlined by Miceli et al.

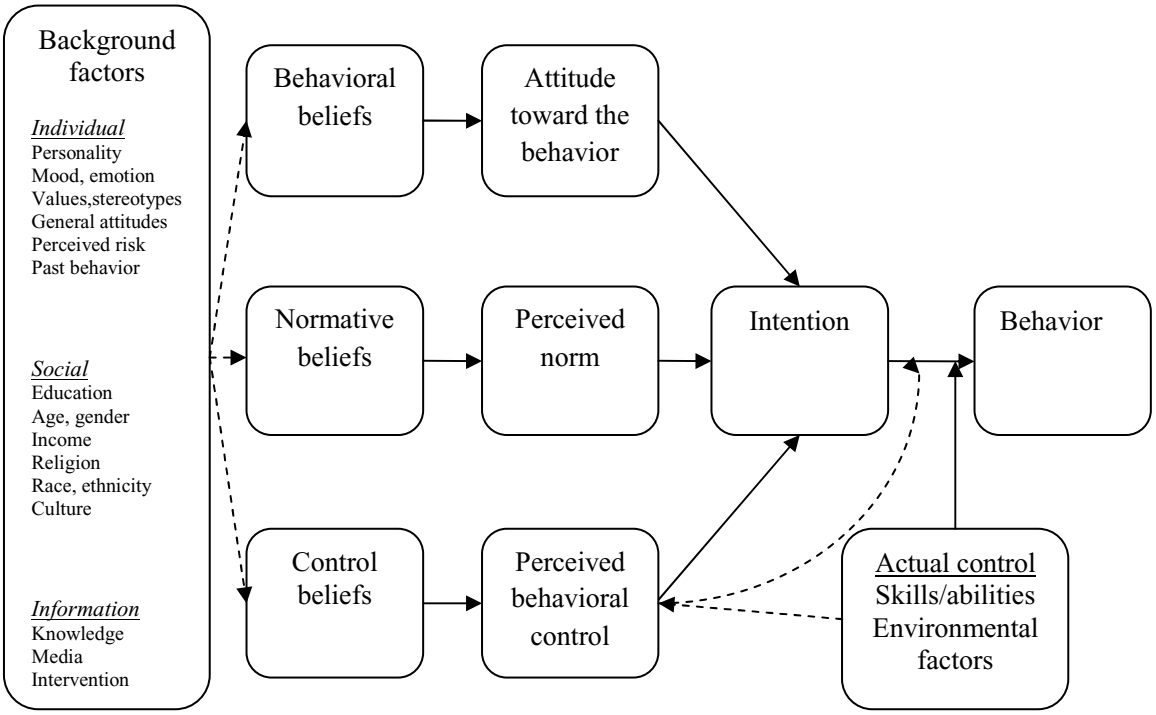
(2008) provide many meaningful and insightful conclusions. However, no unifying theory has yet emerged in the study of whistle-blowing. Miceli et al. (2008) state "one general implication of existing theory and research is clearly that there are many untested areas that may be fruitful in helping to understand who blows the whistle, and why did they do so" (p. 65). They also state "despite the incompleteness of the literature, we believe it is worthwhile to suggest implications of what is known, for research, for law and public policy, and for managerial practice" (p. 65).

Many of the posited specific predictors of whistle-blowing are incorporated in the Theory of Planned Behavior (TPB) developed by the noted psychologists Martin Fishbein and Icek Ajzen (2010) who state:

> We begin by offering our theory as a conceptual framework that holds out the promise of accommodating the multitude of theoretical constructs currently used to account for behaviors related to the health and safety, politics, marketing, the environment, the workplace, and many other domains in which social scientists are active. (2010, p. xvii)

Fishbein and Ajzen (2010) go on to state that "each class of behaviors seems to require a different set of explanatory constructs" (p. 1), and follow with "to complicate matters further, in addition to the domain specific factors, investigators typically invoke a variety of demographic variables, personality characteristics, and situational factors that must also be taken into consideration when attempting to explain a specific behavior" (p. 2). TPB takes into account this multitude of background factors that influence an individual's choice of behavior. This is accomplished by focusing these many influences into three belief constructs; attitude towards the behavior, perceived norm, and perceived behavioral control. The following diagram depicts this relationship (Fishbein & Ajzen, 2010, p 22):

Figure 1. Schematic Presentation of TPB



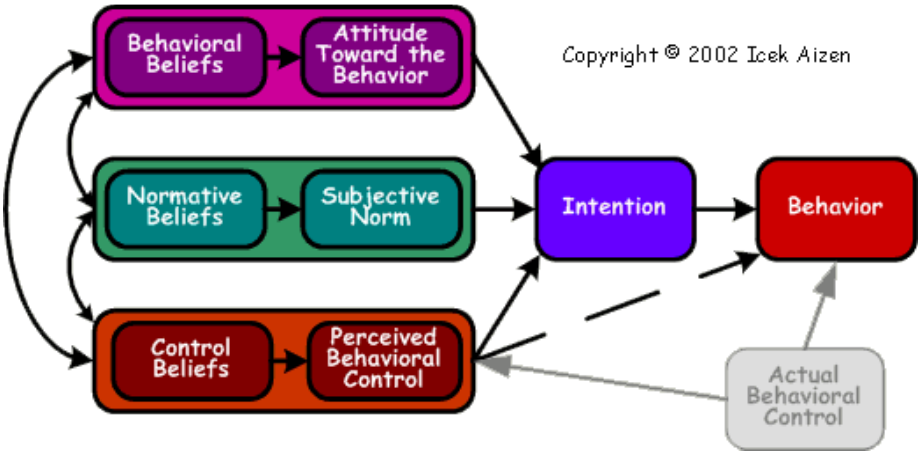
As shown above, the structure of TPB provides an all encompassing approach to the study of a behavior. This structure fits the desired approach to this study. It is this theory, TPB, which will be applied in the investigation of management accountants' intention to whistle-blow when they observe fraudulent accounting. A brief overview of the theory and its application follows and a thorough discussion of TPB is included in chapter 2 along with a review of the other primary theories that have been applied to the study of whistle-blowing.

Recently, Park and Blenkinsopp (2009) explored the relevance of TPB (Ajzen, 1991) to whistle-blowing activity by Korean police officers. TPB has been used extensively in successfully explaining ethical decision making across a wide range of contexts: e.g., tax compliance (Bobek & Hatfield, 2003), public accounting (Buchan, 2005), financial reporting (Carpenter & Reimers, 2005), software piracy (Chang, 1998),

and pollution management (Cordano & Frieze, 2000). The present research project uses the TPB as a theoretical framework for examining the underlying salient beliefs associated with whistle-blowing and their relationship to the whistle-blowing intention of management accountants (Ajzen, 1991).

TPB has been used extensively for a large variety of studies. Buchan (2005) stated that "the theory of planned behavior, an extension of the theory of reasoned action, provides a framework for expanding our understanding of the factors that influence public accountants' ethical behavioral intentions" (p. 165). Additionally, Carpenter and Reimers (2005) found "strong evidence that the theory of planned behavior can help explain ethical decision-making by business managers" (p. 124). TPB posits that the development of intentions explains the basis of behavior. Intentions are formed by three basic sources: (a) attitudes towards the behavior, (b) subjective norms, and (c) perceived control over the behavior (Ajzen, 1991). According to the theory, these three sources form the basis of the intent to perform, or not perform, the behavior. The stronger the intent is, the higher the likelihood that the behavior will occur. The following diagram (Ajzen, 2009) shows the involved forces of control beliefs, perceived behavioral control, and relationship to attitude and subjective norm in forming intention that leads to actual behavior (Figure 2):

Figure 2. The Theory of Planned Behavior



The first construct in TPB, as shown in Figure 2, is the attitude toward performing the behavior with attitude generally being defined as the individual's like or dislike towards the behavior. In this research, it would be a measure of the strength of the intention to report the observation of a fraudulent act. TPB predicts that the more positive the personal attitude towards fraud reporting, then the more likely the behavior will occur. Carpenter and Reimers (2005) pointed out that, "a person may be more likely to behave unethically if the perceived consequences will not be punished but rewarded" (p. 118). Or conversely, if the person feels that there will be potential punishment then their intention toward the behavior will be negative. Ajzen and Fishbein (1973) in their seminal paper on the Theory of Reasoned Action (TRA; the foundation of TPB) stated that "a person's evaluation of, or attitude toward, a specific act is proposed to be a function of the act's perceived consequences and of their values to the person" (p. 42).

In their research on whistle-blowing among police officers, Park and Blenkinsopp (2009) drew the following specific relationship between attitude towards a behavior and whistle-blowing:

> TPB assumes that beliefs about the consequences of a given behavior contribute to form the attitude toward that behavior. The degree of the belief in, and the subjective importance of, certain consequences interact to determine attitude toward the behavior. Thus, an attitude is the sum of the products of the strength of each salient belief (in the consequences of a specific behavior) and the subjective evaluation of how much the belief's attributes are important (for that individual). An attitude toward whistleblowing (the extent to which an individual has a favorable or unfavorable evaluation of whistleblowing) is the sum of the products of the employee's beliefs about the consequences of whistleblowing and his or her subjective evaluation of those consequences. (p. 546)

The second construct in TPB is subjective norm. Ajzen (1991) defined subjective norm as "the perceived pressure to perform or not perform the behavior" (p. 188). This pressure comes from the perception that the individual has concerning the importance of, and approval of the behavior by "significant others" (family, friends, co-workers, superiors, or other important stakeholders). Bobek and Hatfield (2003) stated that "subjective norms refer to a person's beliefs about whether specific individuals or groups approve or disapprove of the individual performing a specific behavior, and to what extent the individual is motivated to conform with these other individuals or groups" (p. 18).

The third construct in TPB is perceived behavioral control (Ajzen, 1991). Perceived behavioral control is a measure of the level of control that the individual perceives they have in regard to performing the specific behavior. The control beliefs refer to the individual's perception as to their conception of obstacles and impediments or resources and capabilities required to complete the behavior (Bobek & Hatfield, 2003). Carpenter and Reimers (2005) defined perceived behavioral control as simply the individual's perception of the ease or difficulty of performing the behavior.

The present study uses a TPB survey instrument (questionnaire) to examine the beliefs which may determine professional management accountants' intention to whistle-

blow after discovering financial statement fraud committed by a co-worker. Construction of the TPB questionnaire will be discussed in chapter 3.

Statement of the Problem

The impetus to prevent accounting fraud is a significant issue in the business world of the 21st century. The massive accounting frauds of the last 10 years combined with the consistent and broad-based survey opinions of business and financial management of the potential of continued accounting fraud highlight the need for stronger accounting fraud deterrence and detection (Deloitte, 2010; Ernst, 2009; KPMG, 2009; PriceWaterhouseCoopers, 2009). The fact that management accountants are fundamentally involved in the production of honest and accurate accounting statements, and thereby are also involved when misstatements are perpetrated, supports their participation in this study of whistle-blowing as a method of detection of accounting fraud.

The fact that whistle-blowing has been shown as by far the strongest method of fraud detection (ACFE, 2010) is a compelling reason to study the intent to whistle-blow by management accountants when confronted with financial statement fraud.

Justification of the Study

As previously mentioned, PWC reported in their *Global Economic Crime Survey* (PWC, 2009) that fraud was "pervasive, persistent and pernicious" (p.4). PWC (2009) went on to point out that, of the three primary categories of fraud (accounting fraud, bribery and corruption, and asset misappropriation), accounting fraud has grown the

fastest by far, almost quadrupling (from 10% to 38%) in this decade as a form of reported fraud. In the middle of the decade, the memories of Enron, WorldCom, HealthSouth, Tyco, Global Crossings and Adelphia were still strong and the passage and implementation of the Sarbanes-Oxley Act (SOX, 2002) dominated the financial accounting regulatory scene. Beneath it all lay another massive theft of investors monies created completely by fraudulent accounting in the form of Bernard Madoff's Ponzi scheme. In this case the entirety of the financial statements was fabricated by Bernard Madoff and his staff. Madoff's public auditor, David Friehling attested to the fairness of the financial statements for 17 years without ever conducting a credible audit (Henriques, 2009).

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) recently issued a long-term study entitled *Fraudulent Financial Reporting: 1998-2007, An Analysis of U.S. Public Companies* in which they reviewed 347 alleged cases of fraudulent financial reporting. Their results show a total cumulative misstatement/misappropriation of nearly $120 billion with a mean of nearly $400 million per case (COSO, 2010). The average fraudulent amount was 16 times the comparable fraudulent amounts from their prior 10 year study (1987 to 1997) which averaged $25 million. According to the COSO study, the three most common areas of misstatement involved revenue recognition, asset overstatement, and capitalization of expenses. COSO additionally stated that companies involved in press coverage of the alleged fraud experienced an average 16.7 percent abnormal drop in their stock price and concluded the following:

> Long-term negative consequences of fraud were apparent. Companies engaged in fraud often experienced bankruptcy, delisting from a stock exchange, or material

> asset sales following discovery of fraud at rates much higher than those experienced by no-fraud firms. Our hope is that insights contained herein will encourage additional research to better understand organizational behaviors, leadership dynamics, and other important aspects of the financial reporting process that may have an impact on fraud prevention, deterrence, and detection. (p. iii)

Assumptions and Limitations

The target population that is examined in this study are members of the IMA. Assumptions concerning this population are as follows:

- As members of the IMA, the study participants are familiar with and adhere to the IMA's *Code of Professional Ethics*. (Institute of Management Accountants, 2010)
- The study participants have honestly answered the questions in the survey instrument.
- The study participants are familiar with the codes of conduct of their individual organization.

Limitations of this study include:

- A survey questionnaire regardless of how realistic or thorough cannot provide the same pressures, risks, incentives, or disincentives that accompany the true observation of a fraudulent accounting event.
- This study does not take into account the range of previous experiences that individual participants may have had with whistle-blowing or fraudulent activity prior to their responses to the questionnaire.
- The results of this study may not be generalizable beyond the population of professional management accountants.

- As with any self-administered survey, there is the possibility that the participants will exhibit "demand characteristics" they deem appropriate, as opposed to their true beliefs and intentions. The assurance and maintenance of strict anonymity will hopefully allow for honest answers, and eliminate this potential confounding variable.

Definition of Critical Terms

1. Whistle-blowing - "the disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their employees, to persons or organizations that may be able to affect action" (Miceli, Near, & Dworkin, 2008, p. 6).
2. Theory of Reasoned Actions (TRA) - individual behavior is driven by behavioral intentions where behavioral intentions are a function of an individual's attitude toward the behavior and subjective norms surrounding the performance of the behavior. Attitude toward the behavior is defined as the individual's positive or negative feelings about performing a behavior (Ajzen & Fishbein, 1973).
3. Theory of Planned Behavior (TPB) – an extension of the TRA where perceived behavioral control is added to the constructs of attitude and subjective norm as a measure of an individual's intent to perform a behavior.
4. Behavioral intention - an individual's subjective probability that he or she will perform a specific behavior (Ajzen & Fishbein, 1973).

5. Attitude - an individual's belief towards the behavior, whether they believe that performing the behavior is positive or negative (Ajzen & Fishbein, 1973).
6. Subjective norms - refers to the individual's perception of the judgment of those people important to the individual in regard to whether the behavior should or should not be performed (Ajzen & Fishbein, 1973).
7. Perceived behavioral control – refers to an individual's perceptions as to their ability to successfully perform a specific behavior (Ajzen, 1991).
8. Fraud - "All multifarious means which human ingenuity can devise, and which are resorted to by one individual to get an advantage over another by false suggestions or suppression of the truth. It includes all surprise, trick, cunning, or dissembling, and any unfair way, which another is cheated" (ACFE, 2003, Fraud Often not Discovered Because of Uneducated Staff, para. 8).
9. Association of Fraud Examiners (ACFE) - an association of 50,000 members that make up the world's largest anti-fraud organization and premier provider of anti-fraud training and education (ACFE, 2010).
10. Institute of Management Accountants (IMA) - an association for accountants and financial professionals (65,000 members) that provides a forum for research, practice development, education, knowledge sharing, and the advocacy of the highest ethical and best business practices in management accounting and finance (IMA, 2010).
11. Statement of Ethical Professional Practice - the code of professional ethics of the IMA that establishes required standards that guide membership conduct in the areas of competence, confidentiality, integrity, and credibility (IMA, 2010).

Organization of the Study

This research will investigate the strength of the intention, and the related beliefs of management accountants to whistle-blow when presented with fraudulent accounting activity. This research will be ordered in the remaining four chapters as follows: chapter 2 provides a review of the pertinent literature covering whistle-blowing theory. This review includes discussion of the theoretical concepts of constructive deviance, social information processing, power perspective, prosocial organizational behavior, and the theory of planned behavior. An expanded discussion of TPB is included that leads into the discussion of the research questions and the related hypotheses to be examined; chapter 3 provides a detailed outline of the research methodology (Structural Equation Modeling) used to statistically analyze the results of the collected data. It will also include the planned analysis of the research questions and the related hypotheses and the construction of the survey instrument, sampling methods, and discussion of their application to the chosen population that are involved in the analysis; chapter 4 presents the results of the study which includes an analysis of the data; and chapter 5 includes a discussion of the implications, potential applications, and limitations of these results; and provide suggestions for future research to extend and expand the findings.

Chapter Summary

Chapter 1 began with a discussion of the background of the problem to be covered in this research. This problem involves the widespread, significant, and massive examples of fraudulent accounting activity that took place in the brief 10 years of the first decade of the 21st century. Enron, WorldCom, HealthSouth, Tyco, Global Crossings, and Adelphia

are all examples of the failure of the existing control mechanisms' ability to prevent catastrophic fraud. The extent of the prevalence of fraud is supported by extensive surveys and analysis completed by a number of the largest and most sophisticated accounting and fraud related organizations in the world (the big four CPA firms, ACFE, and COSO). The theoretical basis of this investigation, the application of the TPB (Ajzen, 1991), is discussed and explained with examples of the theory's application to ethical research and whistle-blowing research.

CHAPTER II

REVIEW OF LITERATURE

The emphasis of this study is to approach whistle-blowing from a theoretical perspective, or "concept-centric" approach (Webster & Watson, 2002) in which the literature review focuses on the theories, or concepts, that have been applied in previous research on whistle-blowing. Therefore, a review of the background of whistle-blowing and the primary theories within which whistle-blowing has previously been studied is provided.

The beginnings of the recognition of whistle-blowing in the U.S. dates to 1863 during the Civil War (Carson, Verdu, & Wokutch, 2008). Due to the rampant fraud occurring with government contractors, Abraham Lincoln requested and Congress passed the False Claims Act (Carson et al., 2008). This act provided for payments to individuals for providing authorities with information regarding fraudulent activity against the government. These payments were known as "Qui tam", a Latin phrase loosely meaning to sue for the king as well as yourself (Carson et al., 2008). This idea of "Qui tam" forms a basic tenet of whistle-blowing, which is the idea of self- benefit, as well as benefit to the larger organization, state, or kingdom.

While whistle-blowing may be threatening to some managers or co-workers, it often results in improving long-term organizational effectiveness. More importantly, organization members, stockholders, and society, in general can benefit from the cessation of organizational wrongdoing, such as fraud, unfair discrimination, or safety

violations. In an era where taxpayers spend billions of dollars to bail out financial institutions, where oil spills create environmental havoc and cost billions of dollars to rectify, and sexual harassment issues arise in a context as unlikely as the nomination process for a member of the highest court in the land, many observers have asked, why did not someone do something earlier (Miceli, Near, & Dworkin, 2008)?

Definition of Whistle-blowing

The definition of whistle-blowing given by Miceli, Near, & Dworkin (2008) is "the disclosure by organization members (former or current) of illegal, immoral, or illegitimate practices under the control of their employees, to persons or organizations that may be able to affect action" (p. 6). This definition has been used in the study of internal auditors, managers, federal employees, nurses, and a variety of populations from various industries (Near, Van Scotter, Rehg, & Miceli, 2004).

This definition also includes whistle-blowers who both report because they have observed wrongdoing that is illegal and also report wrongdoing that the observer merely considers immoral or unethical. It is important that the definition include both so that this study can examine the potential intention to report unethical or immoral activity that can be the precursor to illegal activity.

Lack of Explanatory Theory

There is currently no generally accepted theory to explain what drives the formation of an individual's intention to whistle-blow and then proceed to the act of whistle-blowing. The last several decades of modern research into the motivations of the

behavior of whistle-blowing have been bounded by statements recognizing this lack of an underpinning theory (Gundlach, Douglas, & Martinko, 2003; Miceli & Near, 1988). Miceli and Near (1988) stated, "Although popular interest in whistle-blowing continues to increase, little is known about why some employees who observe wrongdoing report it, while others do not" (p. 268). Two decades later Gundlach et al. (2003) echoed the same opinion in discussing the efforts of numerous academicians and concluded that "these models have yet to demonstrate how individuals process information to arrive at causal explanations and judgments of responsibility for perceived wrongdoing that lead to decisions to blow the whistle" (p. 107). It is the purpose of this study to continue to attempt to determine a theoretical basis for the decision to whistle-blow. The following sections will further discuss previous theories that have been applied in research into motivations to whistle-blow.

Constructive Deviance

In the concept of constructive deviance, whistle-blowing is considered a beneficial deviant behavior, as opposed to remaining silent about an organizational wrongdoing. Applebaum, Iaconi, and Matousek (2007) proposed that whistle-blowing was a type of positive (constructive) deviant behavior that benefits the organization and society (Appelbaum et al., 2007). This concept also deals with the identification and definition of wrongdoing. Does the behavior violate the norms of society or the norms of the organization which might accept some behaviors that are not accepted by society? Spreitzer and Sonenshein (2004) state that when an employee is aware of illegal practices or wrongdoing in the organization and they disclose this wrongdoing to appropriate

authorities then the whistle-blowing is considered an act of positive deviance because it is done intentionally, and goes outside the constructs of the organization's norms.

Research on deviance has fallen into the two streams of negative effects and positive effects. The focus of much of this research has been on undesirable acts such as employee theft, fraud, or other embezzlement of company funds (Bennett & Robinson, 2000; Robinson & Bennett, 1995). In this research whistle-blowing is considered positive or constructive when the individual is acting outside the norm by reporting a wrongdoing when the majority of observers would not (Warren, 2003). In the study of deviant behavior it is important to define the appropriate referent group from which the deviant behavior occurred. For example, if the referent group is the employee's immediate organization, such as Enron or R.J. Reynolds, then the unethical behavior that is observed may not be a deviation from the organization's norms. Actually, the unethical behavior may be the accepted norm of the organization and the whistle-blowing may be the negative deviant behavior. It is only when the basis for the referent group is transferred to that of the broader society that the unethical behavior becomes the negative deviant behavior and the whistle-blowing becomes the positive deviant behavior (Warren, 2003). The predominance among researchers has been to use the specific country's laws as a basis for the referent group (Near & Miceli, 1995; Robinson & Bennett, 1995). Warren (2003) also states that "by defining whistle-blowing and corporate illegal behavior with regard to legal standards, the researchers provide a reference point for judging the behavior. It is difficult however, to extend this approach to international business, where country legal standards may conflict" (p. 626). However, difficulties can arise in basing the behavioral deviation on legal norms or on organizational norms due to the

complexities that can occur in multinational organizations facing multiple legal systems or within a complex organization where it is difficult to specify the accepted norm. To avoid the difficulties of basing deviance on either organizational or legal standards it is suggested that a combination of standards known as hyper norms be used (Donaldson & Dunfee, 1994). Typically, hyper norms involve basic human values that are global and cross-cultural and extend beyond organizational and national boundaries (Warren, 2003). For example, "pollution is bad" is a hyper norm that would be applicable even if not specifically prohibited by local law or organizational edict. By encompassing globally held beliefs hyper norms apply standards against which empirical measurements can be made and that more easily capture multiple approaches to ethical theory including rights, justice, virtue, and duties (Donaldson & Dunfee, 1994).

Social Information Processing

Social information processing (Salancik & Pfeffer, 1978) is described as a behavioral research approach derived from the premise that individuals adapt attitudes, behavior, and beliefs to their social surroundings and their own past and present behavioral experiences and situations. This premise is based upon conclusions that much can be learned about individual behavior by studying the social surroundings and social situations within which the behavior occurs. It is these social surroundings that provide contextual information that determine how individuals react, adapt, and make decisions. The social information processing concept also proposes that the additional variables of cost and benefit are considered by an individual before deciding to whistle-blow. It is proposed that the whistle-blower will consider attributions of the wrongdoer and any

attempts by the wrongdoer to influence the whistle-blower's impression of the behavior. Additionally, the observer's perception of the reasons for the wrongdoing, the attributions the observer places upon the act, may influence the observer's opinion of the act and impact the decision to whistle-blow (Gundlach et al., 2003). Gundlach (2003) also proposes that the whistle-blower is affected by other processes, particularly those involving anger or other emotions of the whistle-blower. To the extent that the observer has a negative opinion of the wrongdoer and that the wrongdoer has control over the behavior, the observer would be more likely to report the activity. Other characteristics of the wrongdoer can also influence the decision to whistle-blow including whether or not the behavior was caused by internal factors, external factors, was committed more than once, and was definitely intentional on the part of the wrongdoer (Gundlach et al., 2003).

In reference to Gundlach's description of the social information processing model, Miceli et al. (2008) make comparisons to the concept of prosocial organizational behavior (to be discussed later in this chapter). They state that both models propose a sequence in which costs and benefits at each step in the decision to whistle-blow are measured and that the more the wrongdoer is seen as responsible for the act the more likely the observer is to whistle-blow. Miceli et al. (2008) go on to describe the social information processing concept as a model that offers important theoretical advances and presents potentially testable propositions, however, the social information processing model does not specifically include additional variables that have been found to affect an observer's intention to whistle-blow in the face of wrongdoing, such as organizational culture climate or reward systems (Miceli & Near, 1992; Miceli et al., 2008). From this, Miceli et al. (2008) state their belief that there would be value in integrating the social

information processing model with the prosocial organizational behavior model for the purposes of future research.

The Power Perspective

In the power perspective concept of whistle-blowing the relationship of power between the whistle-blower and the organization is studied as an important determinant in understanding whistle-blowing decisions. In the face of whistle-blowing the wrongdoer's power relationship with the whistle-blower can be an important factor in understanding the decision to blow the whistle. This perspective of the power relationship has been the subject of previous research (Gundlach et al., 2003). Within the concept of the power perspective previous researchers have studied the struggle between the whistle-blower and the wrongdoer as they try to influence each other's behavior by exerting their relative power (Near, Dworkin, & Miceli, 1993; Near & Miceli, 1995). Near and Miceli (1995) state that the extent to which the whistle-blower will be able to correct an incident of wrongdoing is based upon the amount of power that the individual possesses in the organization. It is the issue of the perception of inferior organizational power on the part of the whistle-blower that has been shown by a previous study (Miceli & Near, 1993) to be a major deterrent to reporting an observed wrongdoing. It has been shown that in organizations where the wrongdoer possesses significant power or importance to the organization that the organization is likely to resist the reporting by the whistle-blower (Near & Miceli, 1995). A primary premise of the power concept is provided by the theory of resource dependence (Salancik & Pfeffer, 1978). Accordingly, it is the relationship of the power of the whistle-blower versus the wrongdoer and their relative importance to the

organization that determines whose side the organization will support. If the wrongdoer provides a more significant resource to the organization, the organization may be reticent to punish or remove the wrongdoer. Conversely, if the whistle-blower provides a resource that is more significant to the organization, the organization will be more likely to support the whistle-blower. In contrast, if the organizational power of the whistle-blower and the wrongdoer are equivalent, then the prediction of who the organization will support becomes more complex. Also, if the wrongdoing behavior is important to the organization, such as an unethical act that saves a significant cost, then the organization may not support the whistle-blower. Similarly, the organization may provide resources that are needed by the whistle-blower in which case the whistle-blower may be deterred from reporting the observance of wrongdoing for fear of losing benefits received from the organization (Salancik & Pfeffer, 1978).

Another perspective of the power theory is derived from the theory of value congruence (Enz, 1988) which proposes that when an individual's values are congruent with those of the organization's leadership then the individual gains power within the organization. From this perspective it is proposed that whistle-blowers who align their beliefs with those of senior management are more likely to feel that they can influence management and therefore, are more likely to whistle-blow (Near & Miceli, 1995).

The third perspective on power is proposed as minority influence in which individuals who express a minority opinion are seen to influence an organization's decisions and the process by which the decisions are reached (Near & Miceli, 1995). Within this proposal a whistle-blower speaking from the minority can gain power in the form of credibility, confidence, competence, and objectivity (Greenberger, Miceli, &

Cohen, 1987). The organization may accept the validity of the whistle-blowers claim due to the strength of these characteristics. However, not every member of the group may be accepting, some may resist. In these cases the organization may attempt to punish the whistle-blower (Greenberger et al., 1987).

Whistle-blowers may be able to also utilize their charisma and referent power when they hold a position that is higher in the organization and have the ability to reward or punish others in the organization (Near & Miceli, 1995). This group of whistle-blowers might also include others who have high status in the organization due to a particular expertise or technical value such as a lawyer, engineer, or scientist (Near & Miceli, 1995).

Miceli et al. (2008) also propose that individuals who hold positions of authority, such as Sharon Watkins of Enron, may feel an obligation to whistle-blow as a responsibility of their position and believe that their position will cause others to respond to the report. Miethe (1999) also added that individuals in supervisory positions, due to their authority, are more likely to whistle-blow then individuals in lesser positions. Near and Miceli (1996) stated that whistle-blowers are more likely to be highly paid, to have levels of high job performance, and hold supervisory or professional status as further indication of the proposition that power supports whistle-blowing. Another perspective of power that impacts an individual's willingness to whistle-blow is the individual's belief that they have the organizational power to withstand retaliation if they report an observed wrongdoing (Near et al., 1993).

Prosocial Organizational Behavior

Whistle-blowing, when seen as a behavior that attempts to stop or reverse a wrongdoing or negative activity, is generally considered a positive behavior (Miceli et al., 2008). Even if whistle-blowing is not considered beneficial by the organization, if it is truly the reporting of a wrongdoing, then it is considered beneficial by society. For example, whistle-blowing was part of the demise of Enron and Arthur Andersen. Therefore, it could not be considered an activity beneficial to those companies. However, the whistle-blowing behavior contributed to society's ability to react and potentially stop this behavior from doing future damage. Even if the intended beneficiary of the whistle-blowing is a specific individual and the organization or society as a whole benefits, as long as the whistle-blowing was done with good intentions, it is still considered a prosocial behavior and positive (Bowes-Sperry & O'Leary-Kelly, 2005). Brief and Motowidlo (1986) described a prosocial behavior as "behaviors that go beyond specified role requirements, behavior such as cooperating with coworkers, taking action when necessary to protect the organization from unexpected danger, suggesting ways to improve the organization, and speaking favorably about the organization to outsiders" (p. 714). They go on to define whistle-blowing as a positive organizational behavior intended to benefit the organization. When whistle-blowing is done in a sincere effort to help the organization, it may take the form of organizational dissension that is still a prosocial behavior to the extent it is meant to be positive in the long run (Brief & Motowidlo, 1986). Dozier and Miceli (1985) expanded the definition of prosocial organizational behavior in the context of whistle-blowing to include whistle-blowing that

is not entirely altruistic. Whistle-blowers may have motives that also benefit themselves. For example, if the complaint involves an issue of unsafe working conditions, the correction of the condition will benefit both the complainant and co-workers (Miceli et al., 2008). It is, however, generally agreed that whistle-blowers benefit psychologically from the act of whistle-blowing to the extent that they feel better about having reported the wrongdoing as opposed to remaining silent (Miceli, Near, & Schwenk, 1991). Even if the benefit of the whistle-blowing is not directly manifested to the whistle-blower, for instance in the case of a male worker reporting sexual harassment of female co-workers, research has indicated that there is diminished workplace satisfaction in the presence of sexual harassment, and therefore, benefit even to the male worker when the harassment is removed (Glomb, Munson, Hulin, Bergman, & Drasgow, 1999). Glomb et al. also reported that the presence of direct or ambient wrongdoing correlated to higher levels of psychological distress, anxiety, and life dissatisfaction.

Prosocial organizational behavior has been the conceptual approach used in the majority of research on whistle-blowing (Miceli et al., 2008). Of particular focus has been the relationship between the seriousness of the wrongdoing and the likelihood that an observer would whistle-blow (Gundlach et al., 2003). Several studies have shown that a positive relationship exists in regard to the strength of the intention to whistle-blow and the seriousness of the wrongdoing (Miceli & Near, 2002; Near et al., 1993; Near & Miceli, 1995). However, studies using the prosocial organizational approach in whistle-blowing research have yielded conflicting results (Gundlach et al., 2003). Studies have shown a weak or limited relationship between prosocial behavior and the intention to whistle-blow (Miceli & Near, 1992; Miceli et al., 1991). Additionally, the proposal that

the larger the number of observers who witness a wrongdoing the higher will be the incidence of whistle-blowing was not supported in the studies by Miceli and Near (1988,1992).

Theory of Planned Behavior

The theoretical framework used in this study is the Theory of Planned Behavior (Ajzen, 1991). TPB was originated by social psychologist Icek Ajzen and as an extension of the Theory of Reasoned Action (TRA; Ajzen & Fishbein, 1973). Carpenter and Reimers stated, "The theory of planned behavior is a significant extension to the theory of reasoned action as it assumes control over the behavior, while the theory of reasoned action does not" (2005, p. 117). TPB has been used extensively in a large variety of studies. According to Fishbein and Ajzen (2010) their theoretical framework had been used in "well over 1000 empirical papers" (p. xvii). Buchan (2005) stated, "The theory of planned behavior, an extension of the theory of reasoned action, provides a framework for expanding our understanding of the factors that influence public accountants' ethical behavioral intentions" (p.165). Additionally, Carpenter and Reimers (2005) conclude, "The results of the two studies, the survey analysis and the experiment, provide strong evidence that the theory of planned behavior can help explain ethical decision-making by business managers" (p. 124).

TPB posits that the development of intentions explains the basis of behavior. Intentions are formed by three basic sources: (a) attitudes towards the behavior, (b) subjective norms, and (c) perceived control over the behavior (Fishbein & Ajzen, 2010). According to the theory, these three sources form the basis of the intent to perform, or not

perform, the behavior. The stronger the intent is, the higher the likelihood that the behavior will occur.

The first tenet of TPB is the attitude toward performing the behavior with attitude generally being defined as the individual's like or dislike towards the behavior. In this research, it is the measure of the strength of the intention to report the observation of a fraudulent act. TPB predicts that the more positive the personal attitude towards fraud reporting, then the more likely the behavior will occur. Carpenter and Reimers (2005) point out that, "A person may be more likely to behave unethically if the perceived consequences will not be punished but rewarded" (p. 118). Conversely, if the person feels that there will be potential punishment then their intention toward the behavior will be negative. In their seminal article on the Theory of Reasoned Action Ajzen and Fishbein (1973) stated that, "a person's evaluation of, or attitude toward, a specific act is proposed to be a function of the act's perceived consequences and of their values to the person" (p. 42).

In their research on whistle-blowing among Korean police officers, Park and Blenkinsopp (2009) drew the following specific relationship between attitude towards a behavior and whistle-blowing:

> TPB assumes that beliefs about the consequences of a given behavior contribute to form the attitude toward that behavior. The degree of the belief in, and the subjective importance of, certain consequences interact to determine attitude toward the behavior. Thus, an attitude is the sum of the products of the strength of each salient belief (in the consequences of a specific behavior) and the subjective evaluation of how much the belief's attributes are important (for that individual). An attitude toward whistle-blowing (the extent to which an individual has a favorable or unfavorable evaluation of whistle-blowing) is the sum of the products of the employee's beliefs about the consequences of whistle-blowing and his or her subjective evaluation of those consequences. (p. 546)

The second antecedent to the formation of intention in TPB is subjective norm. Ajzen (1991) defined subjective norm as "the perceived pressure to perform or not perform the behavior" (p. 188). This pressure comes from the perception that the individual has concerning the importance of, and approval of the behavior by "significant others" (family, friends, co-workers, superiors or other important stakeholders). Bobek and Hatfield (2003) stated, "Subjective norms refer to a person's beliefs about whether specific individuals or groups approve or disapprove of the individual performing a specific behavior, and to what extent the individual is motivated to conform with these other individuals or groups" (p. 18).

The third variable that TPB models in forming intention is perceived behavioral control (Ajzen, 1991). Perceived behavioral control is a measure of the level of control that the individual perceives they have in regard to performing the specific behavior. The control beliefs refer to the individual's perception as to their conception of obstacles and impediments or resources and capabilities required to complete the behavior (Bobek & Hatfield, 2003). Carpenter and Reimers (2005) defined perceived behavioral control as simply the individual's perception of the ease or difficulty of performing the behavior.

Bobek and Hatfield (2003) used TPB to examine taxpayers' intention to comply with internal revenue service regulations. Their application of TPB involved a hypothesis that generally stated that the three constructs of TPB (attitude, subjective norms and perceived behavioral control) would be positively correlated to tax non-compliance. The constructs were tested across three tax cheating scenarios. The results of their investigation affirmed their use of TPB. Bobek and Hatfield (2003) concluded that "the model statistics also reveal that the data fit the model relatively well, particularly the

home office and tip scenarios. These results provide support for H_1 suggesting that the TPB model provides a good description of tax-compliance behavioral intentions" (p. 30).

Buchan (2005) applied TPB to an examination of the ethical decisions of public accountants. Accounting professionals from five firms completed a questionnaire based on a vignette that presented an ethical dilemma. Responses were gathered to measure the participants' range of positive to negative reaction toward their intent to accept the behavior in TPB constructs of attitude, subjective norm and perceived behavioral control. As previously mentioned, Buchan stated that the results supported the application of TPB in predicting accounting professionals' ethical behavior. Buchan also stated that there was not a significant direct effect on ethical intention from subjective norms; however, an important finding was the significant relationship between subjective norms and attitudes which resulted in a strong relationship between subjective norms and ethical intentions.

Carpenter and Reimers (2005) applied TPB to corporate managers' intentions regarding unethical financial reporting. In this study an experimental scenario was presented to participants that questioned their behavioral intent within the constructs of TPB to act unethically. The results of this study supported the hypotheses that both attitude and subjective norm clearly had an influence on the prediction of behavioral intent. Their results showed that managers' attitudes follow the tone set by senior management in regard to whether or not to behave unethically. The construct of perceived behavioral control had limited significance in the results of the study. However, Carpenter and Reimers (2005) suggested that "if ethical teaching can be improved in our culture, in our schools, and in our families, we might see a shift away from fraudulent behavior" (p. 125).

Chang's (1998) study of the unethical behavior of software piracy compared the results from both the TRA and the TPB. Chang (1998) found that the TPB was better than the TRA in predicting the studied unethical behavior. The results indicated that perceived behavioral control was a stronger predictor of the intended behavior than was attitude. Also, the subjective norm had an insignificant direct effect on behavioral intention, but a significant effect on attitude. Chang (1998) states, "The results also show the validity of the TPB as applied to the domain of unethical behavior. This provides a much more solid theoretical basis for the study of ethical and unethical behavior" (p. 1832).

Park and Blenkinsopp (2009) provide a very recent study that applies TPB directly to the research of whistle-blowing. They study the link between attitudes, intention and behavior in the intention to whistle-blow among Korean police officers. Their hypotheses involved the examination of the differing intents formed between internal and external whistle-blowing. They focused on the TPB antecedents of attitude and subjective norm and found subjective norms to be the strongest determinant of the intent to whistle-blow and concluded that "this study showed that the TPB is valid as a general theory for explaining intentions, which adds to our understanding of the general approaches to whistle-blowing" (p. 554).

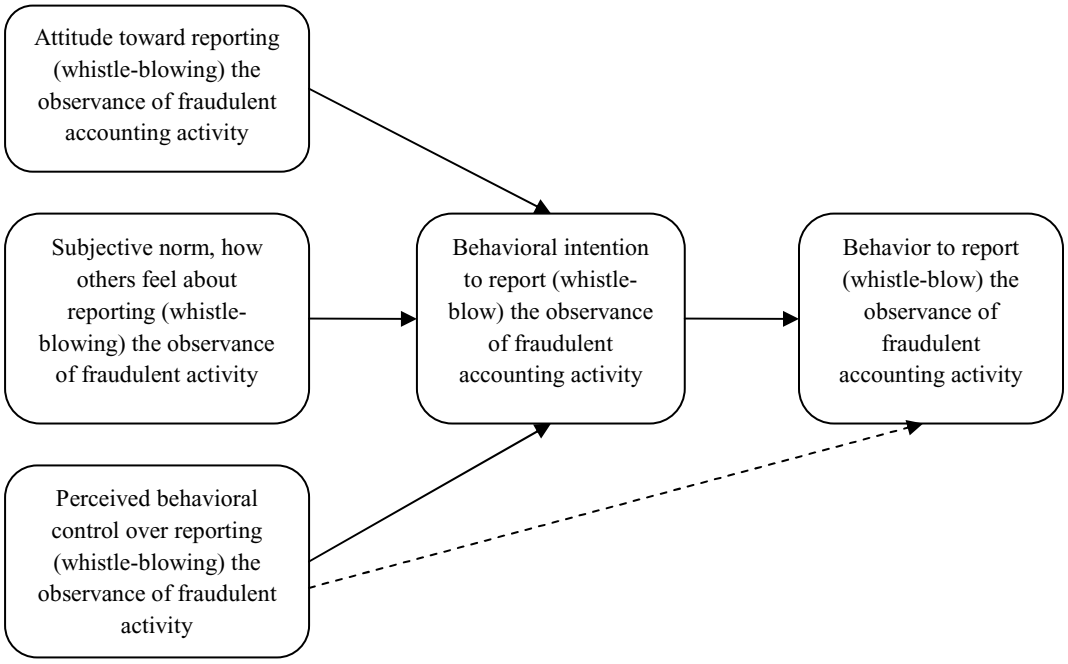
Application of TPB

The studies reviewed that applied TPB to ethical situations and particularly the recent study by Park and Blenkinsopp (2009) provide a foundation for the continued study of whistle-blowing as a methodology to detect fraudulent activity. Park and

Blenkinsopp (2009) also discuss the absence of a general theory of whistle-blowing and state that this is a problem that has both practical and theoretical implications. Additionally, they go on to conclude that their study leads to a number of applications for future research. Park and Blenkinsopp (2009) state that "firstly, and most obviously, there is a need to undertake similar research with a representative range of samples. There is no reason to imagine that TPB would work as a general theory for South Korean police officers and no one else, and the findings relating to which determinants best predict which type of whistle-blowing need further research" (p. 554).

The following diagram (Ajzen, 2009) shows the involved forces of attitude, subjective norm and perceived behavioral control in forming an intention that leads to actual behavior in the context of the formation of the intention to whistle-blow (Figure 3):

Figure 3. Formation of Whistle-blowing Intention



These constructs and studies support the potential for TPB to add to the theoretical understanding of the relationships between the beliefs surrounding the act of reporting fraudulent activity by management accountants and the intention to report.

Operationalizing the Constructs of TPB

Fishbein and Ajzen (2010) summarize their beliefs related to the formation of behavioral intention as follows:

> 1. Beliefs that performing a given behavior will lead to positively or negatively valued outcomes (behavioral beliefs or outcome expectancies).
> 2. Beliefs that certain referent individuals or groups support or oppose performance of the behavior or are themselves performing the behavior (normative beliefs).
> 3. Beliefs that certain personal or situational factors that can facilitate or inhibit performance of the behavior are likely (or unlikely) to be present (control beliefs). (p. 203).

The accepted methodology to elicit these salient beliefs in a given population is to sample the population with a survey instrument developed specifically for the specific population, management accountants (Fishbein & Ajzen, 2010; Middlestadt, Bhattacharyya, Rosenbaum, & Fishbein, 1996).

The measurement of the strength of the three TPB constructs will be captured by the application of a survey questionnaire that queries management accountants' beliefs for each construct. This measurement is accomplished by soliciting responses to both direct questions concerning the behavior and indirect questions concerning the behavior (Fishbein & Ajzen, 2010). Direct questions focus specifically on the behavior and measure the "direct" beliefs. For example, items are presented concerning the specific behavior to solicit the direct beliefs of whether the behavior is good or bad, valuable or worthless, pleasant or unpleasant, beneficial or harmful, etc. These responses measure the

overall strength of the individual's positive or negative perspective of each of the three TPB constructs (Fishbein & Ajzen, 2010). Additionally, Fishbein and Ajzen (2010) have shown that there are indirect measures that can be captured within each TPB construct as a measure of the intention to behave. These indirect measures are in the form of salient beliefs, which are described as "beliefs about the object that come readily to mind" (Fishbein & Ajzen, 2010, pg. 98). Although there may be numerous different beliefs that come to mind concerning a behavior it is only these readily available, or salient, beliefs that have been shown as the primary determinants of the formation of the intention to perform a behavior (Fishbein & Ajzen, 2010). In each of the three TPB constructs specific beliefs are measured to capture the individual's support for the creation of their intention to perform a certain behavior. In the development of attitude towards a behavior the individual's expectation of the probability or likelihood that a specific outcome will occur following the behavior, and a measure of the individual's feeling of importance or desirability of that outcome is captured (Fishbein & Ajzen, 2010). For example, if a management accountant's belief is that supporting the system of internal control is important and that reporting fraudulent accounting activity will strongly support the system of internal control they should indicate a high score on these two items.

Similarly, the indirect measure of an individual's subjective norm, their perception of how "significant others" would relate to the behavior, is captured in the two components of the individual's motivation to comply and the individual's injunctive belief strength. Injunctive norm is defined as the individual's perception as to whether significant others think that the individual should or should not perform the behavior. Motivation to comply is defined as the strength of the individual's desire to perform or

not to perform the behavior (Fishbein & Ajzen, 2010). For example, if a management accountant believed that the shareholders definitely supported the reporting of fraudulent behavior and the accountant wanted strongly to do what the shareholders desired, then high scores for the subjective norm to report fraudulent accounting activity would be indicated.

The third TPB construct, perceived behavioral control, is determined by the measurement of two components; control beliefs and the power of each control factor. The control beliefs are the individual's beliefs that they possess the resources and capability to perform the behavior. The power of each control factor is defined as the individual's perception of the strength of their resources and capabilities to perform the behavior.

The review of the primary theoretical approaches to the study of whistle-blowing indicates that the application of TPB will potentially lead to a better understanding of the perceptions and motivations that would, or would not, lead to whistle-blowing in the face of fraudulent accounting activity.

Research Questions

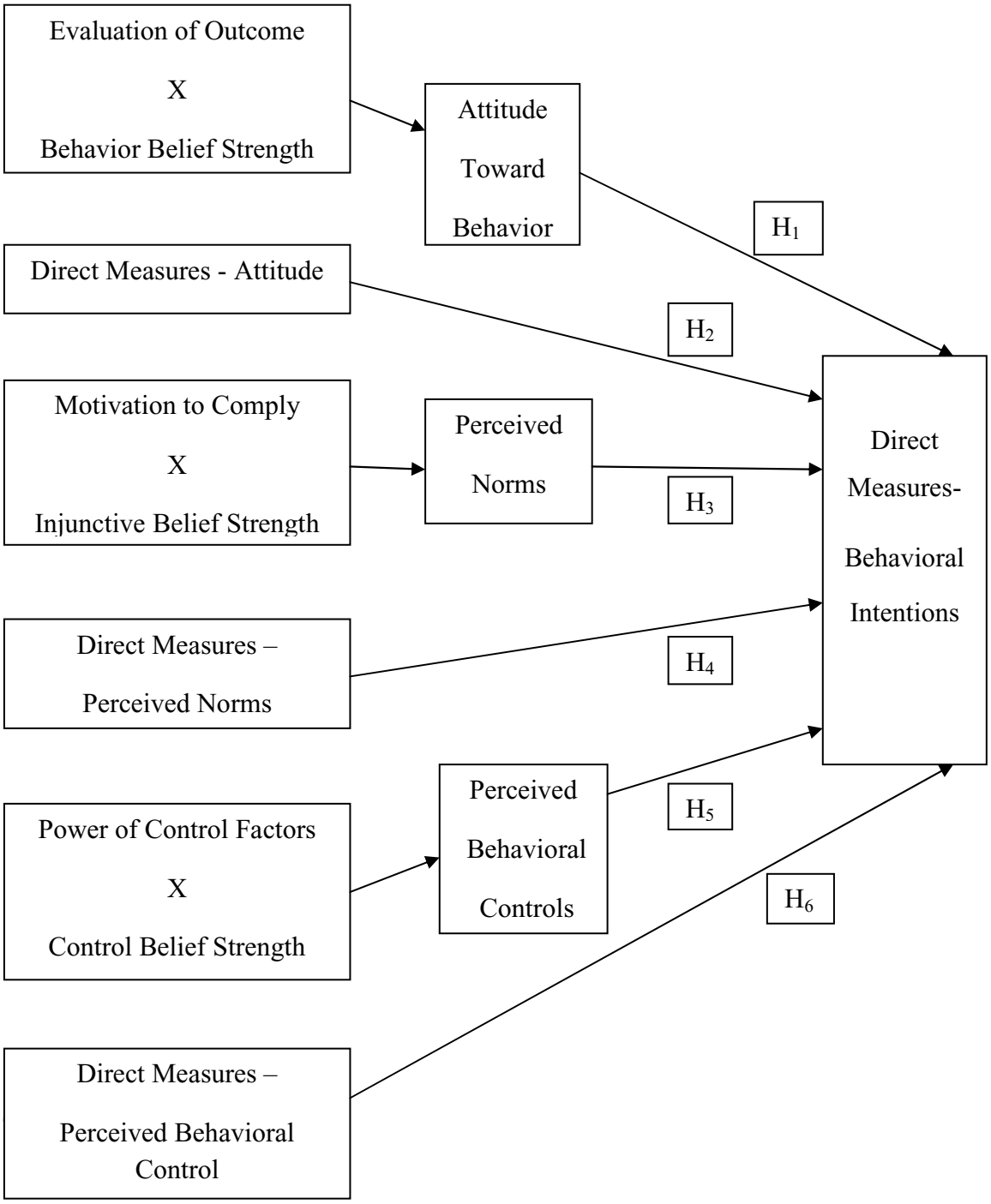
The research questions to be examined in the study follow the structure of TPB which states that the constructs of attitude, subjective norm, and perceived behavioral control form the intention to enact a behavior. These constructs will be used to address the overall measure of professional management accountants' motivation to report fraudulent accounting activity (Fishbein & Ajzen, 2010; Frances et al., 2004). The structure of the research questions are as follows:

1. Is there a relationship between professional accountants' attitude and their intention to report fraudulent accounting activity?
2. Is there a relationship between professional accountants' subjective norm and their intention to report fraudulent accounting activity?
3. Is there a relationship between professional accountants' perceived behavioral control and their intention to report fraudulent accounting activity?

Research Hypotheses

Within TPB the relationships between attitude, subjective norm, perceived behavioral control, and the intention to enact a behavior are determined by both the previously described indirect and direct measures. These relationships are depicted in Figure 4 below:

Figure 4. Research Model



The above chart outlines the relationships between the measured variables (direct and indirect salient behavioral beliefs of professional management accountants in regard to reporting fraudulent accounting activity) to be captured by the TPB questionnaire and the *latent* variables of the constructs of TPB, attitude, subjective norm, perceived behavioral control, and intention toward the target behavior.

These relationships will be tested in the form of the following hypotheses that are proposed for investigation:

H_1. Professional management accountants' attitude (the product of the behavioral beliefs as to their evaluation of outcomes from the reporting of fraudulent accounting activity multiplied by the strength of these behavioral beliefs) will have a positive relationship with their intention toward that behavior.

H_2. The direct measures of professional management accountants' attitude towards reporting fraudulent accounting activity will have a positive relationship with their intention toward that behavior.

H_3. Professional management accountants' perceived norms (the product of their motivation to comply multiplied by the injunctive belief strength of their perception of their significant others' beliefs in regard to reporting fraudulent accounting activity) will have a positive relationship with their intention toward that behavior.

H_4. The direct measures of professional management accountants' perceived norms towards reporting fraudulent accounting activity will have a positive relationship with their intention toward that behavior.

H_5. Professional management accountants' perceived behavioral control (the product of their perceived power of control factors multiplied by the strength of their

control beliefs in regard to reporting fraudulent accounting activity) will have a positive relationship with their intention toward that behavior.

H_6. The direct measures of professional management accountants' perceived behavioral control towards the reporting fraudulent accounting activity will have a positive relationship with their intention toward that behavior.

Chapter 3 outlines the statistical methodology applied in the analysis of these research questions and hypotheses.

Chapter Summary

Chapter 2 discusses a theoretical framework for this study. It begins by describing the theoretical perspective of the approach as "concept-centric" and outlines the early history of whistle-blowing. A brief discussion of the current state of fraudulent activity in U.S. business is given followed by a detailed definition of whistle-blowing. The chapter points out the lack of explanatory theory for whistle-blowing and describes the previous theories that have been applied in the research into the motivations to whistle-blow, including; Constructive Deviance, Social Information Processing, The Power Perspective, Prosocial Organizational Behavior, and TPB. The specific relationships between the constructs of TPB and whistle-blowing are then diagramed and the subsequent research questions and hypotheses to be studied are stated.

CHAPTER III

METHODOLOGY

This chapter outlines the research methodology that was used in this study. The outline includes an overview of the research designed to analyze the research questions and hypotheses, the description of the population studied, a description of the background and construction of the TPB survey instrument, and the procedures for the collection of data. Also provided will is a discussion of the statistical analysis technique, Structural Equation Modeling (SEM), and its application in the analysis of the results received from the distribution of the TPB survey instrument.

The primary framework for this study was TPB and its basic constructs as they have been explained. The target population studied were members of the Institute of Management Accountants (IMA). Members of the IMA were chosen in that this organization represents a large and diverse population of experienced, professional management accountants. The IMA also represents the largest organization of management accountants in the U.S., and this study was limited to only management accountants in the U.S. Additionally, the IMA agreed to support this study in two significant ways. The IMA, through their Research Foundation, distributed, via their confidential e-mail listing of their membership, the final TPB questionnaire and collected the results. Also, the IMA provided a dissertation grant to cover a portion of the expenses of this study.

TPB Survey Instrument Construction

A survey instrument was chosen to operationalize the constructs of TPB as shown in the Research Model (Figure 4). Surveys are the most common methodology applied for this purpose (Fishbein & Ajzen, 2010). The constructs of TPB represent latent variables that are captured and measured through the questionnaire items that reflect the salient beliefs related to these constructs. This was required due to the fact that the situations within which a professional accountant might report fraudulent accounting activity are obviously unobservable.

Due to the critical importance of creating a complete, thorough, and accurate TPB survey instrument the researcher contacted Dr. Icek Ajzen, the originator of TPB, and discussed this research study and solicited Dr. Ajzen's advice and review. Dr. Ajzen agreed to the outline and purpose of the study, stated that it was appropriate for the application of TPB, and agreed to review the construction of the survey instrument.

A critical element in measuring the attitudes, subjective norm, perceived behavioral control, and intentions of the target population in reference to a specific behavior is determining the salient beliefs held by the population in regard to the specific behavior. The first step in survey construction, as outlined by Fishbein and Ajzen (2010) is to elicit these salient beliefs from the population. An elicitation questionnaire was developed to provide a general set of beliefs concerning the reporting of fraudulent accounting activity by a sample of the population to be studied, members of the IMA. As recommended by Fishbein and Ajzen (2010) a total of 25 elicitation questionnaires were distributed and 18 were acceptably completed. The elicitation questionnaire (see Appendix A) included nine items to solicit a range of responses concerning professional

management accountants' beliefs in regard to reporting fraudulent accounting activity. The elicitation questionnaire was constructed in reference to Fishbein and Ajzen's instructions and parameters (Fishbein & Ajzen, 2010) and with corresponding support from additional guidelines provided by *Based on the Theory of Planned Behavior: A Manual for Health Services Researches* (Frances et al., 2004). The final elicitation survey questionnaire was also reviewed and agreed to by Dr. Ajzen. The responses from the completed questionnaires were then accumulated by question and a content analysis was completed by the researcher to identify the most prominent salient beliefs concerning intention, attitudes, subjective norms, and perceived behavioral control in regard to the reporting of fraudulent accounting activity. The items related to behavioral beliefs were selected from the most frequent responses concerning the advantages and disadvantages of reporting fraudulent accounting activity, the individuals or groups listed that would approve or disapprove of reporting fraudulent accounting activity, and the factors or circumstances that would make it easy or difficult to report fraudulent accounting activity.

To develop the TPB survey items that were related to attitude, the most frequently listed salient beliefs concerning the advantages and disadvantages of reporting fraudulent accounting activity were selected. These included support of the system of internal control, prevention of financial loss, retention of the integrity of the accounting profession, retention of employment, and maintenance of positive career direction. These beliefs form the basis of the indirect measure of attitude. The survey items constructed to capture the individual's evaluation of the outcomes of performing the behavior and their behavioral belief strength were as follows:

Evaluation of Outcome

1. For me to support the system of internal control is

Extremely unimportant: _1__:_2__:_3__:__4__:__5__:__6__:__7_: Extremely important

2. For me to prevent financial loss to the company is

Extremely unimportant: _1__:_2__:_3__:__4__:__5__:__6__:__7_: Extremely important

3. For me to help retain the integrity and ethical values of the accounting profession is

Extremely unimportant: _1__:_2__:_3__:__4__:__5__:__6__:__7_: Extremely important

4. To maintain my current employment is

Extremely unimportant: _1__:_2__:_3__:__4__:__5__:__6__:__7_: Extremely important

5. To maintain a positive direction in my career is

Extremely unimportant: _1__:_2__:_3__:__4__:__5__:__6__:__7_: Extremely important

Behavioral Belief Strength

6. My reporting fraudulent accounting activity will support the system of internal controls

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

7. My reporting fraudulent accounting activity will prevent financial loss to the company

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

8. My reporting fraudulent accounting activity will retain the integrity and ethical values of the accounting profession

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

9. My reporting fraudulent accounting activity will help maintain my current employment

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

10. My reporting fraudulent accounting activity will help maintain a positive direction in my career

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

To capture the direct measure of the participant's attitude towards reporting fraudulent accounting activity the following items were included:

Direct Measures - Attitude

35. My reporting fraudulent accounting activity is

Good: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Bad

36. My reporting fraudulent accounting activity is

Harmful: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Beneficial

37. My reporting fraudulent accounting activity is

Unpleasant: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Pleasant

38. My reporting fraudulent accounting activity is

Interesting: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Uninteresting

To develop the TPB survey items that were related to subjective norms, the most frequently named "significant others" that were referenced by the respondents were chosen. These entities represent the individuals or groups that most likely influenced the selected population's intention to report fraudulent accounting activity. The most significant referents identified by the content analysis and selected for inclusion in the TPB survey instrument included shareholders, supervisors, senior financial management, company culture, and other professional accountants.

The following items related to the motivation to comply and injunctive belief strength were included to solicit the participant's indirect measure of subjective norm:

Motivation to Comply

11. When it comes to my professional accounting activities, I want to do what our shareholders think I should do.

Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

12. When it comes to my professional accounting activities, I want to do what my supervisor thinks I should do

Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

13. When it comes to my professional accounting activities, I want to do what senior financial management thinks I should do

Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

14. When it comes to my professional accounting activities, I want to do what the culture of my company would call for me to do

Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

15. When it comes to my professional accounting activities, I want to do what other professional accountants think I should do

Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

16. When it comes to my professional accounting activities, I want to do what the financial regulatory agencies think I should do

Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

Injunctive Belief Strength

17. Shareholders think that I should report fraudulent accounting activity

Strongly disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

18. My supervisor thinks that I should report fraudulent accounting activity

Strongly disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

19. Senior financial management thinks that I should report fraudulent accounting activity

Strongly disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

20. My company's corporate culture would call for me to report fraudulent accounting activity

Strongly disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

21. Other accounting professionals think that I should report fraudulent accounting activity

Strongly disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

22. Financial regulatory agencies think that I should report fraudulent accounting activity

Strongly disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

The items included to capture the direct measure of perceived norms were as follows:

Direct Measures – Perceived Norms

40. Most people who are important to me think that I should report fraudulent accounting activity

True :__1__:__2__:__3__:__4__:__5__:__6__:__7___: False

41. Most people whose opinions I value would approve of my reporting fraudulent accounting activity

Improbable: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Probable

42. Most people I respect and admire would report fraudulent accounting activity

Unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Likely

43. Most people like me would report fraudulent accounting activity

Agree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Disagree

In reference to control beliefs, the most frequently mentioned concepts concerning the ability to report, or barriers to report, fraudulent accounting activity were chosen. The most frequently listed items included access to an anonymous fraud reporting hotline and the support or retaliation from salient referents.

To measure the power of each individual's control factors and the strength of their control belief the following items were included:

Power of Each Control Factor

23. Availability of an anonymous hotline would make my reporting fraudulent accounting activity

More difficult:__1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

24. Fear of retaliation from my supervisor would make my reporting fraudulent accounting activity

More difficult: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

25. Fear of retaliation from senior financial management would make my reporting fraudulent accounting activity

More difficult: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

26. Fear of retaliation from my company would make my reporting fraudulent accounting activity

More difficult: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

27. Fear of retaliation from other professional accountants would make my reporting fraudulent accounting activity

More difficult: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

28. Fear of retaliation from regulatory agencies would make my reporting fraudulent accounting activity

More difficult: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

Control Belief Strength

29. An anonymous hotline for reporting fraudulent accounting activity is available

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

30. Retaliation from my supervisor for my reporting fraudulent accounting activity is

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

31. Retaliation from senior financial management for my reporting fraudulent accounting activity is

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

32. Retaliation from my company for my reporting fraudulent accounting activity is

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

33. Retaliation from other professional accountants for my reporting fraudulent accounting activity is

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

34. Retaliation from regulatory agencies for my reporting fraudulent accounting activity is

Extremely unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

The direct measure of perceived behavioral control was captured by the following items:

Direct Measures – Perceived Norms

40. Most people who are important to me think that I should report fraudulent accounting activity

True: __1__:__2__:__3__:__4__:__5__:__6__:__7___: False

41. Most people whose opinions I value would approve of my reporting fraudulent accounting activity

Improbable: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Probable

42. Most people I respect and admire would report fraudulent accounting activity

Unlikely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Likely

43. Most people like me would report fraudulent accounting activity

Agree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Disagree

Direct Measures – Perceived Behavioral Control

44. I am confident that I can report fraudulent accounting activity

True: __1__:__2__:__3__:__4__:__5__:__6__:__7___: False

45. Whether I report fraudulent accounting activity is completely up to me.

Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Agree

46. If I really wanted to I could report fraudulent accounting activity

Likely: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Unlikely

47. For me to report fraudulent accounting activity is under my control.

Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7___: Completely

The final belief that was captured was the overall direct measure of the intention to perform the target behavior of reporting fraudulent accounting activity. This measure was captured by the following items:

Direct Measures – Behavioral Intention

48. I intend to report fraudulent accounting activity

Definitely do :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Definitely do not

49. I will report fraudulent accounting activity

Likely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Unlikely

50. I am willing to report fraudulent accounting activity

False :__1__:__2__:__3__:__4__:__5__:__6__:__7___: True

51. I plan to report fraudulent accounting activity

Agree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Disagree

52. As a professional accountant do you think that it is your responsibility to report fraudulent accounting activity

Disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Agree

53. My reporting fraudulent accounting activity will make me a better professional accountant

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

54. My reporting fraudulent accounting activity is a responsibility as a professional accountant

Disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Agree

To strengthen content validity, Ajzen (2009) outlines an interview process to further review for salient beliefs that may not have been discovered in the elicitation

survey process. This process involved telephone interviews with five professional management accountants where the elicitation survey questions were discussed in an open ended question format to determine if any additional significant salient beliefs could be identified. No additional significant belief items were identified from these discussions.

These salient belief items identified in the elicitation survey formed the basis of the first draft of the TPB survey instrument that was constructed by the researcher. This draft was then reviewed by Dr. Ajzen for comment and advice. A second draft was then prepared and reviewed by Dr. Ajzen. Additional comments were received and the questionnaire draft was revised accordingly. This draft was then reviewed by Dr. Ajzen and after minimal additional comments, final revisions were made and Dr. Ajzen's final agreement was received. The researcher completed all phases of the TPB questionnaire construction, however, the review and comment by Dr. Ajzen added significantly to the thoroughness of the questionnaire and its appropriate applicability to this research. The final entire questionnaire is attached as Appendix B. The excerpts above maintain the final numbering to show where these examples fit in overall the instrument. The items in the questionnaire that were distributed to the participants had the subheadings removed and the items mixed so that leading patterns did not influence the responses.

Pilot Study

It was highly recommended by Fishbein and Ajzen (2010) that the final draft of the questionnaire be submitted to a pilot study. The recommended sample size of a pilot study was 25 (Fishbein and Ajzen, 2010). The results of the pilot study were used to not

only revise the questionnaire items for clarity and understandability, but the results of the pilot survey were also used to run Confirmatory Factor Analysis (CFA) to test for appropriate construct validity, both convergent validity and discriminate validity, using SEM. The results of the pilot study were also analyzed within SEM to determine instrument reliability as measured by composite validity.

IRB Approval

Prior to the distribution of the survey questionnaire, an application was sent to the Institutional Review Board (IRB) at Nova Southeastern University (NSU) for approval of the study proposal, pilot survey, and final survey. This included the plans to obtain written (email) consent from all participants. A promise of anonymity and confidentiality was given to all participants and methodologies were put in place to ensure that questionnaire responses could not be identified back to the individual respondent. Also, data was only reported in aggregate so that individual anonymity was further protected. All digital data was back-up stored in password protected locations that can only be accessed by the primary researcher. Additionally, the population tested, members of the Institute of Management Accountants (IMA), were surveyed through the IMA's FAR that also employed confidentiality measures to protect the identity of the participants and the confidentiality of the data.

Determination of Sample Size

An adequate sample size was required for appropriate analysis and statistical power. A minimum sample size for use with SEM is five sample items for each variable

in the data (Dion, 2007). The sample size of 200 is often times considered appropriate (Hoelter, 1983) and is the minimum sample that will be targeted in this study. However, discussions with the Foundation for Applied Research (FAR), which is the research organization of the IMA, determined that a potential response rate for a survey of this type could yield a sample as large as 300 to 500, which should yield a representative statistical sampling.

Independent and Dependent Variables

The dependent (endogenous) variable in this research was the intention to report fraudulent accounting activity by professional management accountants. The independent (exogenous) variables in this research were comprised of the professional accountants' attitude, subjective norm, and perceived behavioral control.

Data Analysis

As stated, the Institute of Management Accountants distributed the TPB survey instrument and collected the results. The results of the survey questionnaire were then statistically analyzed using Structural Equation Modeling (SEM). A primary reason for this selection was that SEM is a statistical methodology designed to test the relationships of a structural theory, in this case TPB, in a confirmatory manner (Byrne, 2010). SEM's objective is establishing that a theoretical model has a close fit to the sample data and can measure the relationship between manifest (measured) variables and latent (unobservable) variables, and the ability to estimate all of the coefficients in the model simultaneously which yields a measure of the specific relationship within the context of

the entire model (Dion, 2007). Therefore, SEM provides the best analytical methodology for modeling the constructs of TPB that formed the hypotheses for this study as shown in Figure 4.

Chapter Summary

Chapter 3 further outlines the application of TPB as the theoretical framework for this study. The target population, members of the IMA, is discussed as well as the support provided by FAR which included survey distribution, data collection, and grant funding. Detailed discussion is given concerning survey questionnaire construction and the requirement for a pilot study and for IRB approval. The chosen statistical analysis technique, SEM, is described including determination of sample size, the description of variables, and details of data analysis (application of CFA, determination of reliability and politically).

CHAPTER IV

RESULTS

The primary findings and results of the study will be described in this chapter. First, the implementation of the pilot study will be reviewed. The findings of the pilot study will then be discussed in regard to the adjustments that were made in the final research instrument. The implementation of the final research instrument, statistical analysis of all respondent data, and the results of that data will then be presented.

Pilot Study

The pilot study was distributed to a convenience sample of 35 professional management accountants who are members of the IMA. The respondents completed and returned 27 surveys, with only one partially complete survey, which yielded 26 usable surveys. Prior to the distribution of the survey, items had been developed and grouped by construct. In order to avoid respondents answering with the rhythm of the theme of a construct and forming a pattern of answers as opposed to accurately answering the individual item, the items were mixed so that no items common to the same construct would be contiguous (Ajzen, 2009).

The primary purpose of the pilot study was to determine the understandability and clarity of the questions, and the respondent's ability to successfully complete the questionnaire. The respondents were requested to give any feedback in regard to completing the survey. A number of beneficial suggestions were received including:

- Remove the detailed instructions at the beginning of survey that gave examples on correctly completing the seven point Likert scale. There was general understanding among the respondents in the use and completion of such surveys. This adjustment was helpful in shortening the duration of the survey.
- Add demographic items in the area of ethics education as follows:
    - Have you ever taken a college level course in ethics?
    - How many hours of CPE credit in ethics have you taken in the last five years?
- Adjust the item capturing the respondent's professional certifications to allow for entry of multiple certifications.
- Make small corrections in punctuation, spelling and wording clarifications.

In general the overall feedback was positive and the questionnaire was considered straightforward, clear, and easy to complete. The recommended demographic items were added and minor clarifying edits were made. There were several responses that the questionnaire was rather lengthy. However, it was felt that all items should be maintained for the broader survey in order to include all of the salient beliefs and behavioral antecedents that had been selected following the elicitation survey.

The respondents in the pilot study were represented by 65.4% male and 34.6% female. The age ranges represented were 7.7% between 25 and 35, 11.5% between 36 and 46, and 73.1% between 47 and 65. The experience levels represented were 12% from 1 to 5 years, 4% from 6 to 10 years, 8% from 10 to 20 years, and 26% over 20 years. The ranges of the respondents' organizational revenues were 32% less than $40 million, 8% between $40 million and $100 million, 12% between $100 million and $1 billion, 36%

between $1 billion and $10 billion, and 12% over $10 billion. The positions held by the respondents in their respective organizations were 15.4% staff accountant; 7.7% accounting supervisor; 23.1% accounting manager or assistant controller; and 53.8% controller, CFO, or vice president. The educational levels of the participants were 50% bachelor's degrees, 46.2% master's degrees, and 3.8% other. The respondents holding professional certifications were 40% CMAs and 33.3% CPAs; they represented a number of industries including manufacturing 41.7%, financial services 8.3%, transportation 4.2%, consulting 8.3%, healthcare 4.2%, and mining and energy 33.3%.

Full Study

After the adjustments derived from the analysis of the pilot study were made to the survey questionnaire the distribution process was begun. The IMA's Research Foundation was notified, the final survey and email cover letter (Appendix C) were submitted, and the initial distribution was scheduled. The IMA currently has approximately 65,000 members worldwide with approximately 40,000 U.S. members. Previous discussions had been held with the IMA to specify the sample parameters listed below:

- The study targeted U.S. professional accountants, and therefore, international members were excluded from the sample.
- The category of regular membership was chosen in order to sample a broad base of currently active professional accountants.
- The categories of student, academic, and retired membership were excluded. No other categories were excluded in order to capture all ages, genders, education

levels, certifications, job titles, and organizational sizes based upon revenue. The IMA's maximum targeted e-mail survey distribution to its members is 5,000, so distribution at that level was targeted in order to gather as much data as possible. When the selected parameters were applied to the IMA email database a distribution list of 5,061 addresses was generated for the initial survey distribution. These surveys were distributed on July 10, 2011. From this distribution 1,049 of the emails were opened, and the survey was opened 223 times. After approximately one week, on July 16, a second distribution was sent out as a follow-up in an attempt to solicit additional responses. This second distribution generated 982 email openings and an additional 126 survey openings. From this total of 349 survey starts, a total of 305 surveys were submitted to Zoomerang, from which 285 surveys were successfully completed and segregated for analysis. From the Zoomerang statistical file all raw data from the 285 completed surveys, by individual survey and specific item score, was downloaded directly into an SPSS file. A brief discussion of the demographics of the participants that completed the survey and a general overview of their responses follows.

Overview of Survey Demographics

Table 1

Experience Level

1. How many years of experience do you have working as a professional accountant?		
Answer Options	Response Percent	Response Count
1 to 5 years	3.8%	11
6 to 10 years	11.9%	34
11 to 20 years	34.6%	99
Over 20 years	49.7%	141

As a group, the respondents were relatively well experienced with 84.3 (240) having over 10 years of work experience as a professional accountant.

Table 2

Organization Size

2. What are the annual revenues of your organization?		
Answer Options	Response Percent	Response Count
Less than $40 million	32.5%	92
$40 million to $99.99 million	11.9%	34
$100 million to $999.99 million	22.0%	63
$1 billion to $10 billion	18.5%	53
Over $10 billion	15.0%	43

The respondents represented the full range of organizational size with the highest percentage of participants coming from organizations with revenues of less than $40 million. However, the coverage was spread relatively evenly with good representation from even the largest of organizations.

Table 3

Organizational Position

3. What is your position in the organization? Please choose one that most closely fits your position.		
Answer Options	Response Percent	Response Count
Staff Accountant	20.3%	57
Accounting supervisor	10.1%	29
Accounting manager or assistant controller	28.7%	82
Controller, CFO, or VP	40.9%	117

The respondent's level of responsibility followed the same pattern as the levels of experience. Almost 70% (69.6%) of the participants held position of accounting manager, assistant controller, controller, CFO, or VP.

Table 4

Educational Level

4. What is your educational level?		
Answer Options	Response Percent	Response Count
Bachelors	47.6%	136
Masters	50.7%	144
Doctorate	0.0%	0
Other	1.7%	5

The respondents' educational levels were split fairly evenly between bachelor's degrees and master's degrees with 98.3% holding either of those degrees.

Table 5

Certifications

5. Select any certificate(s) in accounting or finance you currently hold. Check all that apply.		
Answer Options	Response Percent	Response Count
CMA	51.0%	146
CPA	32.5%	93
CIA	5.9%	17
CFM	7.0%	20
CGMA	6.6%	19
Other	42.0%	119

Just over one half of the participants hold the IMA's Certificate of Management Accounting. It is difficult to determine beyond the CMA how many of the participants

hold only one certificate as opposed to multiple certificates, this is the reason that the response percent is greater than 100% and the total response count is greater than 285.

Table 6

Industry Type

6. To which industry does your organization belong?		
Answer Options	Response Percent	Response Count
Manufacturing	39.2%	112
Government	8.4%	24
Financial services	17.1%	48
Education	5.6%	16
Transportation	3.1%	9
Management consulting	5.2%	15
Health Care	7.0%	20
Publishing, broadcasting or entertainment	3.1%	9
Telecommunication	2.1%	6
Mining or energy	9.1%	26

Each category of the broad range of potential industry participation was represented by at least some participants with manufacturing (39.2%) and the financial services (17.1%) being the most prevalent and representing the majority.

Table 7

Age

7. What is your age?		
Answer Options	Response Percent	Response Count
Under 25	0.3%	1
25 to 35	7.0%	20
36 to 46	35.7%	102
47 to 65	55.6%	158
Over 65	1.4%	4

The pattern of the ages of the participants followed the demographics of years of experience and level of position with the vast majority (91.3%) of the participants falling in the 36 to 65 year brackets.

Table 8

Gender

8. What is your gender?		
Answer Options	Response Percent	Response Count
Male	49.0%	140
Female	51.0%	145

The gender mix of the respondents is very balanced between male and female.

Table 9

College Level Ethics

9. Have you ever taken a college level course in ethics		
Answer Options	Response Percent	Response Count
Yes	65.0%	185
No	35.0%	100

Somewhat surprisingly over one third of the respondents had never taken a college level ethics course. This may be due to the higher average age of the respondents and the fact that the emphasis towards requiring/offering college level courses in ethics has increased in recent years.

Table 10

Ethics CPE Credit

10. How many hours of CPE credit in ethics have you taken in the last 5 years?		
Answer Options	Response Percent	Response Count
1 - 3	29.7%	85
4 - 6	15.4%	44
7 - 9	11.5%	33
10 or more	43.4%	123

The highest number of responses for hours of CPE credit in ethics the last five years was in the 10 or more category, but with all respondents reporting some hours of CPE ethics. The inclusion of a bracket for zero hours could have added some accuracy to this demographic; however, with the high level of certifications reported by the participants it would be expected that virtually all of the respondents would have accumulated CPE hours in ethics.

The next section will detail the actual responses received in the final survey along with the rating average (mean) and standard deviation of each item.

Overview of Survey Items

Table 11

Evaluation of Outcome (EoO)

1. For me, to support the system of internal control is									
Answer Options	Extremely unimportant						Extremely important	Rating Average	Response Count
	7	0	1	1	12	58	206	6.54	285
Standard Deviation 1.065									
2. For me, to prevent financial loss to the company is									
Answer Options	Extremely unimportant						Extremely important	Rating Average	Response Count
	7	0	0	2	11	55	210	6.56	285
Standard Deviation 1.050									
4. For me, to help retain the integrity and ethical values of the accounting profession is									
Answer Options	Extremely unimportant						Extremely important	Rating Average	Response Count
	4	0	0	2	7	35	237	6.72	285
Standard Deviation .845									
5. For me, to maintain my current employment is									
Answer Options	Extremely unimportant						Extremely important	Rating Average	Response Count
	4	4	6	38	57	66	110	5.73	285
Standard Deviation 1.346									
41. To maintain a positive direction in my career is									
Answer Options	Extremely unimportant						Extremely important	Rating Average	Response Count
	4	2	3	19	25	85	147	6.16	285
Standard Deviation 1.184									

The responses that were elicited in the section concerning the outcomes considered important by professional management accountants form a measure of the participant's attitude towards the behavior. These items include potential outcomes of

reporting fraudulent accounting activity and the respondent's estimation of the importance of the outcome and their feelings of whether the outcome is positive or negative. The first two items support the system of internal controls and prevent financial loss to the company, and are basic responsibilities of a professional accountant. The third item is a measure of the impact on the integrity of the accounting profession from the reporting of fraudulent accounting activity. The last two items reflect the potential impact that this behavior could have on the individual's current position and future career. The strongest measure of importance in this section was related to retaining the integrity and ethical values of the profession with a mean of 6.72 and a standard deviation of 0.845. The next two items in order of importance were the support of the system of internal control and the prevention of financial loss to the company with respective means of 6.54 and 6.56. The last two items in this section, in reference to maintenance of current employment and positive direction in career, received lower weights of importance with means of 5.73 and 6.16 respectively. The overall mean of all items in this section was 6.34 with a SD of 0.701.

Table 12

Behavioral Belief Strength (BBS)

12. My reporting fraudulent accounting activity will help maintain a positive direction in my career									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	2	10	8	49	56	63	97	5.54	285
Standard Deviation 1.418									
14. My reporting fraudulent accounting activity will support the system of internal controls									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	0	0	1	9	14	76	185	6.52	285
Standard Deviation .762									
16. My reporting fraudulent accounting activity will prevent financial loss to the company									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	2	2	5	35	38	84	119	5.92	285
Standard Deviation 1.217									
20. My reporting fraudulent accounting activity will help maintain my current employment									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	5	13	14	74	43	58	78	5.19	285
Standard Deviation 1.557									
42. My reporting fraudulent accounting activity will retain the integrity and ethical values of the accounting profession									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	0	1	2	7	20	81	174	6.45	285
Standard Deviation .831									

Whereas the items concerning evaluation of outcomes form a measure of the importance of the elements of the attitude towards reporting fraudulent accounting behavior the items of behavioral belief strength are a measure of the likelihood of that result occurring. Of the five items in this section, the support of the system of internal controls and retention of the integrity and ethical values of the accounting profession received the strongest scores with means 6.52 and 6.45 respectively. Results of the measure of prevention of financial loss to the company received a mean score of 5.92 and the strength of the likelihood of maintaining my current employment and a positive direction in my career scored means of 5.19 and 5.54 respectively. The overall mean of all items in this section was 5.93 with a SD of .845.

Table 13

Motivation to Comply (MTC)

3. When it comes to my professional accounting activities, I want to do what our shareholders think I should do									
Answer Options	Not at all						Very much	Rating Average	Response Count
	16	30	22	51	50	46	70	4.78	285
Standard Deviation 1.853									
13. When it comes to my professional accounting activities, I want to do what my supervisor thinks I should do									
Answer Options	Not at all						Very much	Rating Average	Response Count
	8	19	21	74	72	57	34	4.72	285
Standard Deviation 1.491									
23. When it comes to my professional accounting activities, I want to do what senior financial management thinks I should do									
Answer Options	Not at all						Very much	Rating Average	Response Count
	8	21	20	72	58	73	33	4.76	285
Standard Deviation 1.525									

43. When it comes to my professional accounting activities, I want to do what other professional accountants think I should do									
Answer Options	Not at all						Very much	Rating Average	Response Count
	11	16	14	41	60	82	61	5.15	285
Standard Deviation 1.608									

48. When it comes to my professional accounting activities, I want to do what the financial regulatory agencies think I should do									
Answer Options	Not at all						Very much	Rating Average	Response Count
	4	5	8	32	36	100	100	5.77	285
Standard Deviation 1.329									

51. When it comes to my professional accounting activities, I want to do what the culture of my company would call for me to do									
Answer Options	Not at all						Very much	Rating Average	Response Count
	21	17	18	72	45	60	52	4.72	285
Standard Deviation 1.757									

The elements of the motivation to comply measure the interest that the respondents indicate in regard to their significant referents and professional accounting activities. The primary significant referents are shareholders, supervisors, senior financial management, company culture, other professional accountants and financial regulatory agencies. Of these significant influences, regulatory agencies scored the highest with a mean of 5.77; other professional accountants next with a mean of 5.15; and shareholders, supervisors, senior financial management, and company culture all scoring lower with means falling between 4.72 and 4.78. The overall mean of all items in this section was 4.99 with a SD of 1.12.

Table 14

Injunctive Belief Strength (IBS)

9. Senior financial management thinks that I should report fraudulent accounting activity									
Answer Options	Strongly disagree						Strongly agree	Rating Average	Response Count
	14	10	10	17	16	38	180	5.96	285
Standard Deviation 1.745									
11. My supervisor thinks that I should report fraudulent accounting activity									
Answer Options	Strongly disagree						Strongly agree	Rating Average	Response Count
	9	8	7	21	16	48	176	6.06	285
Standard Deviation 1.561									
15. Financial regulatory agencies think that I should report fraudulent accounting activity									
Answer Options	Strongly disagree						Strongly agree	Rating Average	Response Count
	1	0	1	6	11	39	227	6.68	285
Standard Deviation .759									
31. Shareholders think that I should report fraudulent accounting activity									
Answer Options	Strongly disagree						Strongly agree	Rating Average	Response Count
	1	6	0	30	22	72	154	6.14	285
Standard Deviation 1.207									
33. Other accounting professionals think that I should report fraudulent accounting activity									
Answer Options	Strongly disagree						Strongly agree	Rating Average	Response Count
	2	1	1	14	20	82	165	6.35	285
Standard Deviation .993									
34. My company's corporate culture would call for me to report fraudulent accounting activity									
Answer Options	Strongly disagree						Strongly agree	Rating Average	Response Count
	3	9	4	19	27	70	153	6.08	285
Standard Deviation 1.337									

These items measure injunctive belief strength, the perceived intention of referent others in regard to the respondents reporting of fraudulent accounting activity. The strongest influence in this area was shown to be financial regulatory agencies reporting a mean of the 6.68. The next strongest score was related to other accounting professionals with a mean of 6.35. The influence of shareholders, supervisors, senior financial management and company culture fell within the means of 5.96 and 6.14. The overall mean of all items in this section was 6.21 with a SD of 0.838.

Table 15

Power of Each Control Factor (PCF)

21. Availability of an anonymous hotline would make my reporting fraudulent accounting activity									
Answer Options	More difficult						Easier	Rating Average	Response Count
	0	0	2	36	33	53	161	6.17	285
Standard Deviation 1.111									
36. I fear retaliation from senior financial management for reporting fraudulent accounting activity									
Answer Options	Agree						Disagree	Rating Average	Response Count
	10	23	21	34	18	71	108	5.35	285
Standard Deviation 1.831									
40. I fear retaliation from my company for reporting fraudulent accounting activity									
Answer Options	Agree						Disagree	Rating Average	Response Count
	11	15	19	43	16	74	107	5.41	285
Standard Deviation 1.762									
44. I fear retaliation from regulatory agencies for reporting fraudulent accounting activity									
Answer Options	Agree						Disagree	Rating Average	Response Count
	3	9	3	25	17	52	176	6.16	285
Standard Deviation 1.370									

45. I fear retaliation from other professional accountants for reporting fraudulent accounting activity									
Answer Options	Agree						Disagree	Rating Average	Response Count
	5	6	7	27	21	63	156	6.03	285
Standard Deviation 1.418									

49. I fear retaliation from my supervisor for reporting fraudulent accounting activity									
Answer Options	Agree						Disagree	Rating Average	Response Count
	8	14	12	32	19	78	122	5.67	285
Standard Deviation 1.649									

The power of each control factor measures the respondents' beliefs as to the elements that would make their completion of the behavior easier, or the impediments that might interfere with the completion of the behavior and make it more difficult. The primary feature in this area to assist in the reporting of fraudulent accounting activity is the existence of an anonymous hotline. This element scored a mean of 6.17 in making the reporting of fraudulent accounting activity easier. The primary element that was seen as an impediment to reporting fraudulent accounting activity was a threat of retaliation. The strongest measures of fear of retaliation were from senior financial management and from the company, generally making the behavior more difficult, with means of 5.35 and 5.41 respectively. Fear of retaliation from a supervisor was the next strongest with a mean of 5.67. Fear of retaliation from other professional accountants or from regulatory agencies was reported as lower impediments with mean scores of 6.03 and 6.16 respectively. The overall mean of all items in this section was 5.80 with a SD of 1.102.

Table 16

Control Belief Strength (CBS)

6. An anonymous hotline for reporting fraudulent accounting activity is									
Answer Options	Easily accessible						No access	Rating Average	Response Count
	87	32	29	35	10	18	74	4.30*	285
Standard Deviation 2.415									
22. Retaliation from my supervisor for my reporting fraudulent accounting activity is									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	108	70	13	50	17	15	12	5.38*	285
Standard Deviation 1.802									
25. Retaliation from my company for my reporting fraudulent accounting activity is									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	111	69	22	38	22	12	11	5.45*	285
Standard Deviation 1.763									
27. Retaliation from senior financial management for my reporting fraudulent accounting activity is									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	102	70	27	37	18	18	13	5.33*	285
Standard Deviation 1.821									
46. Retaliation from regulatory agencies for my reporting fraudulent accounting activity is									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	150	78	20	21	8	2	6	6.08*	285
Standard Deviation 1.371									
52. Retaliation from other professional accountants for my reporting fraudulent accounting activity is									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	130	89	18	30	8	6	4	5.94*	285
Standard Deviation 1.406									

Control belief strength is the measure of the potential availability of elements that would assist in the behavior (in this case a fraud reporting hotline) or likelihood of the presence of a deterrent to the behavior (retaliation). The score of the responses concerning the ease of access to an anonymous fraud reporting hotline were relatively low with a mean of 4.3, with 74 respondents showing "no access" to a hotline and 28 respondents showing limited access (all means shown with an * in the tables have had their polarity reversed to account for items whose scales were mixed positive to negative versus negative to positive). The measures of the likelihood of retaliation showed that the highest expected likelihood of retaliation would be from senior financial management, supervisors and the company in general with means ranging from 5.33 to 5.45 respectively. The overall mean of all items in this section was 5.40 with a SD of 1.162.

Table 17

Direct Measures Attitude (DMA)

7. My reporting fraudulent accounting activity is									
Answer Options	Good						Bad	Rating Average	Response Count
	172	65	15	26	3	1	3	6.24*	285
Standard Deviation 1.215									
17. My reporting fraudulent accounting activity is									
Answer Options	Harmful						Beneficial	Rating Average	Response Count
	0	1	2	14	26	69	173	6.38	285
Standard Deviation .935									
26. My reporting fraudulent accounting activity is									
Answer Options	Unpleasant						Pleasant	Rating Average	Response Count
	62	37	33	105	22	16	10	3.27	285
Standard Deviation 1.650									

37. My reporting fraudulent accounting activity is									
Answer Options	Interesting						Uninteresting	Rating Average	Response Count
	47	49	41	126	8	6	8	4.83*	285
Standard Deviation 1.427									

47. As a professional accountant do you think that it is important to report fraudulent accounting activity									
Answer Options	Extremely unimportant						Extremely important	Rating Average	Response Count
	3	1	1	3	6	43	228	6.68	285
Standard Deviation .867									

The items related to the direct measures of attitude towards the behavior of reporting fraudulent accounting activity measure the respondents' indications of whether such reporting is good or bad, harmful or beneficial, unpleasant or pleasant, interesting or uninteresting or an important responsibility of a professional management accountant. This segment of indicators had a wide range of means from a low of 3.27 related to the unpleasantness of reporting, to a high of 6.68 showing a strong statement of the importance of reporting. The overall mean of all items in this section was 4.58 with a SD of .560.

Table 18

Direct Measures Perceived Norms (DMPN)

8. Most people who are important to me think that I should report fraudulent accounting activity									
Answer Options	True						False	Rating Average	Response Count
	210	47	13	6	3	1	5	5.51*	285
Standard Deviation 1.148									
18. Most people whose opinions I value would approve of my reporting fraudulent accounting activity									
Answer Options	Improbable						Probable	Rating Average	Response Count
	0	0	0	5	15	60	205	6.63	285
Standard Deviation .673									
28. Most people I respect and admire would report fraudulent accounting activity									
Answer Options	Unlikely						Likely	Rating Average	Response Count
	0	2	3	11	30	84	155	6.29	285
Standard Deviation .969									
38. Most people like me would report fraudulent accounting activity									
Answer Options	Agree						Disagree	Rating Average	Response Count
	133	84	25	21	9	11	2	5.94*	285
Standard Deviation 1.421									

The direct measures of perceived norms are an indication of the respondent's expectations of the thoughts and actions of those significant to them as professional accountants. This involves those of importance, whose opinions are valued, who are respected and admired, and are most like the respondents, with means running from a low of 5.51 to a high of 6.63. The strongest of these measures being in the area of the people whose opinions are valued with 265 responses in the most probable categories. The overall mean of all items in this section was 6.33 with a SD of 0.774.

Table 19

Direct Measures Perceived Behavioral Control (DMPBC)

19. Whether I report fraudulent accounting activity is completely up to me									
Answer Options	Disagree						Agree	Rating Average	Response Count
	16	24	15	11	28	65	126	5.49	285
Standard Deviation 1.915									
24. I am confident that I can report fraudulent accounting activity									
Answer Options	True						False	Rating Average	Response Count
	182	60	9	8	8	14	4	6.19*	285
Standard Deviation 1.497									
29. If I really wanted to I could report fraudulent accounting activity									
Answer Options	Likely						Unlikely	Rating Average	Response Count
	170	62	11	15	5	13	9	6.05*	285
Standard Deviation 1.619									
39. For me to report fraudulent accounting activity is under my control									
Answer Options	Not at all						Completely	Rating Average	Response Count
	1	3	6	16	39	66	154	6.16	285
Standard Deviation 1.156									

The direct measures of perceived behavioral control are an indication of the respondent's beliefs in their ability to actually carry out the behavior of reporting fraudulent accounting activity. The weakest of these measures, with a mean of 5.49, related to whether or not reporting is completely up to the respondent. The strongest of these measures, with a mean of 6.19, was in reference to the respondent's confidence in reporting. The overall mean of all items in this section was 4.88 with a SD of 0.799.

Table 20

Direct Measures Behavioral Intention (DMBI)

10. I intend to report fraudulent accounting activity									
Answer Options	Definitely do						Definitely do not	Rating Average	Response Count
	219	49	4	3	3	3	4	6.58*	285
Standard Deviation 1.106									
30. I am willing to report fraudulent accounting activity									
Answer Options	False						True	Rating Average	Response Count
	0	3	2	2	12	50	216	6.63	285
Standard Deviation .813									
32. I will report fraudulent accounting activity									
Answer Options	Likely						Unlikely	Rating Average	Response Count
	195	58	5	12	4	8	3	6.37*	285
Standard Deviation 1.299									
35. I plan to report fraudulent accounting activity									
Answer Options	Agree						Disagree	Rating Average	Response Count
	188	47	11	18	4	7	10	6.17*	285
Standard Deviation 1.557									
50. My reporting fraudulent accounting activity is a responsibility as a professional accountant									
Answer Options	Disagree						Agree	Rating Average	Response Count
	0	2	1	2	4	43	233	6.74	285
Standard Deviation .671									
53. My reporting fraudulent accounting activity will make me a better professional accountant									
Answer Options	Extremely unlikely						Extremely likely	Rating Average	Response Count
	1	2	14	50	52	72	94	5.6	285
Standard Deviation 1.304									

54. As a professional accountant do you think that it is your responsibility to report fraudulent accounting activity									
Answer Options	Disagree						Agree	Rating Average	Response Count
	0	0	1	2	5	43	234	6.77	285
Standard Deviation .550									

The direct measures of behavioral intention are a measure of the specific intention to report fraudulent accounting activity. These items were specifically determined to measure the respondent's direct intention and willingness to report fraudulent accounting activity, and provide a measure of their belief that this is their responsibility. Only one item did not receive a very strong score in this factor, which was the issue of whether or not reporting fraudulent accounting activity would make a participant a better professional account with a mean of 5.6. The remaining items all scored more strongly with means ranging from 6.17 to a high of 6.77. This high score of 6.77 was for the question, "do you think that it is your responsibility to report fraudulent accounting activity," which represented the highest score of any item in the survey.

Preparation of Survey Data

The next steps in the analysis of the results of the full survey involved the reformatting, labeling, and recoding of each item in the survey. As mentioned, the survey items were remixed from construct order to a random order prior to distribution; therefore, it was required to regroup the items back into their original constructs, so the items were labeled with codes that identified each specifically to each construct. Also, as mentioned, the polarity of all of the items was reset to run from negative (1) to positive

(7) so that all scoring would be compatible. The results of the recoding and reformatting are shown in Table 21.

Table 21

Construct Order Item Coding

Construct Coding	Survey Item #	Construct Order Item #	Belief or Concept Measured by the Item
EoO1	1	1	Support the system of internal control
EoO2	2	2	Prevent financial loss to the company
EoO3	4	3	Retain integrity and ethical values of the profession
EoO4	5	4	Maintain current employment
EoO5	41	5	Maintain a positive direction in my career
BBS2	14	6	RFAA will support the system of internal control
BBS3	16	7	RFAA will prevent financial loss to the company
BBS5	42	8	RFAA will retain integrity and ethical values
BBS4	20	9	RFAA will maintain current employment
BBS1	12	10	RFAA will maintain a positive direction in career
MTC1	3	11	Do what our shareholders think I should do
MTC2	13	12	Do what my supervisor thinks I should do
MTC3	23	13	Do what senior fin. man. thinks I should do
MTC6	51	14	Do what the culture of my company would call for
MTC4	43	15	Do what other professional accountants think I should do
MTC5	48	16	Do what the financial regulators think I should do
IBS4	31	17	Shareholders think I should RFAA
IBS2	11	18	My supervisor thinks I should RFAA
IBS1	9	19	Senior financial management thinks I should RFAA
IBS6	34	20	My company culture would call for me to RFAA
IBS5	33	21	Accounting professionals think that I should RFAA
IBS3	15	22	Financial regulators think that I should RFAA
PCF1	21	23	Available anonymous hotline would support RFAA
PCF6	49	24	Fear of retaliation from my supervisor would impact my RFAA
PCF2	36	25	Fear of retaliation from senior financial management would impact my RFAA
PCF3	40	26	Fear of retaliation from my company would impact my RFAA
PCF5	45	27	Fear of retaliation from other professional accountants would impact my RFAA
PCF4	44	28	Fear of retaliation from regulatory agencies would impact my RFAA
CBS1*	6*	29	An anonymous hotline for my RFAA is available
CBS2*	22*	30	My supervisor would retaliate for my RFAA
CBS4*	27*	31	Senior financial management would retaliate for my RFAA

CBS3*	25*	32	My company would retaliate for my RFAA
CBS6*	52*	33	Professional accountants would retaliate for my RFAA
CBS5*	46*	34	Regulatory agencies would retaliate for my RFAA
DMA1*	7*	35	My RFAA is good
DMA2	17	36	My RFAA is beneficial
DMA3	26	37	My RFAA is pleasant
DMA4*	37*	38	My RFAA is interesting
DMA5	47	39	As a professional accountant is it important that I RFAA
DMPM1*	8*	40	Those important to me think I should RFAA
DMPN2	18	41	Those whose opinions I value approve my RFAA
DMPN3	28	42	Those who I respect and admire would RFAA
DMPN4*	38*	43	People like me would RFAA
DMPBC2*	24*	44	I am confident that I can RFAA
DMPBC1	19	45	Whether I RFAA is completely up to me
DMPBC3*	29*	46	If I really wanted to I could RFAA
DMPBC4	39	47	To RFAA is under my control
DMBI1*	10*	48	I intend to RFAA
DMBI3*	32*	49	I will RFAA
DMBI2	30	50	I am willing to RFAA
DMBH4*	35*	51	I plan to RFAA
DMBI7	54	52	As a professional accountant is it my responsibility to RFAA
DMBI6	53	53	My RFAA will make me a better professional accountant
DMBI5	50	54	My RFAA is a responsibility as a professional accountant

Note. RFAA = Report Fraudulent Accounting Activity; * indicates reset polarity.

Confirmatory Factor Analysis

The next analytical step performed was to run Confirmatory Factor Analysis (CFA). Keith (2006) states:

> At its most basic level, factor analysis is a reduction technique, a method of reducing many measures into fewer measures. The methodology works by placing tests or items that correlate highly with each other on one factor, while placing items that correlate at a low level with each other with on different factors. Because one primary reason items correlate highly with one another is that they measure the same construct, factor analysis provides insights as to the common constructs measured by a set of tests or items. Because it helps answer questions about the constructs measured by a set of items, factor analysis is a major method of establishing the validity of tests, questionnaires, and other measures. You can

> also think of factor analysis as a method of establishing convergent and divergent validity; items that measure the same thing form a factor (converge) whereas items that measure different constructs form a separate factor (diverge). (p. 305)

The application of CFA is very appropriate for testing the theoretically well established constructs of TPB. Byrne (2010) states "Confirmatory factor analysis of a measuring instrument is most appropriately applied to measures that have been fully developed and their factor structures validated" (p. 97).

The theory applied in this study, TPB, is a well-developed and extensively used theory in behavioral research. However, its application to this area of accounting is new and required a new original survey instrument. Therefore, CFA was used for each construct separately to determine the degree to which the proposed items measured each construct and to delete items that were not contributing to the construct. In preparation for the running of the CFA the three composite indirect constructs were created. These three composite constructs, attitude toward behavior (ATB), perceived norm (PN), and perceived behavioral control (PBC), were created by multiplying the indirect outcome items times their related valuation items. The first of these composite constructs is the attitude toward the behavior (ATB) which is the product of the individual items of the evaluation of the outcome (EoO) multiplied times the related value item from behavioral belief strength (BBS). For example, the results of the first outcome item related to the reporting of fraudulent accounting activity from EoO (the measure of the importance of the support for the system of internal control) is multiplied times the results of the first value item in BBS related to the measure of the belief of the strength of the impact that reporting fraudulent accounting activity has on the system of internal control. The product of these two indirect items formed the measure of attitude concerning support for

the system of internal control in reference to reporting fraudulent accounting activity in the composite construct attitude toward behavior (ATB). This methodology was repeated for each concept, belief, and referent other covered in the indirect constructs (re: internal control, financial loss, integrity and ethical values, shareholders, supervisors, regulators, hot line availability, retaliation etc.).

CFA was applied to each of the seven individual constructs, and the details of the full analysis, by construct, are shown below. These depictions show the details of the CFA analysis of the constructs and the related final best determined construct structure in regard to the most effective balance of the strength of the factor loadings and general goodness-of-fit (GOF) measures. It is recommended that an array of GOF indices be used (Dion, 2007; Hair, 2010). Therefore, the measures of Chi square and degrees of freedom (df), RMSEA, comparative fit index (CFI), and standardized root mean square residual (SRMR) were chosen for the GOF analysis based upon the recommendations of Dion (2007), Hair (2010), and Keith (2006). The latter three of these indices in particular, have been supported in simulation research (Hu & Bentler, 1998, 1999).

Additionally, Cronbach's Alpha was calculated for each of the final constructs as a measure of reliability (Dion, 2007; Hair, 2010). In summary, the parameters of the final constructs predominantly meet a reasonable mix of minimum requirements, as set forth below, with exceptions noted. Hair (2010) states:

> A simple rule for index values that distinguishes good models from poor models across all situations cannot be offered. It cannot be overemphasized that these are *guides for usage, not rules that guarantee a correct model*. Thus, no specific value on any index can separate models into acceptable and unacceptable fits. However, several general guidelines used together can assist in determining the acceptability of fit for a given model. (p. 646)

Hair (2010) went on to add:

> The pursuit of better fit at the expense of testing a true model is not a good trade-off. Many model specifications can influence model fit, so the researcher should be sure that all model specifications should be done to best approximate the theory to be tested rather than hopefully increase model fit. (p. 647)

An overview of the chosen model modification procedures included:

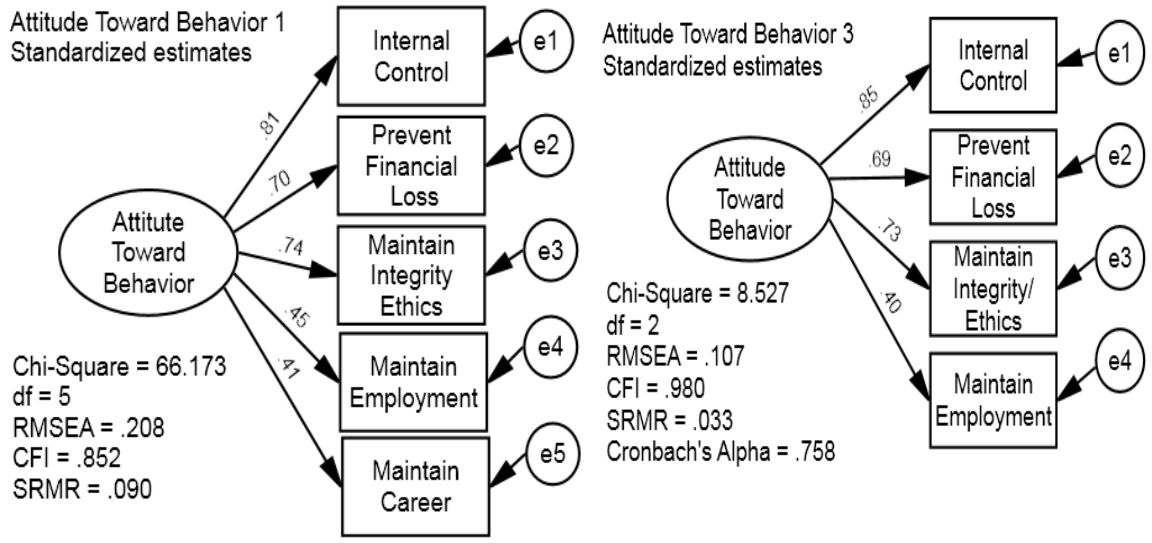
- Factor loading strength - through a process of deleting items with low factor loadings combined with a review of modification indices and appropriate error correlation, all final construct factor loadings were improved to a level greater than the required minimum of .30 (Dion, 2007; Hair, 2010). These modifications reduced the numbers of items from 54 down to 44 and generated a reasonable to strong level of loadings for each factor.
- RMSEA – a range for the cutoff for acceptable minimum scores of < .05 or < .08 are discussed by Dion, Hair, and Keith (Dion, 2007; Hair, 2010; Keith, 2006). Several of the final RMSEA scores slightly exceeded the upper limit of these requirements. RMSEA values are affected by degrees of freedom, with small df models often showing high values of RMSEA (Kenny, Kaniskan, & McCoach, 2011).
- CFI – a minimum score of > 0.95 is generally recommended (Dion, 2007; Hair, 2010; Keith, 2006). This requirement for CFI is exceeded for all models.
- SRMR – the targeted values for this measure are similar to those of RMSEA where the cut-off of < 0.05 or < 0.08 is generally discussed (Dion, 2007; Hair, 2010; Keith, 2006). All measures of SRMR were within the lower boundary (<.05) of this criteria.

- Cronbach's Alpha – the generally accepted limit for this measure is 0.70 (Dion, 2007; Hair, 2010). Of the seven constructs, four had Cronbach's Alpha that exceeded 0.70. Two had estimates between 0.60 and 0.70, and one had an estimate between 0.50 and 0.60. These results will be subsequently further discussed.

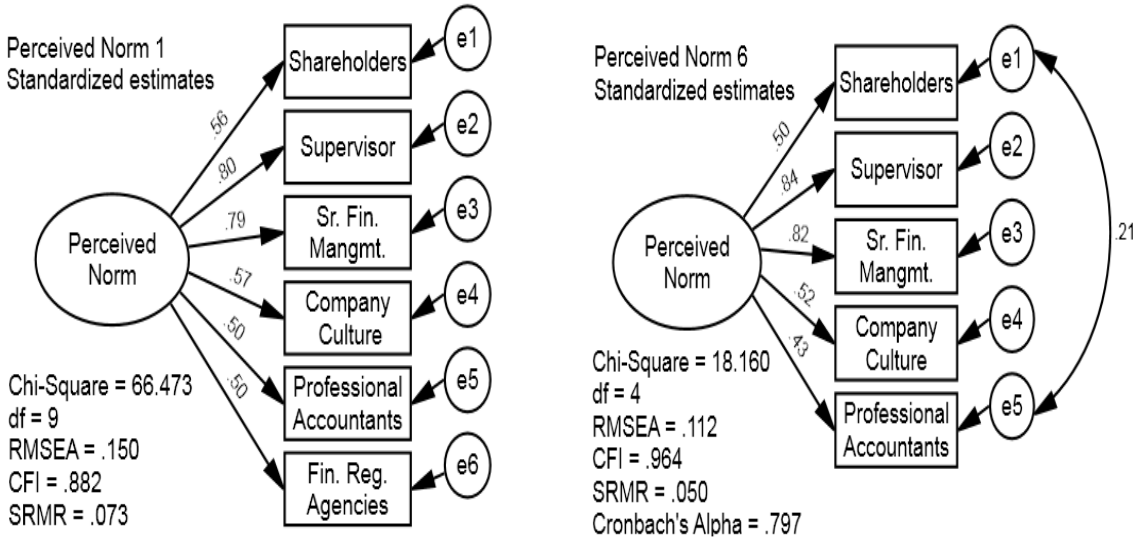
The reduction in items combined with the addition of error correlation (Figure 5) yielded final constructs that also met the requirement of a minimum of three items per construct (Dion, 2007; Hair, 2010).

Two of the seven constructs were just-identified; therefore, goodness-of-fit measures were not applicable. This issue will be subsequently further discussed.

Figure 5. Confirmatory Factor Analysis

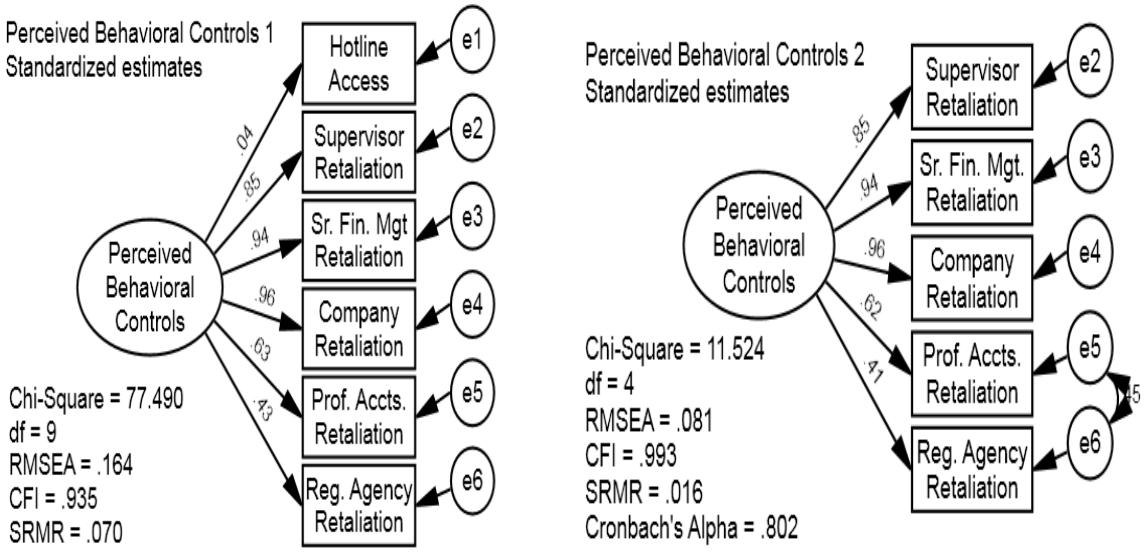


The item with the weakest loading in the initial CFA analysis was related to maintaining career. When this item was eliminated the overall model fit improved, as shown in the GOF indicators above. The number associated with the title of each CFA model indicates the number of steps required to reach the final best chosen model.

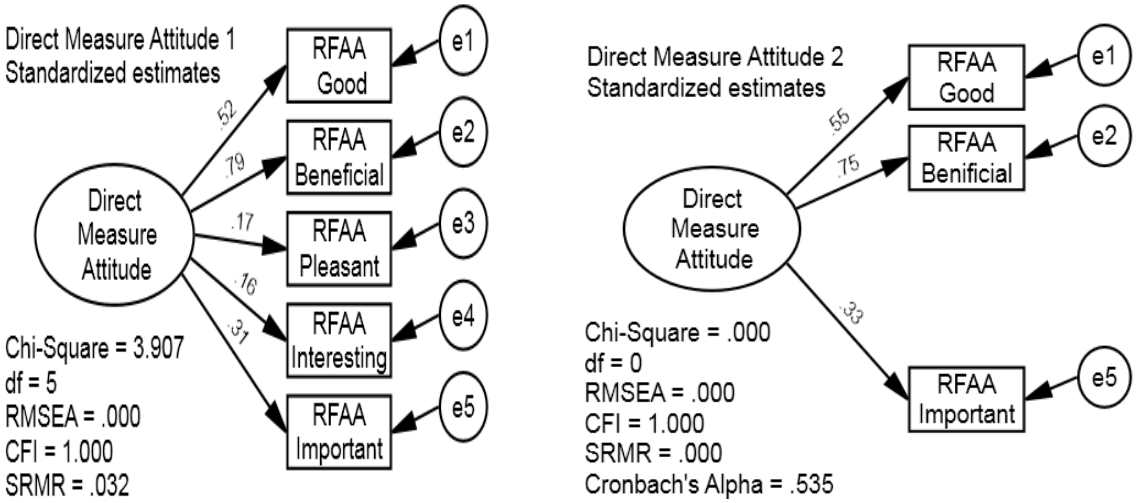


Removing the item related to financial regulatory agencies and correlation of the errors between e1 and e5 yielded the best set of model fit indices. The failure of the item related to financial regulatory agencies to load and be considered in the analysis will be subsequently further discussed.

Figure 5. Confirmatory Factor Analysis (continued)

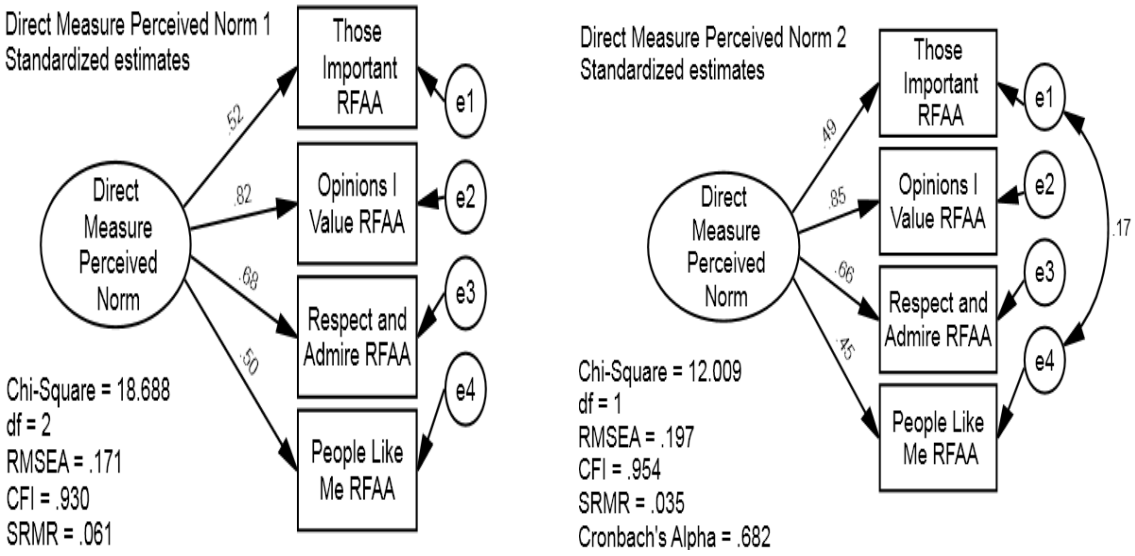


The item concerning hotline access is shown to have loaded very weakly and was dropped in the final model chosen. As previously discussed, hot line availability is a significant issue in the reporting of fraudulent activity, and therefore, is an issue for further discussion and for further research as will be described in chapter five.

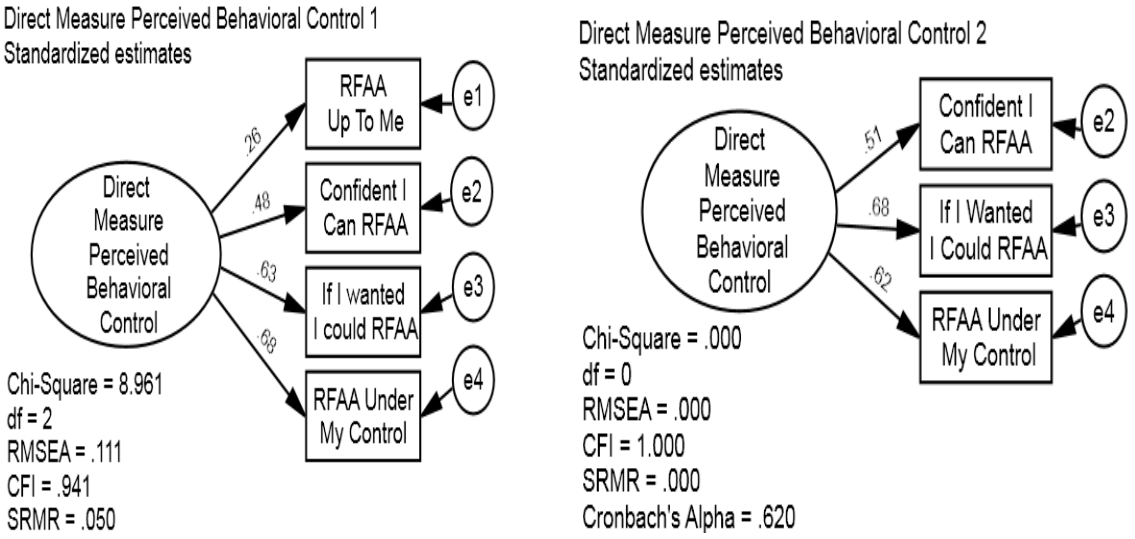


Two of the items in direct measure of attitude, pleasant and interesting, did not load well and were dropped. Both of these items received very low scores in the survey. The remaining concepts of good, beneficial, and important remained as indicators of attitude.

Figure 5. Confirmatory Factor Analysis (continued)

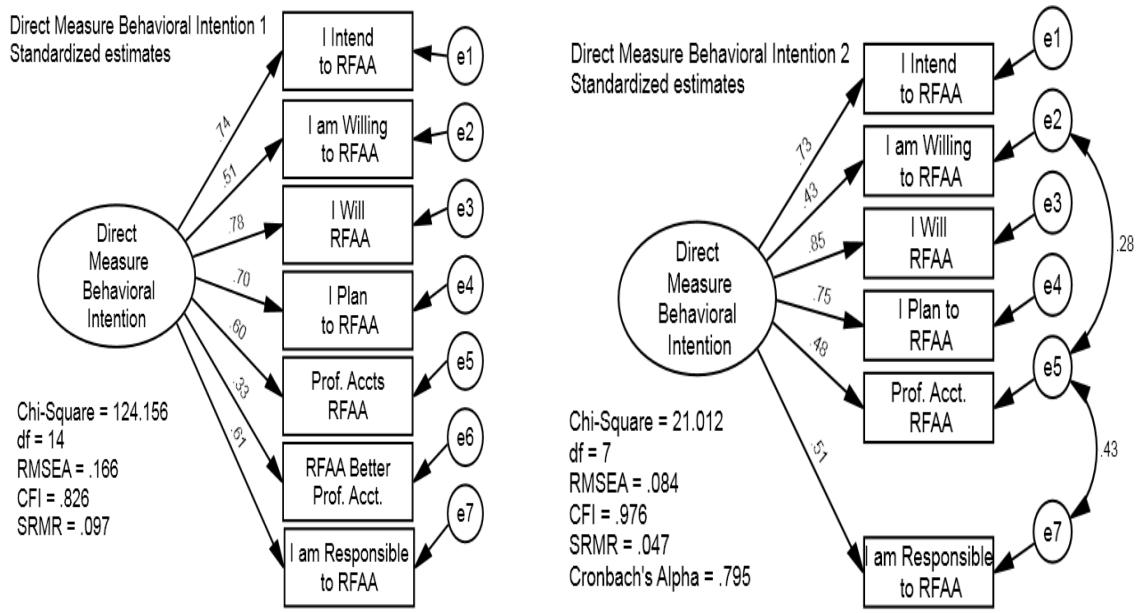


All of the original items of direct measure of perceived norm loaded relatively well in the initial CFA run, and the mix of GOF indicators was only slightly improved in the second run.



In the measure of perceived behavioral control the item related to the reporting of fraudulent accounting activity being completely up to me, did not load well and was dropped.

Figure 5. Confirmatory Factor Analysis (continued)



The only item that did not load strongly in the direct measures of behavioral intention was related to reporting fraudulent accounting activity making me a better professional accountant. When it was dropped the GOF indicators improved substantially.

Although several of the GOF parameters diverge slightly from the general guidelines, the majority of the indexes, particularly, CFI, SRMR, and Cronbach's Alpha, are strongly within, and are often near the high end of the fit guideline range. Additionally, based upon Hair's (2010) recommendation concerning GOF, additional methods such as further reducing items or reducing sample size by eliminating certain participants, were not pursued in order to maintain the theoretical integrity of the proposed TPB model. The issue of alternative model structures will be subsequently further discussed.

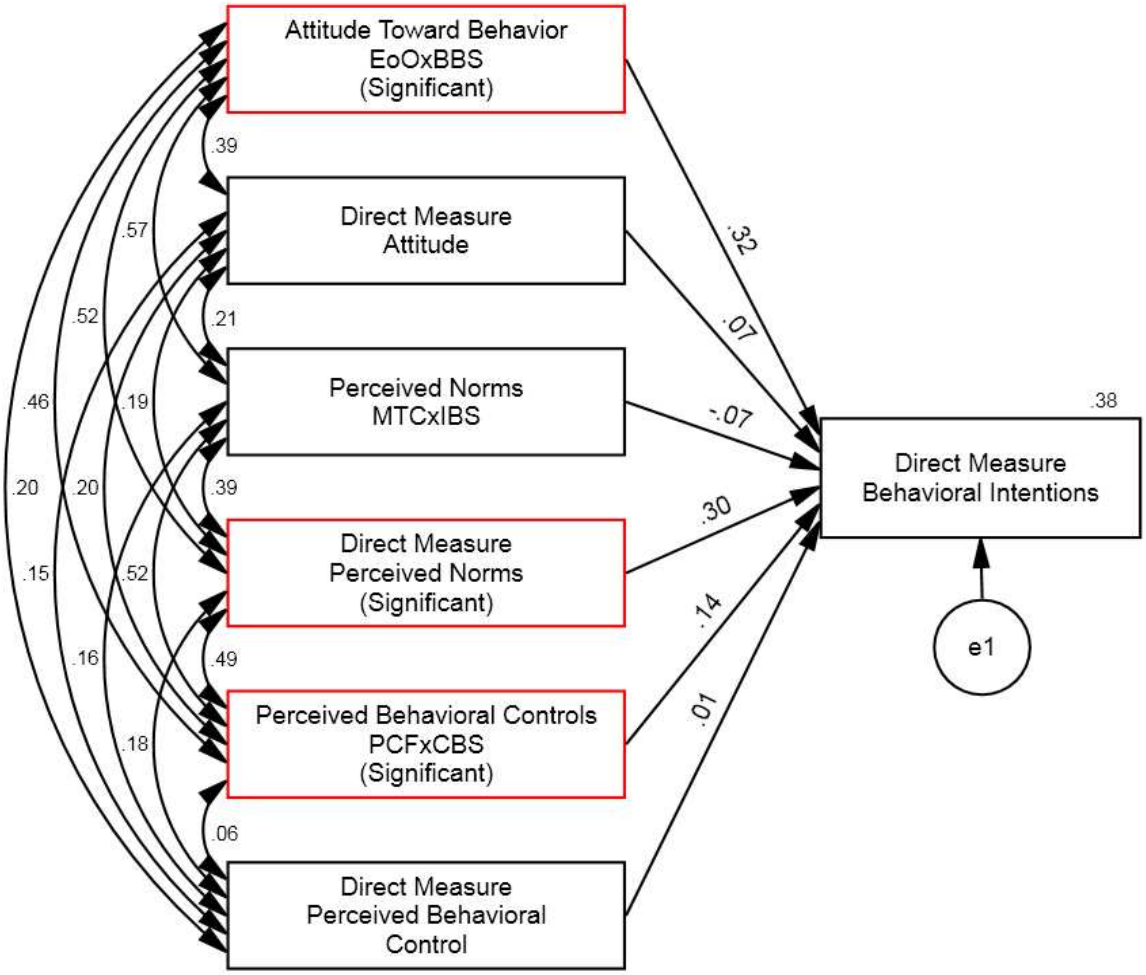
Structural Equation Model

Following completion of the CFA and resulting determination of combinations of construct items, the number of items was reduced from the original survey number of 54

to a final number of 44. The results of these final items were then analyzed in an SEM model.

The SEM model was specified to the requirements of the TPB with six exogenous observed constructs, three of which are the composites of the indirect measures that are presumed to affect the observed endogenous construct. The structure of this model combined with the 44 items reduced from the CFA resulted in a just-identified or saturated model that, by definition, perfectly fits the data. Therefore, there are no meaningful fit indices (Hair, 2010). The issue of the just-identified nature of the SEM model will be further discussed in chapter 5 as an area for further research. The resultant SEM model relationships are shown in Figure 6.

Figure 6. SEM Multiplication Model Results



Three of the exogenous constructs, attitude toward behavior (ATB), direct measure of perceived norm (DMPN), and perceived behavioral control (PBC), outlined in red, had statistically significant effects on the endogenous construct of the direct measure of behavioral intention (DMBI) with positive coefficients of 0.32 ($p<.01$), 0.30 ($p<.01$), and 0.14 ($p<.05$) respectively. These results indicate that in the area of a professional accountant's attitude toward the behavior of reporting fraudulent accounting activity their strong support for the system of internal control, prevention of financial loss, and for the

integrity and ethical values of the accounting profession, have a positive and significant effect on their strongly positive indication of the intention to report fraudulent accounting activity.

The effects of direct measure of attitude (DMA), perceived norm (PN), and direct measure of perceived behavioral control (DMPBC) were small and not statistically significant.

Also, the squared multiple correlation of 0.38 for the overall model is an indication of the level that the exogenous factors predict or account for the results of the direct measure of behavioral intention (DMBI; Schumacker & Lomax, 2004).

Based upon the results of the SEM analysis of the construct relationships presented, the support for the hypotheses of the study can now be examined.

H_1. Professional management accountants' attitude (the product of the behavioral beliefs as to their evaluation of outcomes from the reporting of fraudulent accounting activity multiplied by the strength of these behavioral beliefs) will have a positive relationship with their intention toward that behavior. The path coefficient of 0.32 approximates a relatively strong relationship between the concepts/factor of the attitude toward the behavior (ATB) and the direct measure of behavioral intention (DMBI) that indicates that for every 1.0 standard deviation increase in ATB there is a probable 0.32 standard deviation increase in the measure of DMBI. Therefore, H_1 is supported.

H_2. The direct measures of professional management accountants' attitude towards reporting fraudulent accounting activity will have a positive relationship with their intention toward that behavior. The path coefficient of .07 indicates a lack of a

meaningful relationship between the factors of the direct measures of attitude (DMA) and the direct measures of behavioral intention (DMBI); therefore, H_2 is not supported.

H_3. Professional management accountants' perceived norms (the product of their motivation to comply multiplied by the injunctive belief strength of their perception of their significant others' beliefs in regard to reporting fraudulent accounting activity) will have a positive relationship with their intention toward that behavior. The path coefficient of -.07 shows a lack of a meaningful relationship between the factors of perceived norm (PN) and direct measure of behavioral intention (DMBI); therefore, H_3 is not supported.

H_4. The direct measures of professional management accountants' perceived norms towards reporting fraudulent accounting activity will have a positive relationship with their intention toward that behavior. The path coefficient of 0.30 indicates a positive and meaningful relationship between the factors of the direct measures of perceived norms (DMPN) and the direct measures of behavioral intention (DMBI); therefore, H_4 is supported.

H_5. Professional management accountants' perceived behavioral control (the product of their perceived power of control factors multiplied by the strength of their control beliefs in regard to reporting fraudulent accounting activity) will have a positive relationship with their intention toward that behavior. The path coefficient of 0.14 indicates a positive and meaningful relationship between the factors of perceived behavioral control (PBC) and the behavioral intention to (DMBI); therefore, H_5 is supported.

H_6. The direct measures of professional management accountants' perceived behavioral control towards the reporting of fraudulent accounting activity will have a

positive relationship with their intention toward that behavior. The path coefficient of .01 indicates a lack of a meaningful relationship between the factors of the direct measures of perceived behavioral control (DMPBC) and the direct measures of behavioral intention (DMBI); therefore, H_6 is not supported.

Chapter 5 will present further discussion of these results, specific issues and areas that require additional research.

CHAPTER V

DISCUSSION OF RESULTS

This chapter will provide a discussion of the results of the study to include further details on the findings, issues determined by the study, and specify additional research/investigation that should be pursued. The discussion will begin with coverage of the three constructs that showed a positive effect on the direct measures of behavioral intention (DMBI): the attitudes toward behavioral control (ATB), direct measures of perceived norms (DMPN), and perceived behavioral control (PBC).

The path coefficient of 0.32 from the attitude toward the behavior (ATB) to the direct measure of behavioral intention (DMBI) suggested a likely strong effect of the professional management accountant's attitude toward reporting fraudulent accounting activity and the development of the intention to report. This relationship suggests that for every 1.0 SD move in strength of the attitude there would be an estimated 0.32 same direction move in the formation of the intention. Further analysis of the item raw scores within the attitude toward the behavior (ATB) factor, related to $H_{1,}$ shows that these items received relatively strong support related to the highest score of 7 (*extremely important*) or a composite score of 49 as the product of the highest score of 7 from evaluation of outcome (EoO) multiplied by 7 from behavioral belief strength (BBS). The first item related to support of the system of internal control scored a combined mean of 42.8 with 156 respondents selecting the strongest score of 49 (*extremely important*) and 57 reporting the next highest combined value of 42, which yielded a total of 75% selecting

these strongest scores. The second item in this factor related to the prevention of financial loss to the company and also received scores very high on the scale with a combined mean of 39.0 with 104 respondents reporting the highest combined measure of 49 and 68 respondents reporting the next strongest possible combined score of 42, which was a combined total of 60% of all respondents. The third item in this factor related to retaining the integrity and ethical values of the accounting profession and scored one of the highest responses in the survey with 160 respondents recording the highest possible combined score of 49 and 66 respondents selecting the next highest combination of 42, which yielded a combined total of 90% of all respondents.

The two items related to maintaining employment and positive career direction did not load strongly on the attitude toward behavior (ATB) construct and the item on career direction was dropped. This finding, along with lower combined means of 30.0 and 34.5 respectively, indicates these items have a lower level of importance as antecedents to the direct measure of behavioral intention (DMBI). The combined average of participants selecting the highest scores for these two items was only 16.3%, a small minority, leaving the majority as suggesting that their job and career were not important issues to the reporting of fraudulent accounting activity.

The relationship of the direct measures of perceived norm (DMPN) to the direct measures of behavioral intention (DMBI) indicated a strong correlation with a path coefficient of 0.30. Again, indicating a probable relationship that for every 1.0 point move in the SD of the direct measures of perceived norm (DMPN) there would be an estimated same direction move in the SD of the direct measures of behavioral intention (DMBI) of 0.30. This suggests that the concepts captured in the direct measures of

perceived norm (DMPN) related to the respondents' perceptions regarding "significant others" in the terms of "opinions I value, those I respect and admire and people like me" would indicate a strong belief towards reporting fraudulent accounting activity. Of the 1140 responses on this factor, 974 were either 6 or 7 indicating that 86% of the participants felt strongly that their significant others would support reporting fraudulent accounting activity. The overall mean of this factor is 6.41.

The final statistically significant construct relationship is between perceived behavioral control (PBC) and the direct measure of behavioral intention (DMBI) with a path coefficient of 0.14. The items in this factor deal with retaliation as a primary impediment to fraud reporting and availability of an anonymous hotline by which to report. The item on anonymous hotline did not load strongly on this factor and this issue will be discussed later in this chapter. The primary potential retaliators identified and reviewed in this study that related to the respondents were their supervisor, company, senior financial management, regulatory agencies and other professional accountants. The scores on the items related to retaliation indicate that the respondents did not rate the threat of retaliation as a very strong impediment to the reporting of fraudulent accounting activity. Of all responses on this antecedent, 62% scored a combination of 36 or above on the product of the measure of lack of fear of retaliation and the likelihood of retaliation.

A review of the responses on the items that made up the direct measure of behavioral intention (DMBI) indicates very strong beliefs on the part of the respondents, experienced professional management accountants, in their responsibility, willingness, and intention to report fraudulent accounting activity. The most positive and focused response on any item was received within this factor on the question, "As a professional

accountant do you think that it is your responsibility to report fraudulent accounting activity?" This concept scored a mean of 6.77. Of the 285 participants, 234 gave the strongest response of 7 (*agree*), 43 responded at the next highest level. Only three responses were weaker, and zero respondents chose the score of 1 (*disagree*). As a set of indicators, the direct measures of behavioral intention (DMBI) factor had the highest overall set of positive responses**.** These items included the measures of the respondents' beliefs of "I intend," "I am willing," "I will," "I plan," and "is a responsibility" to report fraudulent accounting activity. The average mean of this construct is 6.54.

Summary of Results

The results of this study indicate that professional management accountants have a strong intention to report fraudulent accounting activity. The SEM analysis of the factors identified in the TPB suggest that three constructs, attitude toward behavior (ATB), direct measures of perceived norm (DMPN), and perceived behavioral control (PBC), have a likely positive effect on the formation of a management accountant's intention to report fraudulent accounting activity. From these factors, the analysis indicates that the specific causal beliefs involve:

- support for the system of internal control,
- prevention of financial loss,
- retention of the integrity and ethical values of the profession,
- limited impediment due to fear of retaliation, and
- perceived support of significant others.

These are the primary concepts that combine to positively relate to the generation of a strong intention to report fraudulent accounting activity.

This study does not indicate a relationship in forming a positive intention to report fraudulent accounting activity from the TPB constructs of direct measures of attitude (DMA), perceived norms (PN), and the direct measure of perceived behavioral control (DMPBC). The specific beliefs contained in these factors include whether or not the reporting of fraudulent accounting activity is "good or bad," "harmful or beneficial," "pleasant or unpleasant," "interesting or uninteresting," or "important or unimportant", within the direct measures of attitude (DMA); and whether or not the referent others, within perceived norms (PN), of shareholders, supervisor, senior financial management, company culture, other accountants, and regulatory agencies are perceived to believe that professional accountants should report fraudulent accounting activity. And, within the direct measures of perceived control (DMPC), whether or not the respondents believed that they were confident, and it was under their control, to report fraudulent accounting activity. Therefore, these antecedents to forming the intention to report fraudulent accounting activity were not indicated as having any affect in this study.

It is very positive that the strongest sets of responses occurred in the factor direct measure of behavioral intention (DMBI) and indicated that professional management accountants had very high levels of intention to report fraudulent accounting activity. This is shown by the highest, most consistent scores in the survey being returned on the items "reporting fraudulent accounting activity is a responsibility as a professional accountant" and "As a professional accountant do you think that it is your responsibility to report fraudulent accounting activity?."

The second of these items, as mentioned, formed the most direct measure of "your responsibility to report" and again received the strongest score with 97% of all respondents indicating that they strongly believed that the reporting of fraudulent accounting activity was their responsibility. The other strongest indications of positive beliefs, in descending order, were in the areas of:

- retain the integrity and ethical values of the accounting profession (mean 6.72),
- senior financial management thinks that I should report fraudulent accounting activity (mean 6.68),
- people whose opinion I value would approve of my reporting fraudulent accounting activity (mean 6.68),
- to prevent financial loss to the company is important (mean 6.56), and
- to support the system of internal control is important (mean 6.54).

These results suggest that professional management accountants positively support the critical areas of professional responsibility, fiduciary responsibility, and the integrity and ethical value required to allow the profession to safeguard their companies' assets and the accuracy of the related financial statements.

Conversely, the items that scored at the lowest end of the scale gave an indication of beliefs or concepts that the respondents did not positively consider in regard to reporting fraudulent accounting activity. These included:

- reporting of fraudulent accounting activity is pleasant (mean 3.28);
- an anonymous hotline for the reporting of fraudulent accounting activity is available (mean 4.30);
- the reporting of fraudulent accounting activity is not interesting (mean 4.82); and

- when it comes to my professional accounting activities I want to do what financial regulatory agencies (mean 4.72), my supervisor (mean 4.72), senior financial management (mean 4.77), and the shareholders (mean 4.78) think I should do.

It is in these responses that some additional concerns arise, particularly in the case of hotline availability and the desire to conform to expectations of financial regulatory agencies, supervisors, senior financial management, and especially shareholders to report fraudulent accounting activity. Although the respondents indicated on the items within injunctive belief strength (IBS) that there was a strong belief that the above related referent others "think that I should report fraudulent accounting activity" with means ranging from 5.96 to as high as 6.68 and an average mean of 6.21, there was much weaker indication of the respondents' interest in complying with these significant referents within the construct motivation to comply (MTC) means ranging from a low of 4.72 to a high of 5.77 and an average mean of 4.99. This construct, motivation to comply (MTC), actually recorded the overall lowest average mean.

Additional Investigation

Several areas of results are of definite interest for future investigation. The first of these relates to the performance of the items on the availability of an anonymous hotline to report fraudulent accounting activity. As was previously mentioned, the items related to the availability of an anonymous hotline and the measurement of the value of that availability did not load strongly on their related factors of perceived control factors (PCF) and control belief strength (CBS). Therefore, the responses as to the importance or lack of importance of such hotlines were not included in the SEM analysis. This is of

some concern due to the fact that such hotlines are considered an important tool in internal control guidelines to the extent that they are required for all companies that fall under SOX guidelines (Sarbanes Oxley, 2002). These two items inquire as to the respondent's beliefs that availability of an anonymous hotline would make the reporting of fraudulent accounting activity "more difficult or easier" and that such a hotline is "extremely unlikely or extremely likely" to be available. The results of the responses on these two items were a mean of 6.17 on the availability of a hotline in making the reporting of fraudulent accounting activity easier, and a mean of 4.30 on the measure of access to a hotline. These results suggest that professional management accountants believe that an anonymous hotline is an important tool in facilitating the reporting of fraudulent accounting activity with 161 responses at the most positive end of the scale, 7 (*easiest*), and 53 responses at the next most positive score 6. However, there were somewhat surprising results on the measure of hotline access. On this item, 74 respondents marked "no access" and another 18 reported a score next to "no access". This total represents 32% of all respondents indicating a lack of access to a hotline. The mean of 4.3 for this item was the second lowest mean in the entire survey with only the mean of the measure of "unpleasant/pleasant" to the reporting of fraudulent accounting activity at 3.47 being lower. With a mean of only 4.30 and with just over 32% of respondents endorsing a limited ease of access, this issue is of concern and needs to be better understood, particularly with the relatively strong indication of the importance of a hotline within perceived control factor (PCF). Continued research including the elicitation of additional questionnaire items in the area of the concepts and beliefs related to ease of access to an anonymous fraud reporting hotline could strengthen the construct

validity of perceived behavioral control (PBC) and provide antecedents that could more positively correlate with direct measures of behavioral intention (DMBI).

The low scores on motivation to comply (MTC) concerning the respondents' interest in complying with the important referent others of management, regulatory agencies, other accountants, company culture, and especially the shareholders is of concern. Even though responses indicate a fairly strong measure as to whether or not these referents think that accountants should report fraudulent accounting activity, these same respondents show a relatively weak motivation to comply with these interests. Again, determination of additional items related to motivation to comply (MTC) to attempt to clarify concepts of this construct could be pursued to potentially further understand this factor and its possible support for a stronger correlation to direct measures of behavioral intention (DMBI).

Another issue detailed in this study involves the overall SEM and the fact that the model was specified with strict adherence to the detailed format and requirements of the TPB, which resulted in a just-identified final model. As discussed, additional specification alternatives coupled with possible additional items would be required in order to develop an over-identified model that could strengthen the model fit and improve the overall analytical value of the results. A methodology that could provide insight into re-specification and development of new factor configuration would be to apply exploratory factor analysis (EFA) to the data set.

Exploratory factor analysis is designed for the situation where the links between the observed and latent variables are unknown or uncertain. The analysis thus proceeds in

an exploratory mode to determine how, and to what extent, the observed variables are linked to their underlying factors. (Byrne, 2010, p. 5)

Thereby, EFA is a methodological approach from an open ended perspective where no *a priori* definition of items related to constructs have been applied (although expected structures can guide the analysis). This allows the items to load freely and form factor groupings driven by the relationships in the data (Byrne, 2010). The factors formed by these item groupings are then reviewed for content and relevance and are named and described as to the constructs they presumably indentify (Keith, 2006).

As an example, this approach was performed on the results of the data gathered in this study as a preliminary review of the potential for further research using this methodology. These EFA results are shown in Table 22 to reveal a preview of the additional structure that this analysis could potentially lend to the investigation. Larger factor loadings are highlighted.

Table 22

Exploratory Factor Analysis (Principal Components Analysis) – 5 Factors

	Component				
	1	2	3	4	5
Retaliation from company	.816	.044	.227	.182	-.125
Retaliation from sr. fin. management	.800	.079	.201	.189	-.058
Retaliation from sr. fin. management	.796	.096	.273	.096	-.100
Retaliation from	.789	.026	.279	.167	-.109

company					
Retaliation from supervisor	.762	.086	.309	.112	-.005
Retaliation from supervisor	.756	-.017	.254	.153	-.021
Maintain current employment	.660	.399	-.008	.074	.128
Company culture RFAA	.640	.312	.113	.086	.097
Sr. fin. management RFAA	.613	.168	-.003	-.066	.192
Supervisor RFAA	.598	.209	-.006	-.020	.226
Maintain employment	.521	.508	.018	.080	.014
Retaliation from other accountants	.518	.106	.245	.175	-.165
Shareholders RFAA	.376	.308	.243	.225	.084
RFAA pleasant	.326	.252	-.204	-.072	.081
Support internal control	.233	.668	.135	.115	.060
RFAA beneficial	.220	.660	.107	.141	.181

RFAA prevent financial loss	.135	.612	.012	.203	.030
Opinions I value RFAA	.207	.611	.257	.080	.092
I respect and admire RFAA	.211	.599	.127	.065	.111
RFAA better professional accountant	.058	.580	.123	.012	.000
RFAA retain integrity and ethical value	.153	.567	.241	.149	.097
Financial reg.agencies RFAA	.046	.539	.200	.220	.022
I am willing to RFAA	.115	.529	.345	.009	.133
Other accnts. think I should RFAA	.058	.509	.163	.216	-.070
RFAA under my control	.176	.388	.299	.056	.049
RFAA maintain career	.079	.371	.030	.103	-.083
RFAA important	.047	.342	.314	.103	-.002
Available anonymous hotline	-.108	.221	-.009	.156	.197

RFAA interesting	-.024	.193	.190	-.042	.111
Retaliation from reg. agencies	.173	.043	.695	.282	-.131
I intend to RFAA	.234	.149	.655	-.165	.143
I will RFAA	.233	.213	.640	-.075	.208
Retaliation from other accountants	.400	.058	.586	.289	-.106
I plan to RFAA	.154	.222	.577	-.158	.125
Those important to me RFAA	.295	.187	.512	.058	.139
I am responsible to RFAA	-.013	.483	.504	.010	.059
Retaliation from reg. agencies	-.014	.104	.497	.377	-.317
RFAA responsibility of prof. acct.	.068	.469	.474	.040	.042
I am confident I can RFAA	.461	.186	.470	-.103	.193
If I wanted to I could RFAA	.140	.196	.453	-.046	.109
People like me RFAA	.151	.378	.419	-.013	.031
RFAA is good	.134	.325	.386	.063	.260

Do what sr. fin.mgmt. thinks I should do	.181	.105	-.022	.701	.047
Do what my supervisor thinks I should do	.256	.159	-.057	.660	.092
Do what the shareholders think I should do	.121	.000	.007	.654	.169
Do what accountants think I should do	.019	.148	.005	.628	.102
Do what fin.regulatory agencies think I should do	-.039	.269	.259	.581	.004
Do what company culture calls for me to do	.360	.161	-.030	.482	.096
Maintain my current employment	.086	.180	-.073	.432	.189
RFAA completely up to me	-.037	.156	.026	.179	.169
Support system of internal control	-.032	.064	.113	.022	.834
Prevent financial loss	.028	-.023	.086	.173	.779

Retain integrity and ethical value	.004	.063	.117	.219	.778
Available anonymous hotline	.077	.048	.074	.113	.250

A quick review of these preliminary results indicates that some of these exploratory factors are forming similarly to those that were defined by TPB, such as the direct measures of behavioral intention (DMBI) motivation to comply (MTC), and evaluation of outcomes (EoO). However, these three potential factors all include at least one item from one of the other four TPB factors, and the other two exploratory factors contain items from several of the other TPB factors. Therefore, further detailed analysis of any EFA results would be required to determine if a valid set of new factors could be developed to better measure the antecedents to the reporting of fraudulent accounting activity.

Limitations

The most significant limitation in the nature of the study is that the measurements can only be taken in the form of the proposed scenario of the observance of fraudulent accounting activity. Therefore, the true pressures, emotions, and potential penalties and rewards that could affect the actual formation of the intention to report can only be partially replicated. However, the higher level of experience and responsibility represented by the participants in the sample hopefully would contribute a level of

previous thought and understanding that would allow for meaningful and representative answers.

Additionally, in the self-report format of the measurement instrument, the solicitation of attitudes, beliefs, and opinions can be influenced by social desirability response bias (Paulhus & Reid, 1991). This bias can affect the accuracy of the respondent's answers in regard to the pressure to respond in a socially acceptable manner. This bias was hopefully mediated to some extent by the emphasis on anonymity, the level of professionalism and responsibility of the participants, and the seriousness of the subject being studied.

Another issue with using a structured measurement instrument is the respondents' inability to qualify their responses beyond the measures offered for each item. This does not allow the respondents to offer additional comments or perspectives on the concepts or beliefs in question. Even though there was an opportunity at the end of the survey to add open ended comments, the questionnaire did not allow for additional comments related to the individual items as the items were specifically presented.

There may have been other significant variables that could have been important to an individual respondent that were not included in the structure of TPB or provided from the elicitation survey. These potential additional items could possibly be identified within the further research that has been discussed in this study. Also, the full extent of the underlying latent variable cannot always be completely measured via the suggested TPB measure of indirect and direct beliefs (Ajzen, 2008).

Conclusions

The primary result of this study is the indication that professional management accountants very strongly believe that they should report fraudulent accounting activity. The model of the TPB provided a structure and format within which constructs could be developed to attempt to identify the antecedents, concepts, and beliefs in the form of the three defined factors that contribute to the formation of the intention to report fraudulent accounting activity; attitude toward behavior (ATB), perceived norm (PN), and perceived behavioral control (PBC). These factors were operationalized in a measurement instrument that compiled responses in the form of both direct measures and indirect measures for each factor. These responses were analyzed using measured variable SEM (path analysis), and within each of the three overall constructs, at least one direct or indirect set of measures was shown to have a statistically significant relationship to the direct measure of the formation of the behavioral intention to report fraudulent accounting activity, and therefore supported three of the six study hypotheses.

This study contributes a preliminary understanding of some of the concepts and beliefs that relate to a professional management accountant's formation of the intention to report fraudulent accounting activity. It also provides a basis from which additional research could be completed in order to further develop the measurement instrument that could strengthen the definition of the factors that more completely indentify and explain these concepts and beliefs.

APPENDIX A

ELICITATION QUESTIONNAIRE

Elicitation Questionnaire

Instructions: Please take a few minutes to tell me what you think about the possibility of reporting fraudulent accounting activity. There are no right or wrong responses; I am merely interested in your personal opinions. In response to the questions below, please list the thoughts that come immediately to mind and you only need to make a brief comment on the first few things that you think of….Thanks

(1) What do you see as the advantages of your reporting fraudulent accounting activity?

(2) What do you see as the disadvantages of your reporting fraudulent accounting activity?

(3) What else comes to mind when you think about reporting fraudulent accounting activity?

When it comes to your reporting fraudulent accounting activity, there might be individuals or groups who would think you should or should not perform this behavior.

(4) Please list the individuals or groups who would approve or think you should report fraudulent accounting activity.

(5) Please list the individuals or groups who would disapprove or think you should not report fraudulent accounting activity.

(6) Sometimes, when we are not sure what to do, we look to see what others are doing. Please list the individuals or groups who are most likely to report fraudulent accounting activity.

(7) Please list the individuals or groups who are least likely to report fraudulent accounting activity.

(8) Please list any factors or circumstances that would make it easy or enable you to report fraudulent accounting activity.

(9) Please list any factors or circumstances that would make it difficult or prevent you from reporting fraudulent accounting activity.

APPENDIX B

TPB QUESTIONNAIRE

TPB Questionnaire

The present survey is part of an investigation that tries to discover some of the reasons why professional accountants report, or do not report, the observation of fraudulent accounting activity. Specifically, we are interested in your personal opinions about reporting the observance of fraudulent accounting activity.

Thank you for your participation in this study.

General Instructions

Many questions in this survey make use of rating scales with 7 places; you are to circle the number that best describes your opinion. For example, if you were asked to rate "Drinking Wine" on such a scale, the 7 places should be interpreted as follows:

Drinking wine is:

Good :___1___:___2___:___3___:___4___:___5___:___6___:___7___: Bad

extremely quite slightly neither slightly quite extremely

If you think that drinking wine is *extremely good*, then you would circle the *number 1*.

Drinking wine is:

Good :___1___:___2___:___3___:___4___:___5___:___6___:___7___: Bad

If you think that drinking wine is *quite bad*, then you would circle the *number 6*.

Drinking wine is:

Good :___1___:___2___:___3___:___4___:___5___:___6___:___7___: Bad

If you think that drinking wine is *slightly good*, then you would circle the *number 3*.

Drinking wine is:

Good :___1___:___2___:___□ __:___4___:___5___:___6___:___7___: Bad

If you think that drinking wine is neither good nor bad, then you would circle the *number 4*.

Drinking wine is:

Good :___1___:___2___:___3____:___□___:___5___:___6___:___7___: Bad

In making your ratings, please remember the following points:

* Be sure to answer all items - do not omit any.

* Never circle more than one number on a single answer.

The circumstance in question is as follows:

You are a professional accountant and in the course of your normal activity you just observed a definite, material incident of fraudulent accounting activity committed by a co-worker.

Please answer each of the following questions by circling the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues. Please read each question carefully and answer it to the best of your ability. There are no correct or incorrect responses; we are merely interested in your personal point of view.

Evaluation of Outcome

1. For me to support the system of internal control is

Extremely unimportant :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely important

2. For me to prevent financial loss to the company is

Extremely unimportant :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely important

3. For me to help retain the integrity and ethical values of the accounting profession is

Extremely unimportant :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely important

4. To maintain my current employment is

Extremely unimportant :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely important

5. To maintain a positive direction in my career is

Extremely unimportant :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely important

Behavioral Belief Srength

6. My reporting fraudulent accounting activity will support the system of internal controls

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

7. My reporting fraudulent accounting activity will prevent financial loss to the company

Extremely unlikely:__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

8. My reporting fraudulent accounting activity will retain the integrity and ethical values of the accounting profession

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

9. My reporting fraudulent accounting activity will help maintain my current employment

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

10. My reporting fraudulent accounting activity will help maintain a positive direction in my career

Extremely unlikely:__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

Motivation to Comply

11. When it comes to my professional accounting activities, I want to do what our shareholders think I should do.

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

12. When it comes to my professional accounting activities, I want to do what my supervisor thinks I should do

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

13. When it comes to my professional accounting activities, I want to do what senior financial management thinks I should do

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

14. When it comes to my professional accounting activities, I want to do what the culture of my company would call for me to do

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

15. When it comes to my professional accounting activities, I want to do what other professional accountants think I should do

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

16. When it comes to my professional accounting activities, I want to do what the financial regulatory agencies think I should do

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Very much

Injunctive Belief Strength

17. Shareholders think that I should report fraudulent accounting activit

Strongly disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

18. My supervisor thinks that I should report fraudulent accounting activity

Strongly disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

19. Senior financial management thinks that I should report fraudulent accounting activity

Strongly disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

20. My company's corporate culture would call for me to report fraudulent accounting activity

Strongly disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

21. Other accounting professionals think that I should report fraudulent accounting activity

Strongly disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

22. Financial regulatory agencies think that I should report fraudulent accounting activity

Strongly disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Strongly agree

Power of Each Control Factor

23. Availability of an anonymous hotline would make my reporting fraudulent accounting activity

More difficult:__1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

24. Fear of retaliation from my supervisor would make my reporting fraudulent accounting activity

More difficult :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

25. Fear of retaliation from senior financial management would make my reporting fraudulent accounting activity

More difficult :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

26. Fear of retaliation from my company would make my reporting fraudulent accounting activity

More difficult :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

27. Fear of retaliation from other professional accountants would make my reporting fraudulent accounting activity

More difficult :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

28. Fear of retaliation from regulatory agencies would make my reporting fraudulent accounting activity

More difficult :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Easier

Control Belief Strength

29. An anonymous hotline for reporting fraudulent accounting activity is available

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

30. Retaliation from my supervisor for my reporting fraudulent accounting activity is

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

31. Retaliation from senior financial management for my reporting fraudulent accounting activity is

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

32. Retaliation from my company for my reporting fraudulent accounting activity is

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

33. Retaliation from other professional accountants for my reporting fraudulent accounting activity is

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

34. Retaliation from regulatory agencies for my reporting fraudulent accounting activity is

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

Direct Measures - Attitude

35. My reporting fraudulent accounting activity is

Good :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Bad

36. My reporting fraudulent accounting activity is

Harmful :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Beneficial

37. My reporting fraudulent accounting activity is

Unpleasant :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Pleasant

38. My reporting fraudulent accounting activity is

Interesting :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Uninteresting

39. As a professional accountant do you think that it is important to report fraudulent accounting activity

Extremely unimportant :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely important

Direct Measures – Perceived Norms

40. Most people who are important to me think that I should report fraudulent accounting activity

True :__1__:__2__:__3__:__4__:__5__:__6__:__7___: False

41. Most people whose opinions I value would approve of my reporting fraudulent accounting activity

Improbable :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Probable

42. Most people I respect and admire would report fraudulent accounting activity

Unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Likely

43. Most people like me would report fraudulent accounting activity

Agree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Disagree

Direct Measures – Perceived Behavioral Control

44. I am confident that I can report fraudulent accounting activity

True :__1__:__2__:__3__:__4__:__5__:__6__:__7___: False

45. Whether I report fraudulent accounting activity is completely up to me.

Disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Agree

46. If I really wanted to I could report fraudulent accounting activity

Likely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Unlikely

47. For me to report fraudulent accounting activity is under my control.

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Completely

Direct Measures – Behavioral Intention

48. I intend to report fraudulent accounting activity

Definitely do :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Definitely do not

49. I will report fraudulent accounting activity

Likely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Unlikely

50. I am willing to report fraudulent accounting activity

False :__1__:__2__:__3__:__4__:__5__:__6__:__7___: True

51. I plan to report fraudulent accounting activity

Agree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Disagree

52. As a professional accountant do you think that it is your responsibility to report fraudulent accounting activity

Disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Agree

53. My reporting fraudulent accounting activity will make me a better professional accountant

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Extremely likely

54. My reporting fraudulent accounting activity is a responsibility as a professional accountant

Disagree :__1__:__2__:__3__:__4__:__5__:__6__:__7___: Agree

APPENDIX C

IMA SURVEY DISTRIBUTION COVER LETTER

Survey on Fraudulent Activity

IMA-sponsored survey –Win an iPad

Dear IMA® Member:
IMA is sponsoring my research study that focuses on the potential of management accountants to report the observation of fraudulent accounting activity. I am an IMA member, have spent over 30 years as a management accountant, and am now pursuing a Doctorate in Business with a Specialty in Accounting. This study will be used to fulfill a requirement for my degree, as well as add to the understanding of the intentions of management accountants when faced with fraudulent accounting activity.

This topic is one of great interest as the profession continues to evaluate the effectiveness of the Sarbanes-Oxley legislation, its fraud reporting requirements, and the impact it has had on the ethical practice of management. The results of this survey will be submitted for consideration to *Strategic Finance* or *Management Accounting Quarterly* for potential publishing. The survey takes about 10 minutes to complete.

IMA encourages you to participate in the survey. In appreciation of the value of your time, upon finishing the survey you will be given the opportunity to enter into a drawing, sponsored by IMA and endorsed by Nova Southeastern University, to receive a new iPad or one of five $50 VISA gift cards. The winners will be selected from the first 200 responses, and the drawing will be held as soon as those responses are received.

As is the case with all IMA surveys, there will be no identities, e-mail addresses, or IP addresses collected with your survey response or drawing entry, so full confidentiality is assured. There are no benefits, risks, or costs associated with your participation in this survey or the incentive award drawing and your participation is totally voluntary.

To take the survey and enter the drawing PLEASE CLICK HERE or copy and paste the link below:
http://www.zoomerang.com/Survey/WEB22FA79NQ7TS

If you should have any questions, please contact me at jbhsource@gmail.com or my advisor, Randall Rentfro, at rrentfro@ut.edu. Once again, thank you for participating in the survey.

Sincerely,
Jerry B. Hays

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