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**AN EXAMINATION OF THE INTERNAL AUDITORS'  
WHISTLEBLOWING LIKELIHOOD UPON  
AWARENESS OF OCCUPATIONAL FRAUD  
OCCURRENCE**



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**Universiti Utara Malaysia**

**DOCTOR OF PHILOSOPHY  
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OCCUPATIONAL FRAUD OCCURRENCE**



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**Kolej Perniagaan**  
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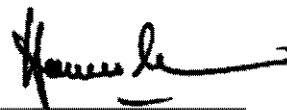
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## ABSTRACT

This study examines the internal auditors' whistleblowing likelihood upon awareness of occupational fraud occurrence. For that purpose, Graham's model of principled organizational dissent was employed due to its relevance to accounting context. Apart from the existing perspectives of the model, influences of the three dimensions relevant to the model were also assessed. Additionally, the interaction effects between these dimensions and some demographic factors were also analyzed. Furthermore, in light of organizational support theory, the current study also gauged the likelihood to blow the whistle among internal auditors from the perspective of perceived organizational support. To attain the objectives, as well as to answer the research questions, some internal auditors who work for the Malaysian public listed companies in several sectors were selected randomly through a two-stage sampling. In testing the current study's hypotheses, regression analyses, as well as analysis of variance (ANOVA) procedure were used. Out of the three perspectives of the principled organizational dissent model, only the perceived seriousness of wrongdoing has significantly predicted the dependent variable. Even though all the three manipulated variables are related to the whistleblowing likelihood, however, none of the demographic factors has a significant moderating role in influencing the dependent variable. The result of the present study reveals that the perceived organizational support is not only related, but has also significantly and positively predicted the internal auditors' whistleblowing likelihood. Apart from providing empirical evidence to the existing literature, this study offers significant insights into the theory and practice. Generally, this study affirms that the theoretical integration can better understand whistleblowing likelihood among internal auditors. Besides offering some 'whistleblower-friendly' policies and procedures, it is also suggested for organizations to maintain effective control system to mitigate occupational fraud occurrence, as well as to provide better quality evidence for the internal auditors' reporting purposes.

**Keywords:** Internal auditors, occupational fraud, perceived organizational support, principled organizational dissent, whistleblowing likelihood

## ABSTRAK

Kajian ini mengukur kebarangkalian pemberian maklumat dalam kalangan juruaudit dalaman apabila menyedari berlakunya penipuan pekerjaan. Oleh itu, model Graham berkaitan perbezaan pendapat dalam organisasi berprinsip telah diguna pakai. Ini disebabkan perkaitannya dalam konteks perakaunan. Selain daripada perspektif yang sedia ada, pengaruh tiga dimensi yang berkaitan dengan model tersebut juga turut dinilai. Di samping itu, kesan interaksi antara dimensi dan beberapa faktor demografi turut dianalisa. Berdasarkan teori sokongan organisasi, kajian ini juga mengkaji kebarangkalian pemberian maklumat dalam kalangan juruaudit dalaman dalam aspek tanggapan sokongan organisasi. Bagi mencapai objektif serta menjawab persoalan, kajian ini melibatkan juruaudit dalaman yang bekerja di syarikat-syarikat tersenarai awam di Malaysia dalam beberapa sektor. Para peserta telah dipilih secara rawak dengan menggunakan teknik pensampelan dua peringkat. Bagi menguji hipotesis kajian, analisis regresi dan prosedur analisis varians (ANOVA) telah diguna pakai. Hanya tanggapan keseriusan salah laku telah meramal pemboleh ubah bersandar dengan ketara berbanding tiga perspektif lain dalam model perbezaan pendapat dalam organisasi berprinsip. Selain itu, walaupun kesemua tiga pemboleh ubah dimanipulasi didapati berkait rapat dengan kebarangkalian pemberian maklumat, faktor-faktor demografi tidak menunjukkan peranan penyederhana yang ketara dalam mempengaruhi pemboleh ubah bersandar. Namun begitu, hasil kajian ini menunjukkan bahawa tanggapan sokongan organisasi bukan sahaja berkaitan, malah telah meramal kebarangkalian pemberian maklumat dalam kalangan juruaudit dalaman dengan ketara. Selain daripada menyumbangkan bukti empirikal kepada bahan kepustakaan yang sedia ada, kajian ini juga menawarkan dapatan yang penting dalam aspek teori dan praktis. Secara umumnya, kajian ini mengesahkan keharusan pengintegrasian teori untuk memahami kebarangkalian pemberian maklumat dalam kalangan juruaudit dalaman dengan lebih baik. Selain daripada menawarkan polisi dan prosedur yang 'mesra pemberi maklumat', kajian ini juga mencadangkan agar sistem kawalan yang berkesan diwujudkan di dalam organisasi. Ini bukan sahaja untuk mencegah penipuan pekerjaan, malah dapat menyediakan bukti yang lebih kukuh untuk tujuan laporan juruaudit dalaman.

**Kata kunci:** Juruaudit dalaman, penipuan pekerjaan, tanggapan sokongan organisasi, perbezaan pendapat dalam organisasi berprinsip, kebarangkalian pemberian maklumat



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## LIST OF ABBREVIATIONS

ACFE	Association of Certified Fraud Examiner
AICPA	American Institute of Certified Public Accountants
ANOVA	Analysis of Variance
BMF	Bumiputra Malaysia Finance
CA	Companies Act 1965
CAE	Chief Audit Executive
CCB	Cooperative Central Bank
CMSA	Capital Market and Services Act 2007
COSO	Committee of Sponsoring Organisations
EY	Ernst & Young
IIA	Institute of Internal Auditors
MASA	Malaysian Approved Standards on Auditing
MCCG	Malaysian Code on Corporate Governance
MIA	Malaysian Institute of Accountants
MSPB	Merit Systems Protection Board
OST	Organizational Support Theory
PCAOB	Public Company Accounting Oversight Board
PLCs	Public Listed Companies
POS	Perceived Organizational Support
PwC	PricewaterhouseCoopers
SC	Securities Commission
SIA	Securities Industry Act 1983
WPA	Whistleblower Protection Act 2010

## CHAPTER ONE

### INTRODUCTION

#### 1.0 Background of the Study

Fraud is a costly threat to organizations. In the 11<sup>th</sup> Global Fraud Survey conducted by Ernst & Young (EY) (2010), 16% of respondents indicated that their organizations had suffered a major fraud over the last two years as compared with only 13% in the prior year. Meanwhile, KPMG (2013) found that 43% of their Australian and New Zealand organizations respondents had experienced fraud. In fact, 37% of respondents of PwC (2014) globally had reported fraud experience in their working organizations. Moreover, respondents out of 59 countries in EY (2014) survey agreed that the fraud occurrence and fraud reporting are not declining. These findings clearly showed that fraud is a type of risk encountered by organizations globally. In many cases, it had brought massive impact not only to stakeholders, but also to the society at large, especially when bankruptcy is filed. An organization's bankruptcy could cause hundreds, if not thousands of workers to lose jobs. Some high profiles fraud cases such as Enron, WorldCom, and Fannie Mae serve as good reminders of the serious repercussions of fraud.

In Malaysia, fraud occurrence is considerably high and showing an upward trend. KPMG Malaysia Fraud Survey discloses that 49% of the Malaysian companies respondents had *experienced* at least one fraud during the survey period, and the percentage is expected to grow in the next two years due to financial crisis (KPMG, 2009). It also suggests that 88% of the reported fraud value was perpetrated

internally by both management and non-management employees. In a more recent survey, KPMG Malaysia Fraud, Bribery and Corruption Survey 2013, the highest percentage of fraud experience were reported by companies respondents that fall under Trading/Services (26%), Consumer Products (18%), and Construction (18%) sectors (KPMG, 2014). Although the finding was based on the self-reported data, that it does not necessarily reflect the actual phenomenon, the result had raised some concerns regarding fraud occurrence in companies under those sectors.

On another note, 47% of the KPMG Malaysia Fraud Survey respondents also reveal that the total lost borne due to fraud during the three-year period of the survey, from 2006 until 2008, approximated to RM63.95 million (KPMG, 2009). This significant amount of losses reflects the internal fraud risk borne by organizations in Malaysia. In light of the nature and magnitude of the impact, Omar and Abu Bakar (2012) viewed that the local business community has significantly affected by fraud. Among popular fraud cases in Malaysia was Megan Media Holdings Bhd. The Edge (as cited in Lee, Ali, & Gloeck, 2008) reported that it had incurred a net loss of RM1.14 billion for the fourth quarter ended 30 April 2000 due to accounting fraud. Meanwhile, The Star (as cited in Lee *et al.*, 2008) disclosed that Transmile Group Berhad had overstated its revenue from the year 2004 through 2006 totaled to RM622 million.

It was suggested that, over the years, organizations spent huge amount of resources to detect fraudulent activities. Though this action seems necessary, it also implies that management is lacking effective mechanisms to deter fraud. For instance, KPMG (2009) reveals that major frauds are contributed by poor internal controls

(56%), collusion between insider and the external party (45%) and poor ethical practices (39%). Similarly, KPMG (2013) also discloses that 47% of major frauds were due to deficiency of internal controls. Consistent with this concern, 33% of the Australia/New Zealand respondents in KPMG Fraud Survey 2004 believed that the early warnings of fraud were disregarded (KPMG, 2006). Similarly, 39% of the Malaysian respondents indicated that management did not act appropriately on fraud red flags (KPMG, 2009). Besides, only 22% of respondents believed that their employees were adequately trained to identify red flags of fraud.

In view of the prevalence and serious repercussions of fraud, organizations are getting more committed to deal with this problem through fraud risk management. This program commonly includes measures to prevent, as well as to detect fraud in organizations. In fact, the Institute of Internal Auditors, American Institute of Certified Public Accountants, and Association of Certified Fraud Examiners (IIA, AICPA, & ACFE) (2008) propose that fraud prevention techniques may serve as the first line of defense in mitigating the risk of fraud. In the case where preventive mechanisms failed to stop fraud occurrence, organizations would have no choice but to rely on the detective measures instead. In this regard, KPMG (2009) revealed that internal mechanisms manage to detect the highest number of frauds with internal control (55%) being the most common method of detection. In fact, this result was consistent across other countries such as Australia and Thailand (KPMG, 2009). However, the effectiveness of detective mechanism is rather insignificant, where only 30% of respondents firms manage to detect less than 40% of frauds in their organizations (KPMG, 2013).

Whistleblowing studies suggested that employees could play a significant role in detecting organizational wrongdoings (Kaplan, Pope, & Samuels, 2010; Trevino & Victor, 1992). Due to the variety of key tasks involving them, employees will have the access to vital information within organizations, thus enable them to observe any wrongful activities (Jubb, 1999; Near & Miceli, 1985). Ironically, occupational fraud has been regarded as the most common type of fraud in organizations (KPMG, 2013). It is defined as "...internal fraud, or fraud committed by a person against the organization for which he or she works" (Association of Certified Fraud Examiners (ACFE), 2012, p. 65). As compared with any other methods, ACFE (2012) also reveals that occupational fraud is more likely to be detected through the reporting made by employees of the victim organizations.

In practice, whistleblowing is still not a culture in Malaysia (Rachagan & Kuppusamy, 2013). Despite the introduction of the Whistleblower Protection Act (WPA) in 2010, more is yet to be improved on the Act especially to include protection to internal whistleblowers (Meng & Fook, 2011). It was also noted that whistleblowing only seemed to be a concern among public listed companies (PLCs), where awareness of whistleblowing had already developed. This situation implies that the role of reporting questionable activities is still largely assumed by internal auditors.

In the context of internal auditing, the requirements of the IIA's Standards, as well as the Code of Ethics defined the reporting role of the internal auditors. Upon carrying out their audit duty, internal auditors are prescribed to report any material irregularities, misconducts, and violations of law, of which inclusive of fraud that

they are aware of (The Institute of Internal Auditors (IIA), 2009). Consistent with prior global fraud surveys, about 65% of the 11<sup>th</sup> Global Fraud Survey respondents perceive that internal auditors serve as the first line of defense against fraud (EY, 2010).

### **1.1 Problem Statement**

According to Malaysian Institute of Accountants (MIA) (2007), fraud may be perpetrated by an employee, or employees who collude among members of the organization or with external parties. Although the responsibility to combat fraud is rightfully assumed by board of directors and the management (MIA, 2007), internal auditors have also played their role by reporting fraud occurrence in their working organizations. Especially due to their job, they may have accessed the wrongdoings in the workplace. In this light, prior studies regard whistleblowing as one of the internal control tools to combat fraud in organizations. The decision, however, is a risky 'business'. Primarily, whistles are blown to parties that may effectively correct the wrongdoing (Miceli & Near, 1984). To decide whether or not to blow the whistle is a very complicated and difficult process, of which requires the potential whistleblower to consider a wide array of factors (Brennan & Kelly, 2007; Greenberger, Miceli, & Cohen, 1987; Keenan, 2000; Kennett, Downs, & Durler, 2011; Miceli & Near, 1988; Near & Miceli, 1985). In this regard, literature advocates that there are at least three steps for individual employees to consider before deciding on making a report. First, employees should evaluate whether the observed wrongdoing is serious enough for reporting. Besides, employees also need to decide whether they are personally responsible to report. And finally, they should gauge the anticipated personal cost should the reporting is made.



Although numerous models have been proposed to describe whistleblowing decision, to date, there is no single framework could adequately explain the process (Miceli & Near, 1988; Zhang, Chiu, & Wei, 2009), especially from the context of fraud reporting. Graham's model advocates three salient factors those that may influence individual employees to report unethical behaviors in organizations, namely, perceived seriousness of wrongdoing, perceived personal responsibility for reporting and perceived personal cost to report (Schultz, Johnson, Morris, & Dyrnes, 1993). In this light, Miceli, Near, and Schwenk (1991) asserted that positive context will motivate reporting when the wrongdoing is perceived as serious, and that the reporter is perceived as personally responsible to make such a report. Before assessment of context is made, however, the model also specifies that the observed unethical behavior must be considered as an issue of principles. Accordingly, this model fits into whistleblowing in an accounting context as fraud is, essentially, an issue of principles. Unsurprisingly, Graham's model has been extensively used by several whistleblowing researchers in the accounting field (Henik, 2008; Hooks, Kaplan, Schultz, & Ponemon, 1994; Schultz *et al.*, 1993; Sonnier & Lassar, 2013). Nevertheless, the three perspectives of the model were argued to be independent, that they may not be sequential. Thus, studies that validate the dimensions of the model are necessary.

In an auditing context, standards and code of ethics had clearly stipulate relevant provisions regarding the reporting role of auditors. Specifically, they are prescribed by their job role to report any fraudulent acts in organizations. In fact, as to establish the internal audit function, for instance, the Malaysian Code on Corporate Governance (Securities Commission (SC), 2012) recommends that internal audit

reports should be made directly to the Audit Committee. Results of prior studies reveal that auditors were reluctant to report questionable behaviors of other auditors (Kaplan, 1995; Kaplan & Whitecotton, 2001; Lampe & Finn, 1992). Although these studies view whistleblowing from the external auditing context, it is somewhat ironical since auditors are prescribed to report client's questionable acts. Thus, further study may be required to verify whether the tendency of keeping silence on peer auditors' wrongdoing is also prevalent among internal auditors. Especially due to this embedded reporting role, further understanding of the internal auditors' whistleblowing likelihood is needed (Near & Miceli, 1985). Nevertheless, in light of By-Laws (On Professional Ethics, Conduct and Practice) of the Malaysian Institute of Accountants (Malaysian Institute of Accountants (MIA), 2015), the duty to report fraud among professional accountants may be conflicting with their responsibility to respect confidentiality. Hence, this dilemma could possibly lead toward hesitancy to report among accounting professionals who encountered fraud in their working organizations.

From the definitional aspect, whistleblowing has generally been referred to the reporting made regarding wrongdoings which had already occurred. Nevertheless, Jubb (1999) suggested that, apart from reporting on the actual incidents, whistleblowing should also cover reports that are made on the anticipated and suspected wrongdoings. In light of this argument, solid evidence regarding the anticipated wrongdoing is required. Nevertheless, the effect of evidence on the whistleblowing likelihood was found to be inconsistent. Specifically, a meta-analysis study that tests self-reports of both actual whistleblowing and hypothetical scenarios revealed that strength of evidence was unrelated to intentions and weakly positively

related to self-reported whistleblowing only (Mesmer-Magnus & Viswesvaran, 2005). These findings call for further research to investigate whether internal auditors would blow the whistle due to evidence strength. This concern is relevant as they may discover some red flags of fraud, but eventually decided to keep silent due to the unavailability of strong evidence.

Studies also suggest that a potential whistleblower will be less likely to blow the whistle when he or she perceives a threat of retaliation from the organizations, immediate superiors, or colleagues (King, 1999; Near & Miceli, 1996). In fact, literature proposes that retaliation associated with reporting is generally the most influential factor in a whistleblower's decision making process (Dozier & Miceli, 1985; Dworkin & Baucus, 1998; Near & Miceli, 1985). On the contrary, Miceli, Near, and Dworkin (2009) found that threat of retaliation does not discourage whistleblower to report. Instead of keeping silent, they noted that employees would choose to report externally. This aspect is important to be verified in the internal auditing context because, due to their role and nature of their work, internal auditors could be more exposed to threat of retaliation as compared with other non-auditor employees.

Moreover, as the whistleblowing decision is typically studied from individual employees' standpoint, it is also relevant, therefore, to examine the role of demographic variables on the decision. Nevertheless, prior studies have reported mixed findings regarding the association between respondents' demographic characteristics and whistleblowing. As in most ethical decision making studies (Craft, 2013; Loe *et al.*, 2000; O'Fallon & Butterfield, 2005), generally, the

relationship was found to be unclear and insignificant. For instance, with exception of gender and age, a study among professional accountants indicates that there was no difference in whistleblowing behavior in regards demographic characteristics (Erkmen, Çaliskan, & Esen, 2014). Although organizational- and situational-level whistleblowing determinants have received greater attention in the past, Sharif (2015) suggests that individual level determinants should also be emphasized in future research. In light of this proposal, more recent studies were seen to be inclined to study whistleblowing intentions from an individual perspective (Alleyne, 2016; Rahayuningsih, 2016).

According to Park and Keil (2009), the complexity of individual employees' whistleblowing requires researchers to also view the issue from the lens of other related research areas such as organizational silence. In this regard, literature asserts the correlation between silence in organizations and perceived organizational support among employees (Morrison & Milliken, 2000). Specifically, employees were posited to feel demoralized to speak up when they perceive that their working organizations were not supportive toward them (Eisenberger, Huntington, Hutchison, & Sowa, 1986). In other words, an employee would be less likely to report wrongdoing when he or she perceives that the working organization being less appreciative of his or her contributions and/or does not care of his or her personal well-being (Alleyne, Hudaib, & Pike, 2013). Nonetheless, the tendency to evaluate perceived organizational support in various research settings is evident. For instance, Alleyne *et al.* (2013) proposes a reporting framework for external auditors, of which partially considering the perspective. Yet, we are still in the dark of the extent to which perceived organizational support would have influence on the internal

auditors' whistleblowing likelihood. This perspective is rational to be studied further, not only as it reflects reporting in organizational context, but the employee-organization relationship was not explicitly covered in the existing model for internal auditing professionals. This concern, therefore, will remain unaddressed if no dedicated study is pursued.

## **1.2 Research Questions**

Based on the statements of problems, the current study intends to answer the following questions:

Research Question 1 (RQ1):

Would the perceived seriousness of wrongdoing, perceived personal responsibility for reporting, and perceived personal cost to report individually influence the internal auditors' whistleblowing likelihood?

Research Question 2 (RQ2):

Would the strength of evidence, role responsibility, and threat of retaliation individually influence the internal auditors' whistleblowing likelihood?

Research Question 3 (RQ3):

Would demographic characteristics play the moderating role in influencing the internal auditors' whistleblowing likelihood?

Research Question 4 (RQ4):

Would the perceived organizational support significantly influence the internal auditors' whistleblowing likelihood?

### **1.3 Research Objectives**

Considering the research questions, this study aims:

Research Objective 1 (RO1):

To examine the role of perceived seriousness of wrongdoing, perceived personal responsibility for reporting, and perceived personal cost to report on the internal auditors' whistleblowing likelihood.

Research Objective 2 (RO2):

To examine the role of strength of evidence, role responsibility, and threat of retaliation on the internal auditors' whistleblowing likelihood.

Research Objective 3 (RO3):

To examine the moderating role of demographic characteristics in influencing the internal auditors' whistleblowing likelihood.

Research Objective 4 (RO4):

To examine the role of perceived organizational support on the internal auditors' whistleblowing likelihood.

#### 1.4 Scope of the Study

To achieve its objectives, the current study was planned and carried out according to specified contexts. In essence, this study concerns with the issue of fraud in organizations, especially on incidents perpetrated by organizational employees. This type of fraud is generally referred to as occupational fraud. According to ACFE (2014), occupational fraud can be classified into three categories, namely: corruption, asset misappropriation, and financial statement fraud. Apart from the auditing standards requirements and the code of ethics that they are bound by, internal auditors were selected as participants in this study as they were commonly perceived to be the first line of defense against fraud. Accordingly, to have a clear picture of what really happens in practice, this study involves internal auditors who work for Malaysia's public listed companies in Trading/Services, Consumer Products, and Construction sectors. This selection was made in relation to the KPMG Malaysia Fraud, Bribery and Corruption Survey 2013's finding, of which suggesting that fraud experiences were mostly reported by companies' respondents under these sectors (KPMG, 2014).

Regardless, literature shows that whistleblowing has been defined in various ways depending on the context it was discussed. Unsurprisingly, therefore, there was no single definitive term suffice to describe whistleblowing. For the purpose of this study, a definition as suggested by Near and Miceli (1985) was adopted. This definition not only covers both internal and external whistleblowing, but it also suitable for the current study's context, of which involves internal auditors as participants.

Meanwhile, due to confidentiality and anonymity issues, studies also assert that it is rather challenging to assess actual whistleblowing behavior among research participants. Therefore, the present study only examines the whistleblowing likelihood of the internal auditors. For the purpose, apart from other instruments, hypothetical scenarios were also incorporated in the study's questionnaire. The use of scenarios, however, brings several implications to the way this study measures the internal auditors' whistleblowing likelihood. Although the study's context may be limited to the scope of the scenarios used, this method was considered practical to reflect fraud in an organizational setting. In fact, scenarios have been used to gauge participants' response in many business ethics studies, including whistleblowing. Literature also supports that, this approach not only limits the influence of extraneous factors on the dependent variable, but also allows studies to manipulate some variables of interest in experimental setting.

On another note, whistleblowing likelihood was examined in this study from the perspective of principled organizational dissent, where Schultz's *et al.* (1993) model was used as a basis. The reporting decision is viewed from three key perspectives, specifically, perceived seriousness of the act, perceived personal responsibility to report, and perceived personal cost associated with the reporting. The model was considered appropriate for this study as it was not only concerns the reporting decision at individual level, but also relevant to whistleblowing in accounting context (Schultz *et al.*, 1993). Accordingly, the scope of this study is restricted to a number of assumptions of the model, of which inbuilt in the study's scenarios. In particular, scenarios of this study portray typical situations encountered by individual internal auditors regarding various acts, all of which known to be against the organizational



policies or procedures. Besides, the potential whistleblower was also aware of the reporting ineffectiveness that no further action would be taken as a result of the reporting. In fact, the scenarios also demonstrate that the reporting was not only unwelcome, but the whistleblower may be confronted or threaten with retaliation.

Apart from being relevant to the model of principled organizational dissent, the manipulated variables of interest in this study were also relevant to the scope of work of internal auditors. Specifically, the internal auditors were chosen to be involved in this study especially as they are bound by the assigned role to report wrongdoing in organizations. Role responsibility was measured in the current study by manipulating two different treatment conditions (Schultz *et al.*, 1993). Additionally, upon performing the audit job, the internal auditors need to issue their report with corroborated evidence. In this regard, strength of evidence was manipulated at two levels (Brink, Lowe, & Victoravich, 2013). Also, due their nature of work, internal auditors could possibly be exposed to threat of retaliation. In this light, the impact of the different types of threat was analyzed (Liyanarachchi & Newdick, 2009). Moreover, despite the non-significant results, prior studies suggest that demographic factors were related to whistleblowing. Intuitively, it is important to gauge the influence of demographic characteristics on the reporting decision especially at an individual level. Therefore, the moderating roles of four demographic variables (i.e., gender, age, tenure, and job level) on the relationships between the manipulated variables and the internal auditors' whistleblowing likelihood were also gauged in this study.

On top of the existing perspectives, this study also extends the current model by validating the influence of perceived organizational support on the whistleblowing likelihood. This extension was made in lieu of relevant research field, particularly the social exchange perspective. In the organizational context, organizational support theory explains that employees would reciprocate the treatment they receive from their working organization. The extension complements the existing reporting model that lacks the employee-organization perspective. This perspective is vital as it relates to the level of commitment and trust of an individual employee to the organization, of which subsequently affect the tendency to blow the whistle. Thus, the current study not only verifies this new dimension in an internal auditing context, but it also meaningfully contributes to some theoretical perspectives.

### **1.5 Significance of the Study**

Literature on whistleblowing is numerous, yet those that address the reporting decision from an accounting context were only a handful. This lacking was largely due to the sensitive nature of the research field (Patel, 2003). Although prior studies had generally cover whistleblowing in organizations, the nature and type of wrongdoing may have salient concerns over the whistleblowing decision. In particular, as compared with other types of wrongdoing, fraud was considered as more serious and prominent, and that it has been regarded as an important corporate governance issue. In this light, this study adds to the scant number of empirical studies in the accounting context.

As stipulated by the auditing standards, as well as the code of ethics, internal auditors are specially assigned by their job role to report any organizational wrongdoing. In

fact, with the preventive and detective roles, they are also responsible to assess any irregularities in organizations (The Institute of Internal Auditors (IIA), 2012). Accordingly, as compared with non-auditor employees, the highest number of observations of wrongdoing was reported by internal auditors (Miceli *et al.*, 1991). As they were specially trained on how to act should they encountered with financial irregularities in the workplace, concerns among internal auditing professionals regarding reporting wrongdoing could be different from other type of organizational employees. Hence, this study is significant as it does not use other type of participants to serve as proxies. By selecting internal auditors as participants, this study not only reflects the reality of practice, but also establishes the importance of the internal auditors' role in reporting fraud.

Focus of prior whistleblowing studies have centered on the common paradox of a potential whistleblower's decision making process. The process involves dynamic interplays between various antecedents that may significantly influence employee's decision, whether or not to blow the whistle (Keenan, 2000). The issue, however, has been addressed mostly using survey approach where direct influences of variables were assessed separately (Elias, 2008; Kaplan & Whitecotton, 2001; Schultz *et al.*, 1993; Zhuang, Thomas, & Miller, 2005). Owing to the sensitive nature of the research area, survey approach is arguably subjected to retrospective interpretation and self-selection bias (Kaplan & Whitecotton, 2001). As compared with survey method, experiments were considered more powerful as it can be used to validate causal relationships. Therefore, on top of correlational analysis, this study manipulates three independent variables in experimental setting. Additionally, this study also examines the moderating role of demographic characteristics on the

relationship between the manipulated variables and the dependent variable. This study offers more comprehensive understanding of the association between demographic characteristics and whistleblowing among internal auditors.

Reports on employees' whistleblowing behavior in non-Western setting, inclusive of Asian, are generally fewer as compared with its Western counterparts. Ab Ghani (2013) opined that this situation could possibly due to the attitude of Asians toward whistleblowing, as literature asserts that, in Asia, whistleblowing has been associated with disloyalty toward an employer (Chiu, 2003). Unsurprisingly, prior studies also suggest that business practices among these two continents are somewhat distinctive particularly due to cultural diversity (Chiu, 2002; Park, Rehg, & Lee, 2005). Apart from validating the dimensions of the hypothesized model, this study provides empirical evidence on the internal auditors' whistleblowing likelihood from local perspective.

### **1.6 Definition of Key Terms**

For the purpose of this study, the following terms were adopted:

*Occupational fraud* denotes: "The use of one's occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization's resources or assets" (ACFE, 2014, p. 6).

*Whistleblowing* is defined as "...the disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their

employers, to persons or organizations that may be able to effect action” (Near & Miceli, 1985, p. 4).

### **1.7 Organization of the Thesis**

This thesis is structured into six chapters. Chapter 1 provides introduction of the study covering the background, problem statement, research questions, research objectives, scope, as well as significance of the study. It also comprises definition of key terms. The remainder of the thesis is organized as follows.

Chapter 2 reports the extensive review of relevant literature. It highlights the theoretical perspectives, as well as practical issues concerning the research.

Chapter 3 introduces the research framework and the hypothesized model. It also presents the current study’s hypotheses.

Chapter 4 outlines the methodology part. It explains the research design, as well as the data collection procedures. This chapter also elaborates on the data analysis techniques applied in this study.

Chapter 5 presents the analyses’ results and tests the hypotheses. Additionally, it also incorporates the results of some supplementary analyses.

Chapter 6 discusses the research findings. Moreover, it addresses several limitations of this study and proposes a number of suggestions for future research. Lastly, this chapter concludes the thesis.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter reviews literature relevant to the present study. Organized into seven key sections, it starts by outlining the issue of fraud and corporate wrongdoings. The chapter later provides an overview of whistleblowing and its role in the internal control system. Next, the relationship between internal auditing and whistleblowing is addressed. Subsequently, this chapter examines a number of theoretical bases of the study. Prior empirical studies on whistleblowing are then reviewed, particularly concerning fraud occurrence, internal auditors, as well as research in Asian context. Finally, relevant literature from Malaysian perspective is highlighted.

#### **2.1 Fraud and Corporate Wrongdoings**

For the purpose of its survey, KPMG (2009) defined fraud as “a deliberate deceit planned and executed with the intent to deprive another of property or rights directly or indirectly, regardless of whether the perpetrator benefits for his/her actions” (p. 5). In this regard, Koh, Arokiasamy, and Cristal (2009) maintained that fraud is a legal term refers to the “intentional misrepresentation of the truth in order to manipulate or deceive a company or individual” (p. 146). Fraud may include creation of fictitious creditors, addition to payroll listing, falsification of cash sales, no authorization of write-offs, as well as uncorroborated excessive expenses (Lee *et al.*, 2008).

The impact of fraud could be enormous, not only to organizations, but also to the society at large. In the Global Economic Crime Survey, more than 80% of respondents who experienced fraud also indicated that it had caused damage or significant damage to their business (PricewaterhouseCoopers (PwC), 2007). This negative consequence had motivated researchers to better understand this phenomenon. Ideally, in the event where fraud prevention mechanisms are properly in place, organizations are less likely to encounter fraud risk (Hooks *et al.*, 1994). In fact, continuous assessments of the fraud detection mechanisms are needed to ensure its effectiveness. Nevertheless, in some circumstances fraud could never be prevented especially when it is 'systemic', reflecting poor of internal control within organizations. This view is supported particularly when fraudulent activities are committed through collusion (IIA, AICPA, & ACFE, 2008).

In efforts to mitigate fraudulent activities, it is important for people both in practice, as well as in academic to understand the motives for fraud. The Malaysian Approved Standards on Auditing (MASA) suggested that understanding the behavioral aspect of fraudsters is vital to establish proper actions to stop fraud occurrence (MIA, 2007). In response, numerous studies had approach the issue from the fraud triangle model. Particularly, researches are directed to investigate three salient perspectives in explaining fraudsters' motivation to commit fraud, namely opportunity, pressure and rationalization. In light of this concern, 81% of respondents in the 2007 Oversight Systems study suggested that fraud was perpetrated primarily due to "pressures to do 'whatever it takes' to meet goals" (p. 6). Additionally, 72% proposed "to seek personal gain" (p. 6), while 40% of respondents recommended "they do not consider their actions fraudulent" (p. 6) as the reason for wrongdoing (IIA, AICPA, & ACFE,

2008). Similarly, 57% of respondents in PwC (2007) survey cited that fraud was committed due to financial incentives (greed). In a study conducted in Malaysia, 62% of respondents indicated that fraud incidents were motivated by greed/lifestyle, while 39% recommended personal financial pressure (KPMG, 2009). These statistics are consistent with the 2004 results despite that there was a drop from 76% for greed/lifestyle and increase from 33% for personal financial pressure (KPMG, 2009).

### **2.1.1 The scope of fraud**

Fraud is one of the risks encountered by most businesses. Based on the origin, fraud can be divided into two types, namely management fraud and employee fraud (PwC, 2007). According to MIA (2007), management fraud involves "...one or more members of management or those charged with governance" (AI 240, p. 4). This type of fraud occurs mainly due to organizational reasons. Meanwhile, MIA (2007) describes employee fraud as a type of fraud "...involving only employees of the entity" (AI 240, p. 4). It relates to perpetrator's individual motives and rationalization to commit fraud. Other categorizations of fraud commonly used in the accounting literature are financial statement fraud and misappropriation of assets. Typically, financial statement fraud is equivalent to management fraud, while misappropriation of assets is usually relates to employee fraud (MIA, 2007).

In light of this classification, practitioners' report revealed that financial statement fraud is less common to occur, with 8% of the total case reported, despite its costly consequences to the victim organizations with an average loss of \$1 million (ACFE, 2012). Consistent with prior findings, ACFE (2012) also suggests that misappropriation of asset emerges as the most common type of occupational fraud,



representing 87% of the reported cases, an average loss of \$120,000. Similarly, Survey of Fraud, Bribery and Corruption in Australia & New Zealand also indicates that majority of fraud cases are committed by employees (KPMG, 2013).

## **2.2 Whistleblowing – An Overview**

By definition, employees would blow the whistle when they perceive that the reporting recipient is capable to affect action (Dasgupta & Kesharwani, 2010; Near & Miceli, 1985; Zhuang *et al.*, 2005), or could correct the situation (Miceli *et al.*, 1991). Whistleblowing also could serve as an upward control by stopping the current wrongdoing and preventing similar wrongdoing to occur in the future (Mesmer-Magnus & Viswesvaran, 2005). Although whistleblowing act is optional, availability of formal whistleblowing procedure may encourage employees to blow the whistle upon observing or having knowledge of a wrongdoing (Brennan & Kelly, 2007; Curtis & Taylor, 2009; KPMG, 2006; PwC, 2011). In fact, it could also increase the number of internal reporting (Barnett, Cochran, & Taylor, 1993; King, 1999).

Regardless, whistleblowers may also opt to report any fraudulent acts they observe to external parties, especially when internal reporting is not welcomed (Mesmer-Magnus & Viswesvaran, 2005), or when reports are often ignored by the organization (Miceli *et al.*, 1991). For instance, KPMG Fraud Survey 2004 revealed that 63% of Australian/New Zealand organizations had reported fraud incidents to the police (KPMG, 2006). Although external reporting may be seen as jeopardizing organizations' reputation, it is argued to be beneficial for organizations to build the image of transparency and good faith among public.

According to Miceli and Near (1988), a whistleblower is also known as a model employee who reports the observed wrongdoing for the benefit of his or her working organization. Fundamentally, when the aim of reporting is to benefit others, the action is regarded as a pro-social behavior (Brief & Motowidlo, 1986; Dozier & Miceli, 1985). Nevertheless, whistleblowing literature thus far has concluded that the term “whistleblowing” has no absolute definition (Brennan & Kelly, 2007; McLain & Keenan, 1999). McLain and Keenan (1999) argued that there is lack of consensus on the definitional aspects of whistleblowing particularly whether it could be role prescribed, procedural and internally reported. This fact is rather sensible as whistleblowing caters a broad range of perspective.

Regardless, whistleblowing is more commonly viewed as a process than an event (Jubb, 1999; Loeb & Cory, 1989; Near & Miceli, 1985), and that it comprises no less than four elements (Near & Miceli, 1985), particularly the whistleblower, the whistleblowing activity, the reporting recipient and the victim organization. In view of this process perspective, Schultz *et al.* (1993) proposes a model for reporting questionable acts which begins with an awareness of the acts. In other words, reporting started with an awareness of such wrongdoing. Similarly, McLain and Keenan (1999) illustrated that whistleblowing decision is triggered by awareness or having knowledge of a particular wrongdoing. Further, the observer would form judgment on the observed wrongdoing, prior to deciding whether or not to blow the whistle. In contrast, Hooks *et al.* (1994) suggested fraud occurrence as a triggering event in a whistleblowing model of fraud detection.

The basic process of responding to an observed wrongdoing is denoted in Figure 2.1. This proposition was found to be consistent with the other models (Dozier & Miceli, 1985; Miceli *et al.*, 1991). However, McLain and Keenan (1999) argued that the existing whistleblowing models may be lacking, theoretically, or in its practicality. They opined that whistleblowing is a non-procedural type of reporting, thus, the response process need not be stepwise. They also maintained that elements such as ambiguity of organizational policies and culture, the relationship between wrongdoing and wrongdoers, as well as the effects of responding should be emphasized.

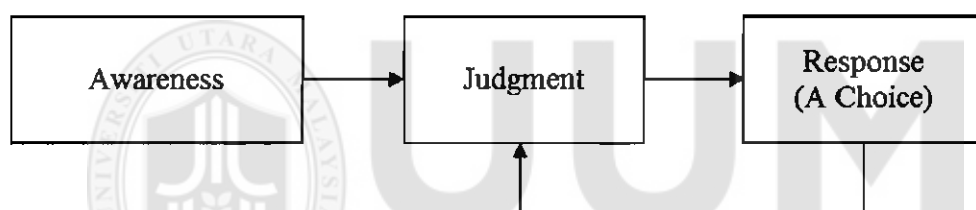


Figure 2.1  
*An Individual Response Process upon Observing Wrongdoing*  
Source: McLain and Keenan (1999)

Figure 2.2 demonstrates a classical whistleblowing process. Henik (2008) summarized the findings of prior literature regarding the perspectives considered by a whistleblower in a sequential form, consisting of four judgment processes leading toward behavioral response.

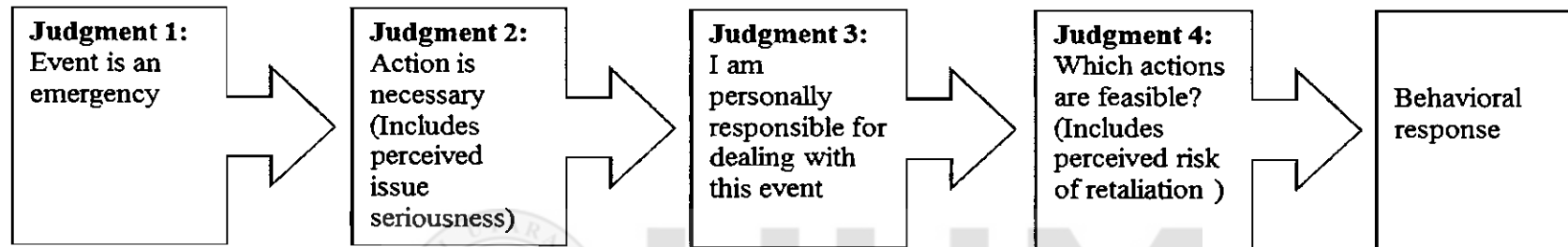


Figure 2.2  
*The Decision-Making Stage of the Classical Whistleblowing Process*  
Source: Henik (2008)

### 2.3 Whistleblowing as an Internal Control Mechanism

Literature advocates whistleblowing as a corporate governance tool used to improve internal control systems (Hooks *et al.*, 1994). In essence, whistleblowing offers avenue for employees to report wrongdoing they observed. Consequently, whistleblowing could solve organizational problems and increase organizational long-term effectiveness (Brief & Motowidlo, 1986), and thus benefits the stakeholders (Miceli *et al.*, 1991). In view of this fact, an upward communication is essential as one of the control mechanisms. As shown in Table 2.1, Committee of Sponsoring Organisations (COSO) (2013) addressed the importance of information and communication in organizations. This component comprises three relevant principles for an effective internal control.

Apart from highlighting the importance of using relevant information, COSO (2013) recommends organizations to focus on both internal and external communications for the purpose. Internal communication may include policy for reporting of wrongdoing. The primary concern of whistleblowing policy is to discourage corporate wrongdoing while providing opportunity for the organizations to correct wrongdoings prior public exposure (Barnett, 1992). In fact, the effectiveness of the internal reporting system is measured through the employees' willingness to report questionable act they observed (Kaplan, Pany, Samuels, & Zhang, 2009). In other words, employees' reluctance to report the observed wrongdoing may exemplifies an internal control weakness.

Public Company Accounting Oversight Board (PCAOB) (2007) defines material weakness of internal control as “a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis” (p. 10). In light of this issue, fraud literature presents common findings on the relationship between the conditions of internal control and propensity of fraud occurrence. Indisputably, weak internal control opens doors to individual or group of individuals to commit fraudulent activities as it is learnt historically, fraud is concealed, colluded, and not easily convicted (KPMG, 2009).

In view of its challenging nature to be detected, management should open doors for employees to play their role in combating fraud, for instance, by providing anonymous channel for employees to report questionable acts they observed. Mechanism such this could create positive working environment and heighten employees' morale, and thus eliminate motives to commit fraud among individuals in the organization (Peterson & Zikmund, 2004). In fact, employees would be more committed to the working organization as they feel supported and trusted by the employer.

Table 2.1

*Components and Principles of Effective Internal Control*

<b>Components</b>	<b>Principles</b>
Control Environment	1. Demonstrates commitment to integrity and ethical values 2. Exercises oversight responsibility 3. Establishes structure, authority and responsibility 4. Demonstrates commitment to competence 5. Enforces accountability
Risk Assessment	6. Specifies suitable objectives 7. Identifies and analyzes risk 8. Assesses fraud risk 9. Identifies and analyzes significant change
Control Activities	10. Selects and develops control activities 11. Selects and develops general controls over technology 12. Deploys through policies and procedures
Information & Communication	13. Uses relevant information 14. Communicates internally 15. Communicates externally
Monitoring Activities	16. Conducts ongoing and/or separate evaluations 17. Evaluates and communicates deficiencies

Source: COSO (2013)

**2.4 Internal Auditing and Whistleblowing**

The scope of internal auditing encompasses organizational wide issues controllable by organizations. The continuous functions of internal auditing are crucial to organizations' control system. This is particularly due to the fact that internal auditing serves as one of the corporate governance mechanisms in establishing an effective internal control system (Hooks *et al.*, 1994). In view of that, International Professional Practices Framework (IPPF) advocates that internal auditing could play a significant function in helping management, as well as the board to implement risk management strategies particularly in evaluating the "adequacy and effectiveness of controls" (IIA, 2012, p. 12).

According to ACFE (2012), certified fraud examiners will perform investigation on fraud factors especially when there is no adequate internal control measures took place within organizations. Certainly, internal control through the implementation of fraud risk management program may serve as the first line of defense against fraud (IIA, AICPA, & ACFE, 2008). Hence, it is crucial for the internal auditors to be equipped with adequate knowledge and technical skills to prevent and detect fraud (ACFE, 2012; IIA, 2012). This exemplifies the significant role of internal auditing in fraud management. Hence, the effectiveness of internal controls as a mechanism to detect fraud measure the effectiveness of internal audit function (ACFE, 2012).

Focus on effective role of corporate governance and the internal auditing function was seen to impact the scope, size and the establishment of internal audit function in organizations worldwide (Soh & Martinov-Bennie, 2011). In Malaysia, for instance, the Malaysian Code on Corporate Governance (MCCG) was proposed in establishing the internal audit function. The MCCG recommends that all reports should be made directly to the Audit Committee (Securities Commission (SC), 2012). According to Brennan and Kelly (2007), internal auditing is regulated by professional standards while whistleblowing is regulated by law. Although by its proposed definition, the scope of whistleblowing would only relevant to external reporting, the Institute of Internal Auditors (IIA) had established the relationship between internal auditing and whistleblowing. Specifically, IIA members are required to follow the Standards and Code of Ethics of the IIA, where reporting should be made internally utilizing all the available mechanisms within an organization when there is no critical need for external exposure (IIA, 2009).



Previously, the role of internal auditing function is limited to supporting the management and audit committee in protecting organization's resources, as well as in the preparation of true and fair financial statements (Bou-Raad, 2000). However, recent IIA revision extends internal audit activity particularly to provide "...independent, objective assurance and consulting services designed to add value and improve an organization's operations" (IIA, 2012, p. 21). Besides maintaining the orientation for internal control function, the newly revised function evolves from compliance to consultative role (Bou-Raad, 2000). It also designates a more participatory role on risk, control and governance matters ultimately to strengthen the organization. In the 11<sup>th</sup> Global Fraud Survey, 48% of respondents believed that internal audit function offers independent assurance regarding risk management practices (EY, 2010). Additionally, internal audit function was also found to be able to mitigate the trend of earnings management in companies. Recent studies such as Johl *et al.* (2013) discovered that there was negative association between internal audit quality and abnormal accruals.

## **2.5 Relevant Theoretical Bases**

Over the years, numerous theories from various perspectives were deliberately used by researchers in the effort to explain whistleblowing behavior. This study integrates relevant theories and model in enriching the existing whistleblowing literature. The model proposed by Schultz *et al.* (1993) which adapted from the Graham's model of principled organizational dissent is extended. In addition, other theories relevant to the scope of research are also be employed, namely, the organizational silence model and organizational support theory. In the context of whistleblowing as a tool for internal control, these theories are relevant especially in order to examine the extent

to which organizational attributes, characteristics, and actions could play their roles in influencing employees' reporting decision.

The organizational silence model is utilized to complement whistleblowing literature particularly in understanding the rationale for employees' decision to remain silent upon observing questionable acts within their working organizations. In view of this issue, theory of perceived organizational support is deemed relevant in examining employees' perception over organizational actions toward them. In other words, this study examines the possibility of employee silence phenomenon as a result of organizations' treatment toward their employees. This is particularly important owing to propositions that this perception is potentially influence the employees to demonstrate counterproductive behavior toward their working organizations.

#### **2.5.1 Graham's model of principled organizational dissent**

Principled organizational dissent refers to employees' conscientious expression of criticism and/or to change the status quo of the organization resulted from the objection to current policies or practices (Shahinpoor & Matt, 2007). The model identifies three perspectives that may influence an individual decision to report, namely the perceived seriousness of wrongdoing, the perceived personal responsibility for reporting, and the perceived personal cost to report. While the first two perspectives were advocated to positively affect the individual reporting decision, the model also proposed that perceived personal cost to report would negatively influence the reporting likelihood (Sonnier & Lassar, 2013; Zhuang *et al.*, 2005).

Lewis (2011) regards whistleblowing behavior as an expression of dissent made by employees internally or externally. In fact, literature also suggested that whistleblowing is an act of civil disobedience and protest (Elliston, 1982). Regardless, Graham's model is popular in whistleblowing literature especially in assessing a potential whistleblower's decision for reporting questionable acts involving "issues of principle" (Schultz *et al.*, 1993, p. 83). In the field of accounting, the model has been extensively used to evaluate the whistleblowing likelihood upon observing wrongdoing utilizing reporting hotlines (Elias, 2008; Kaplan & Whitecotton, 2001; Schultz *et al.*, 1993; Zhuang *et al.*, 2005).

These studies adapted the original version of the model where it is proposed that each variable is independently influential toward individual's decision to report (Schultz *et al.*, 1993; Zhuang *et al.*, 2005). In addition, the current research extends the model to examine whether the perceived seriousness of wrongdoing indirectly influences an observer's likelihood to report by increasing the employee's perceived personal responsibility to report. Furthermore, this study also hypothesizes that observer's perception on personal responsibility to report indirectly influence employee's perceived personal cost to report. More importantly, this study adds to current perspective of organizational dissent to include perceived organizational support as a variable that may significantly influence employee's decision to report. Hence, this factor has been tested alongside the three existing perspectives.

### **2.5.2 Organizational silence model**

Morrison and Milliken (2000) viewed silence as a significant force in organizations that lacking rigorous research it deserves. Consistently, Van Dyne, Ang, and Botero

(2003) also noted that employee silence is prevalent in organizations despite the scarcity of academic research on the concept. Indeed, the climate of silence has gained considerable attention due to its relevance to whistleblowing literature. According to Morrison and Milliken (2000), organizational silence exists when employees withhold information regarding anticipated problems or issues within organization. As their model proposes, it encompasses numerous applicable antecedents ranging from managerial practices to organizational policies.

Organizational silence may be seen in various forms, for instance, when employees keep silent during meetings, low participation in suggestion schemes and low level of collective voice (Huang, Van, & Evert, 2005). Conventionally, silence has been equated to 'loyalty' where the absence of voice was assumed as nothing was wrong (Bagheri, Zarei, & Aeen, 2012). The phenomenon of silence was hypothesized to be more pertinent in organization that has hierarchical level, more bureaucratic and larger size (Morrison & Milliken, 2000). Prior studies also indicated that the longer the top management is together, they will have some shared assumptions and built commitment along time (Wagner, Pfeffer, & O'Reilly, 1984), thus no challenges are expected and attitude toward consensus is developed.

Literatures on voice and silence are argued to be related (Morrison & Milliken, 2003). Though silence is conceptualized as passive behavior, it may not be relevant to all forms of silence. In management literature, the concept of silence is deemed unique and beyond the absence of voice perspective. In fact, its definition varies depending on the intended motives of the employees. For instance, Van Dyne *et al.* (2003) categorize silence into three types: acquiescent, defensive, and pro-social. Acquiescent silence refers to disengagement behavior, where employees choose not

to express their ideas, opinions and information due to passiveness. Meanwhile, defensive silence relates to avoidance of speaking up for fearing its negative consequences. Finally, pro-social silence denotes employees' decision to withhold ideas, opinions and information due to altruistic behavior intended to benefits other persons or organizations.

Despite negative repercussions to organizations, Bagheri *et al.* (2012) argued that employee silence phenomenon could also hurt the employees themselves. According to Morrison and Milliken's (2000) model (as shown in Figure 2.3), when organizational silence exists, employees would pretend nothing is wrong when bad thing is happening primarily due to cognitive dissonance. To avoid conflict and negatives repercussion of reporting, employees will keep bad news to themselves (Milliken, Morrison, & Hewlin, 2003). As a result, this action could cause employees to feel that they are not empowered and have no control over things that going on around them. This perception could demoralize employees to 'perform' at their job. Indeed, organizational silence could affect the overall well-being of employees especially when the phenomenon persists. In fact, the model illustrates that employees would feel not being valued, which may lead to low motivation to work and less commitment due to low perceived organizational support.

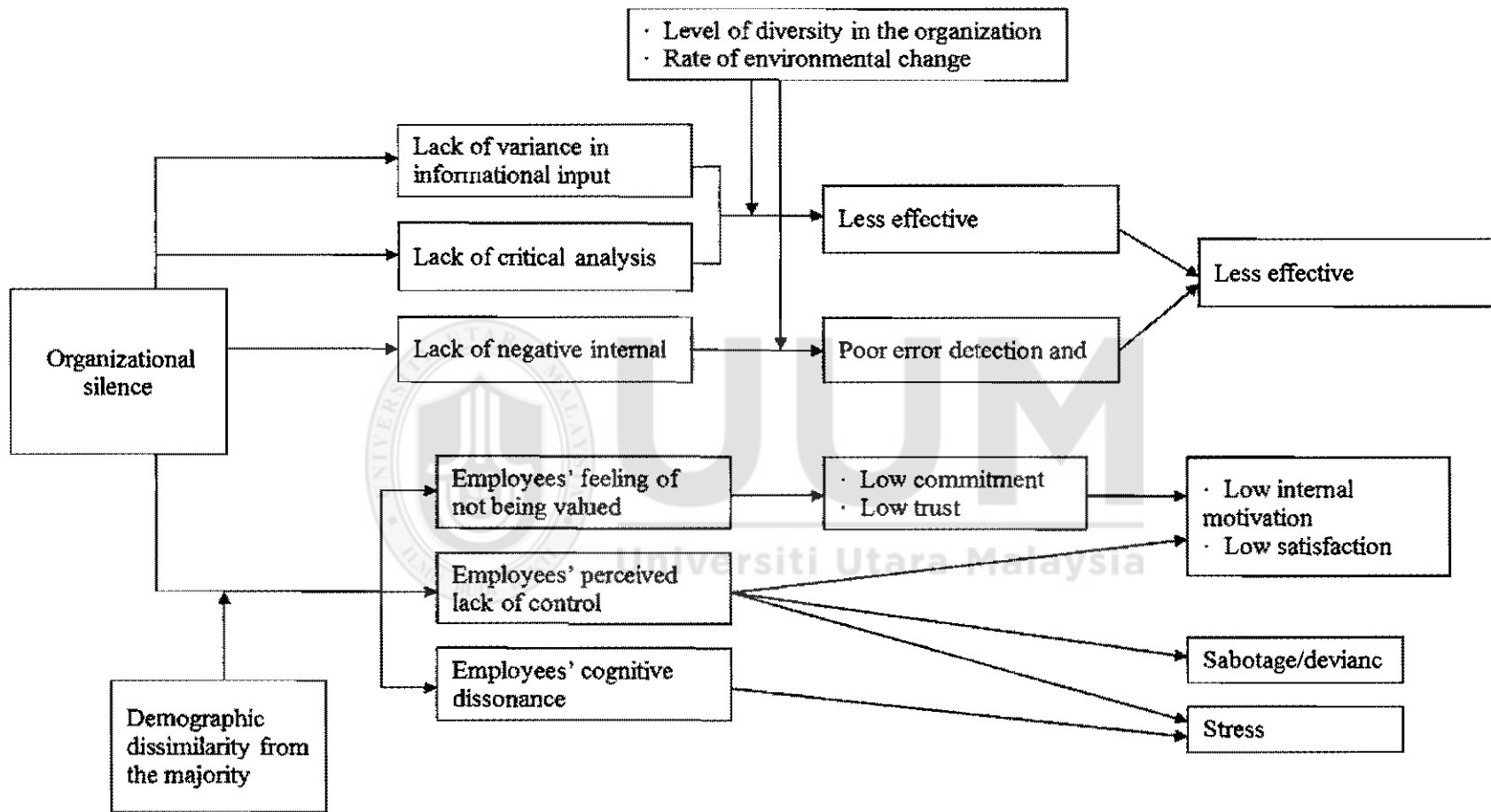


Figure 2.3  
*Effects of Organizational Silence*  
 Source: Morrison and Milliken (2000)

### 2.5.3 Organizational support theory

The organizational support theory (OST) suggests that employees will develop global beliefs regarding the extent the working organization “values their contributions and cares about their well-being” (Eisenberger *et al.*, 1986, p. 501). This belief is called perceived organizational support (POS) (Eisenberger, Cummings, Armeli, & Lynch, 1997). POS “would be influenced by various aspects of an employee's treatment by the organization and would, in turn, influence the employee's interpretation of organizational motives underlying that treatment” (Eisenberger *et al.*, 1986, p. 501). Consequently, employees will display a stable response of agreement through actions by the extent to which the organization values and cares about them in differing situations (Eisenberger, Fasolo & Davis-LaMastro, 1990; Eisenberger *et al.*, 1986; Shore & Tetrick, 1991; Shore & Wayne, 1993). In other words, employees acknowledge that organization would develop pattern of orientation, whether positive or negative, toward their contributions and welfare.

Moreover, the theory also advocates that POS is stimulated by employees' inclination to address organization's characteristics to human (Eisenberger *et al.*, 1986). While Levinson (1965) opined that agents' actions commonly viewed as organization's intent rather than attributed to agents' personal motives. The personification of organization is supported by the organization's legal, financial as well as moral responsibility of agents' actions. This is observed primarily through the working policies, norms and culture within the organization. The employees will draw consistent role behavior of the organization's agents over individual employees. In summary, the organization's treatment on employees reflects organizational support toward them (Eisenberger *et al.*, 1986).

According to Rhoades and Eisenberger (2002), OST also covers psychological beliefs resulting from POS. They argued that as a counterproductive behavior, employees would feel obligated to care about organization's welfare and to support the organization in reaching its goals. POS denotes the socio-emotional needs as well as affective attitude such as caring among employees by establishing their organizational membership and role position in their social identity. More importantly, POS reinforces employees' belief that their working organization value and compensate increased performance. Consequently, POS would increase employees' job satisfaction, job performance, positive mood as well as commitment, thus motivates employees to report wrongdoing within the organization.

## **2.6 Review of Prior Empirical Studies**

Although whistleblowing, as a phenomenon, has gained considerable attention, empirical studies on whistleblowing in organizations are rather limited (Brennan & Kelly, 2007). Researches on whistleblowing are mostly centered on a whistleblower's decision making process in understanding factors leading toward the decision. A survey on the United States Merit Systems Protection Board (MSPB) in 1980 has been considered as one of the earliest empirical researches on whistleblowing (Near & Miceli, 2008). The survey provides useful information regarding prohibited personnel practices among civil servants in the United States (Miceli & Near, 1984; 1985; 1988). By utilizing the data gathered in 1980, Miceli and Near (1984) outlined profiling of whistleblowers. In a role prescribed condition, the study found that internal whistleblowers are characterized as professionals, highly educated, as well as holding high position with power status.



In a subsequent study, Miceli and Near (1985) found that observers of wrongdoing are more likely to blow the whistle than inactive observers when the wrongdoing is perceived as serious. Meanwhile, consistent with the earlier study, it is also suggested that internal whistleblowers are characterized as employees who are role-prescribed to blow the whistle and those who are in the management team. Pursuant to the two previous studies on MSPB, Miceli and Near (1988) utilizes different set of data and found that whistleblowing is consistent with pro-social behavior in organizations. They propose that “whistle-blowers call attention to questionable practices in order to help the present and potential victims or to benefit the organization” (Miceli & Near, 1988, p. 268). This proposition paves way to their seminal whistleblowing model that was developed from the theory of pro-social behavior.

According to Near and Miceli (2008), the MSPB survey results were useful in providing the fundamental knowledge of whistleblowing. In fact, they argued that these findings had influenced whistleblowing researchers in developing theories and had encouraged more research in whistleblowing. However, the clear limitation of the surveys is that they were conducted primarily to study whistleblowing in a particular context, that is, the civil service. Therefore, results may not be generalizable to private sectors setting (Miceli & Near, 1984; 1985; 1988). To determine the consistency and representativeness of the findings, Miceli and Near (1985) proposed that samples of future studies should be selected from different background. Another limitation of the study is that, it requires participants to report whether or not they had observed any wrongdoing in their working organizations. Due to the sensitive nature of whistleblowing, some members of the organizations may simply choose not to respond to questionnaires (Miceli & Near, 1988). In fact,

there is also possibility that the participants who have actually observed wrongdoing may opt not to report it (Miceli & Near, 1984), thus posits an issue of data quality.

A meta-analysis of 26 studies conducted by Mesmer-Magnus and Viswesvaran (2005) echoed Miceli and Near's (1984) findings on the characteristics. Besides, they also found that whistleblowers had a better job performance and higher moral reasoning than their counterparts. Many studies also indicated that employees who are older and more experienced are more likely to blow the whistle than their younger and less experienced colleagues (Sims & Keenan, 1998). Experienced employees are found to be more committed to their working organizations, and thus are more likely to report wrongdoing. Meanwhile, Dworkin and Baucus (1998) who reviewed 33 of wrongfully fired cases reported that external whistleblowers suffered greater retaliation as compared with employees who blew internally. Regardless, studies supported that management prefers potential whistleblowers to use internal channel of reporting, concerning the public exposure resulted from external reporting (Near & Miceli, 1995; Park & Blenkinsopp, 2009).

Generally, employees' organizational commitment is believed to motivate them to report wrongdoing that they are aware of (Near & Miceli, 1985). However, studies by Mesmer-Magnus and Viswesvaran (2005) and Sims and Keenan (1998) failed to support the hypotheses. A research in accounting context conducted by Kaplan and Whitecotton (2001) revealed that auditors who are more committed to the profession would have higher whistleblowing likelihood. In addition, Lord and DeZoort (2001) supported that the auditors' professional commitment has a significant influence on the level of ethical reasoning.

### **2.6.1 Fraud and whistleblowing**

A misstatement in financial reporting could possibly due to fraud, if it was not an error. Fraud is characterized by an intentional motive of the perpetrator while error happens unintentionally. As mentioned previously, fraud can be classified into two types, namely financial statement fraud and misappropriation of assets. Practitioners' report suggests that fraud is commonly perpetrated through the collusion among internal parties as well as between internal and external parties (KPMG, 2009).

More than half of KPMG Malaysia Fraud Survey's respondents perceive fraud as a serious problem encountered by their organizations over the last three years (KPMG, 2009), from the time of the survey. In fact, 61% of respondents also expect accounting fraud to increase over the next two years (KPMG, 2009). In this regards, EY (2010) noted that organizations have started to realize the fact that "fraud is an on-going issue" (p. 3), although more effective procedures are required in the effort to manage the risk of fraud.

It is evident that fraud occurrence violates the ultimate goal of corporations, that is, to maximize shareholders' wealth. Regulators globally have acknowledged the role of whistleblowing and have established legislations to induce reporting of fraud. According to COSO (1992), both the board and the management should play their roles in mitigating misconducts through the prevention and detection measures embedded in organization's internal control. In this regard, literature advocates that whistleblowing within organizations could prevent corporate losses, and thus improve effectiveness and efficiency of business operations (Kaplan & Schultz, 2007). Despite the growing interest of whistleblowing research, most empirical

studies were carried out in the North American setting. In fact, the extent of research outside the North America region is not well-known due to infancy stage (Miceli *et al.*, 2009).

### **2.6.2 Internal auditors and whistleblowing**

Auditors are responsible to provide assurance over financial statements that they are free from material misstatements (MIA, 2007). Their role, however, has been extended to also cover reporting of wrongdoing on unethical conducts and violations of laws. Thus, from the perspective of accounting requirements, as well as the regulations of professional bodies, wrongdoing could be due to financial statement fraud, which includes misapplication or noncompliance of accounting standards, money laundering and tax evasion (Brennan & Kelly, 2007). While performing their job and duties, it is believed that internal auditors may directly or indirectly exposed to variety of wrongdoings, inclusive of fraud occurrence.

Literature suggests that employees would opt for internal channel to report wrongdoing prior utilizing external avenues in which organization's public image and overall stability could be at stake (Ponemon, 1994). Thus, the victim organization may take this opportunity to rectify the wrongdoing internally before it becomes a public knowledge. In the context of internal auditing, internal auditors are obliged to disclose any wrongdoings in organizations. This responsibility is embedded in their job description (Near & Miceli, 1985; Vadera, Aguilera, & Caza, 2009). In the event where the arising issues could not be resolved internally, internal auditors could communicate the wrongdoing with relevant authorities and expose the company's breach of duty to public.

However, in the process of making decision, internal auditors are commonly found themselves in a moral dilemma especially when the reporting could cause unfavorable impact to organization's financial position (Miceli & Near, 1988). This scenario often times requires them to choose between loyalty toward the profession and loyalty toward the organization, especially when loyalties toward both domains are contradictory (Arnold & Ponemon, 1991; Taylor & Curtis, 2010). Consequently, a number of studies were conducted to examine the extent to which internal auditors are likely to blow the whistle upon awareness of fraud occurrence.

Researchers are mostly interested to identify factors that may induce the internal auditors' reporting likelihood. Among others are Arnold and Ponemon (1991) who studied internal auditors' perceptions on whistleblowing. Examining from three perspectives, participants are also required to predict the whistleblowing likelihood of a third person. They found that moral reasoning play an important role in whistleblower's decision making process due to fear of retaliation by management. In addition, potential whistleblower's position was also found to be influential in whistleblower's decision. The study also suggests that external auditors are more likely to blow the whistle as compared with internal auditors.

Miceli *et al.* (1991) employs several individual as well as situational variables to validate internal auditors' whistleblowing likelihood from the perspective of pro-social behavior and bystander intervention theories. They found that internal auditors are less likely to blow the whistle when they are not prescribed by role and not morally compelled to do so. Furthermore, internal auditors are also found to be less likely to report if their job performance is low as well as when they found the

organization is highly bureaucratic. In contrast, the study proposed that internal auditors are more likely to report if they view that the wrongdoing is harmful to their colleagues and the public, as well as when there are only a few observers of the wrongdoing (Miceli *et al.*, 1991).

From a different perspective, Xu and Ziegenfuss (2008) utilize internal auditors to investigate the influence of reward systems toward moral reasoning. They found that reward systems may positively impact whistleblowing behavior. Xu and Ziegenfuss (2008) suggested that internal auditors with lower moral reasoning are more sensitive to reward as compared with those with higher level of moral reasoning. In a more recent study, Seifert, Sweeney, Joireman, & Thornton (2010) employ two different groups of participants, namely, internal auditors and management accountants. The experimental study investigates policies that encourage internal whistleblowing. The findings proposed that the incorporation of organizational justice into whistleblowing policies may increase whistleblowing likelihood among internal auditors and management accountants.

### **2.6.3 Whistleblowing in Asia**

Literature also found to cover some specific geographical contexts. For instance, scope of prior studies encompassed several Asian countries such as Japan (Davis & Konishi, 2007; Ohnishi, Hayama, Asai, & Kosugi, 2008), South Korea (Park & Blenkinsopp, 2009; Park *et al.*, 2005), China (Chiu, 2002; 2003) and Taiwan (Hwang, Staley, Chen, & Lan, 2008). These studies have addressed the influence of cultural difference in understanding whistleblowing issues in Asian context. Particularly, attitude toward whistleblowing in Asia has shown inconsistent findings.

Unlike their Western counterparts who acknowledge whistleblower as conscientious employee, studies revealed that Asian participants regard whistleblowing behavior as unethical and unacceptable as it is against the Confucius teachings (Chiu, 2002; 2003; Hwang *et al.*, 2008; Ohnishi *et al.*, 2008; Park *et al.*, 2005).

Ohnishi *et al.* (2008) describes Confucianism as promoting social conformity and harmony by preserving good relationship with people, among family members as well as members of working organizations. On the contrary, whistleblowing is perceived to jeopardize the close relationships between employers and employees (Chiu, 2002) and thus, stir harmony within the organizations (Ohnishi *et al.*, 2008). According to Park *et al.* (2005), collectivism is one of the cultural traits inherent in Asian society. In fact, Confucianism, which particularly upheld among Chinese community, are found to be consistent with Hofstede's collectivism dimension, of which characterized by group-based values such as conformity, harmony, loyalty, cooperation, unity and accepting norms without questioning (Park *et al.*, 2005).

Moreover, literature also reveals that business practices in Western and Asian context are distinctive for some reasons. Park *et al.* (2005), for instance, found that collectivist values of Asian communities and individualist values among the Westerners hold different attitudes toward intra-organizational conflict. While it is undesirable in collectivist society to have confrontation and intra-organizational conflict, individualistic society accepts conflict between employees. Confrontation is unacceptable and conflicting with the norms of organizations in Asia (Park *et al.*, 2005). Unsurprisingly, some whistleblowing researchers in Asia indicated that their communities still regard whistleblowing as unacceptable.

Despite whistleblowing in Asia is still somewhat taboo, some studies had suggested mixed findings. In particular, Chiu (2002) found that even Asian participants have regarded whistleblowing as ethical. He noted, however, that the participants were somewhat exposed to capitalistic and self-centered values which contradicted from the Asian values of collectivism and Confucianism. Hence, participants are more concern to protect their interest and rights, consistent with the action to blow the whistle. Seemingly, employees with strong Asian values within organizations' community would make whistleblowing discouraged, simply because it is not regarded as acceptable to report wrongdoing.

## **2.7 Whistleblowing – Malaysian Perspective**

Malaysia is a country with multiethnic and so its corporate citizenship. Malaysians are free to choose where to work, exemplified within public listed companies where employees are spread over major ethnic groups. Though the largest ethnic group is Malay with 50.4% of the population (Ahmad, 2011), the exact composition of corporate citizens according to ethnic groups is not known. The ethnics' distributions may have some effects on the generalizability of whistleblowing research findings as culture has been proven to affect the attitude toward whistleblowing among participants. Despite cultural diversities, Abdullah (as cited in Ab. Ghani, 2013) suggested that Malaysian employees are believed to be accustomed to common workplace values.

Prior researches on whistleblowing in Malaysia are mostly centered on role of whistleblowing as a corporate governance mechanism. Corporate governance entails the issue of communicating information of business practices within, as well as



outside the organizations. In light of this perspective, the role of whistleblowing in encountering fraud has been frequently addressed especially when it is believed to be able to improve corporate governance (Meng & Fook, 2011). Despite continuous efforts have been taken so far, Malaysia is still struggling to combat fraud, as well as to encourage reporting of organizational wrongdoing (Rachagan & Kuppusamy, 2013).

According to Rachagan and Kuppusamy (2013), the 5<sup>th</sup> PwC Global Economic Crime Survey reveals that only 7% of frauds were detected through whistleblowing. They argued that this small percentage is attributed to the issues of reporting mechanism. For instance, reporting procedures may not exist or ineffective, resulting from the lack of support from organizations, inadequacy of publicity and lack of will of the leadership. Worryingly, Ponnu, Naidu, and Zamri (2008) found that despite the highly regulated nature of the banking industry, majority of participants indicated that their working organizations had no policy on whistleblowing. The extent of the whistleblowing role within Malaysian organizations is somewhat disappointing. Rachagan and Kuppusamy (2013) suggested that the practicality of whistleblowing activity in Malaysia could be gauged through the understanding of the nature and structure of public listed companies.

### **2.7.1 The issue of fraud**

In Malaysia, the issue of fraud is a serious concern (Lee *et al.*, 2008). Some of the fraud cases among Malaysian listed companies include Bumiputra Malaysia Finance (BMF), Cooperative Central Bank (CCB), Perwira Habib Bank, Bank Rakyat, and Pan Electric Group of Companies. Haron (as cited in Ahmad, 2011) suggested that

fraud and corporate scandals cases in Malaysia are mostly attributed to Asian financial crisis. In addition to the unethical and law violation cases, Malaysia also perceived as high in corruption practices. In its Corruption Perception Index 2009, Transparency International had ranked Malaysia at the 56<sup>th</sup> spot out of 180 countries scoring 4.5 over 10, dropped from 5.1 in the previous year. Malaysia was ranked at 47<sup>th</sup> spot by the same index in 2008. In fact, the declining pattern continues as in 2011 where the country stood at the 60<sup>th</sup> spot from the 56<sup>th</sup> in 2010.

On another note, KPMG Malaysia Fraud Survey Report reveals that external auditors only managed to detect as low as 8% of total fraud occurrences (KPMG, 2009). The report also suggests that internal auditors review managed to detect 30% of fraud incidents while 25% of frauds were discovered through whistleblowing activity. As mentioned earlier, internal controls stand as the best method in detecting fraud with 55% of fraud incidents. The researcher believes that the results reflect the nature of fraud where it is concealed and could involve collusion of wrongdoers. Indeed, the complexities and intricacies of the nature of corporate fraud may take a long time to be resolved, and thus render special and dedicated attention to approach this problem.

The concern over fraud prevention and detection mechanisms has always been at the forefront. This is especially true when 61% of respondents in the KPMG Malaysia Fraud Survey anticipated that corporate fraud will increase over the next two years (KPMG, 2009). In fact, about 89% believed that this rising trend of fraud incidents will maintain and 78% of the respondents expect financial statements fraud to increase due to current financial crisis (KPMG, 2009). Despite few respondents were

reluctant to disclose the estimated amount, the reported fraud value was totaled to RM63.95 million. This finding is alarming. Whistleblowing among employees should be highlighted as key mechanism in detecting and preventing fraud especially when research suggested that employees' role in reporting wrongdoing is significant.

### **2.7.2 Prior studies on whistleblowing**

Whistleblowing studies in Malaysia are only handful, where a limited number of literatures were found encompassing several perspectives. Prior studies cover the fundamental view of corporate governance (Rachagan & Kuppusamy, 2013), internal control (Patel, 2003), accounting (Ahmad, 2011; Mohd Yusoff, 2010), ethics (Mustapha & Siaw, 2012; Yekta, Ahmad, & Kaur, 2010), law (Meng & Fook, 2011) as well as management (Ab Ghani, 2013; Ponnu *et al.*, 2008).

Consistent with other studies from Asian context, numerous researches were conducted to gain insights into the relationship between cultural differences and whistleblowing. Regarded as one of the earliest whistleblowing studies examining Malaysian perspective, Patel (2003) investigates the influence of culture on professional judgments among Australian, Indian, and Chinese Malaysian accountants. Viewing from an internal control perspective, he discovered that whistleblowing is more effective in Australian culture than Indian and Chinese cultures.

Meanwhile, Mustapha and Siaw (2012) examine perception and likelihood to blow the whistle among accounting students. The results suggested that seriousness of wrongdoing has a significant positive influence on the probability to blow the

whistle. In addition, the study revealed that top academic achievers were less likely to report. Nevertheless, majority of their students' participants showed a moderate approach in the willingness to blow the whistle. They also noted that gender was not significantly influence the whistleblowing likelihood.

Indeed, the importance of an effective communication channel needs to be highlighted to improve reporting on wrongdoing. In light of this issue, Yekta *et al.* (2010) emphasized the influence of employee relationship in reporting decision. They established that relationship among employees is considered the most significant factor for reporting wrongdoing. Furthermore, Yekta *et al.* (2010) also highlighted the influence of corporate codes of ethics and ethical practices on reporting of wrongdoing within organizations. However, they proposed that organizations should invest in time and effort to build strong relationship among employees since mere existence of ethical code and guidelines may not benefits the organization in having an effective reporting system.

The role of incentive to motivate employees to blow the whistle is generally debatable. Nonetheless, Meng and Fook (2011) viewed that employees may need some added incentives to report, although ethical judgment and personal consciousness have been established to motivate reporting. Exploring on the legislative efforts in providing protection to whistleblowers in three different countries, they suggested that whistleblowing is less encouraged in Malaysia as compared with England and the United States owing to the limitations of the WPA 2010's scope. Relevant to the WPA, Meng and Fook (2011) proposes that protection should also be provided to employees who blow the whistle internally. They also

advocated that protection to internal reporter would gain employees' trust and confidence on their employers, and thus inducing employees to report wrongdoings.

The vulnerability of banking industry to unethical practices had led Ponnu *et al.* (2008) to select executives working at banks in Malaysia as participants. Utilizing the theory of planned behavior, they advocated that determinants of planned behavior such as attitude toward whistleblowing, social pressure, and behavioral control are significantly influenced internal and external whistleblowing intentions. Their study suggests that there was a high tendency among participants to blow the whistle externally than using internal channel. Ponnu *et al.* (2008) also opined that external channel is preferred by participants possibly due retaliation avoidance or inadequacy of reporting channel within organizations. However, their study failed to establish a significant relationship between demographic variables and whistleblowing intention.

Using internal auditors as participants, Ahmad (2011) had utilized experimental approach to investigate the antecedents of whistleblowing intentions from four different groups of factors, namely individual, organizational, situational, and demographical. Depending on types of wrongdoing, he found that whistleblowing intentions of internal auditors are predicted by ethical climate, relativism, seriousness of wrongdoing and gender.

Review of relevant literature conducted by Rachagan and Kuppusamy (2013) reveals staggering facts on whistleblowing in Malaysia scene. They argued that the nature and structure of public listed companies, regulators enforcement level and the

prevalent culture in Malaysia were not promoting whistleblowing behavior. Hence, more whistleblowing research is still needed in Malaysia especially to develop awareness and to formulate insights on whistleblowing issues, thus creates opportunity for local researchers to embark on this area of study.



Table 2.2  
*Summary of Whistleblowing Literature in Malaysia*

Author(s)	Research objectives	Theoretical perspective	Type of study	Participants / Sampling	Major findings
Patel (2003)	Examines cultural influences on professional judgments in relation to whistleblowing as an internal control mechanism.	Hofstede's (1980) cultural dimensions	Survey questionnaire	Senior external auditors at Big 6 accounting firms in Australia, India, and Malaysia	Whistleblowing is more likely to be effective in Australian culture as compared with Indian and Chinese cultures.
Ponnu, Naidu, and Zamri (2008)	Examines attitudes, subjective norms and perceived behavioral control, of whistleblowing intentions among banking executives in Malaysia.	Theory of planned behavior	Survey questionnaire	Executive level employees of eight (8) Malaysian commercial banks	Both internal and external whistle blowing intentions are significantly related to the three determinants of planned behavior, except for internal whistle blowing and subjective norms.
Mohd Yusoff (2010)	Examines the extent of whistleblowing complaints received by internal auditors.	Agency theory	Survey questionnaire	Chief Audit Executives (CAEs) of Malaysian PLCs	Within the past two years, only 18 percent of CAEs surveyed received genuine whistleblowing complaints internally while 14 percent received externally.
Yekta, Ahmad, and Kaur (2010)	Studies the application of corporate code of ethics and ethical practices and their impact on reporting wrongdoing in organizations.	Social exchange theory	Survey questionnaire	Middle level managers in the private sectors	<ol style="list-style-type: none"> <li>1. Employee relationship is the most important determinant of reporting wrongdoing.</li> <li>2. Ethical codes require strong relationship with employees to be effective.</li> </ol>

Table 2.2 (Continued)

Author(s)	Research objectives	Theoretical perspective	Type of study	Participants / Sampling	Major findings
Ahmad (2011)	Investigates internal auditors' internal whistleblowing intentions on corporate wrongdoings in Malaysia.	Prosocial behavior and Ethical work climate theory	Experimental	Internal auditors who are registered members of the IIA Malaysia	Depending on types of wrongdoing, predictors to internal auditors' whistleblowing intentions are ranked as follows: 1. ethical climate 2. relativism 3. seriousness of wrongdoing 4. gender
Meng and Fook (2011)	Explores the legislative efforts undertaken by the United States, England and Malaysia in providing legal protection to whistleblowers.	Not specified	Comparative study	Not relevant	1. Whistleblowing in Malaysia is less encouraging as compared with England and the United States arguably due to the limitations of WPA 2010. 2. The WPA 2010 is lacking especially regards to internal whistleblowing.
Mustapha and Siaw (2012)	Explores the ethical views and investigates perception on whistle blowing and the likelihood of blowing the whistle in relation to seriousness of the act, gender, race and academic performance.	Not specified	Survey questionnaire	Final year accountancy students in a public university in Malaysia	1. Participants are moderately willing to blow the whistle. 2. The seriousness of the unethical act has a significant and positive relationship with whistleblowing. 3. High academic achievement has a negative relationship with whistleblowing.



Table 2.2 (Continued)

Author(s)	Research objectives	Theoretical perspective	Type of study	Participants / Sampling	Major findings
Ab Ghani (2013)	Investigates the relationships between (internal locus of control, work experience and ethics training) and whistle-blowing intention among supervisors in Malaysia. Also investigates the mediating effect of ethical reasoning on such relationships.	Theory of planned behavior and Cognitive moral development theory	Mixed method	Supervisors in PLCs	Only ethics training predicts whistle-blowing intention among supervisors in Malaysia while both internal locus of control and work experience failed to support the hypothesized relationships.
Rachagan and Kuppusamy (2013)	Reviews the adequacy of the introduction of new laws to encourage and protect whistleblowers to improve corporate governance in Malaysian PLCs.	Not specified	Literature review	Not relevant	Having laws to encourage and protect whistleblowers to get rid of corporate wrongdoings is not necessarily the only solution. This finding was in light of the culture of the people and the taxonomy of Malaysian PLCs.

### **2.7.3 Whistleblowing legislation**

In Malaysia, Section 174(8) of the Companies Act 1965 (CA) offers provision regarding whistleblowing where auditors are obliged to report to the Registrar of Companies for any violations and breaches of the law in relations to the preparation of financial statements. The law, however, has not stipulated any protection to whistleblower (Khan, 2009; Meng & Fook, 2011). In fact, the provision is only applicable to the external auditors of the organization. In 2004, the securities law in Malaysia had introduced some whistleblowing provisions specifically with the new amendments to the Securities Industry Act 1983 (SIA). The provisions were set out in sections 99E and 99F comprising two components. First, auditors are mandated to report any breaches of securities laws and listing requirements to relevant authorities. This provision serves as supplement to the existing requirements in CA. Second, provisions of protection against retaliation, of which includes discharge, demotion, discrimination, and suspension by the company. These protections, however, are only applicable to designated officers such as chief executives officers, company secretaries, internal auditors and chief financial officers.

The SIA provisions are among the earliest whistleblowing initiatives from the legal perspective in Malaysia. However, it only applies to breaches of securities laws and stock exchange rules. A more significant development took place in September 2007 where the CA was amended especially to incorporate section 368B. This newly introduced section provides protection to company's officers for reporting made to Registrar of Companies for any violations of the law. Moreover, it also stands as an avenue for reporting of wrongdoings such as fraud and dishonesty against the company. Meanwhile, the Capital Market and Services Act 2007 (CMSA) were

introduced in addition to the amendment of the CA. Effectively, this newly introduced CMSA repealed the existing SIA and Future Industry Act 1993, and thus whistleblowing provisions are embodied in CMSA from SIA previously (Khan, 2009).

Whistleblower Protection Act 2010 (WPA) was put to effect on 15 December 2010. Its application comprises both public and private sectors. With the enactment of the WPA, more protection is available for officers of a company or other persons who offers information on wrongdoings in organizations (Meng & Fook, 2011). However, Section 6(1) of the WPA states that the whistleblower protection is only available to an individual who discloses improper conduct to any enforcement agencies based on reasonable grounds such that a person has engaged, is engaging or is in the preparation to engage in an improper conduct.

## **2.8 Summary**

This chapter reviews literature relevant to the current study. First, it describes the nature and scope of fraud. The chapter then provides an overview of whistleblowing and its function as an internal control mechanism. Next, it discusses internal auditing functions from the whistleblowing perspective. Further, theoretical bases of this study are outlined. The chapter also reviews prior empirical studies on whistleblowing, specifically in relation to fraud, internal auditors, and research in Asian context. Lastly, some pertinent issues on whistleblowing in Malaysian companies are addressed.

## CHAPTER THREE

### RESEARCH FRAMEWORK AND HYPOTHESES DEVELOPMENT

#### 3.0 Introduction

This chapter introduces framework of the research and the current study's hypotheses, all of which developed based on an extensive review of relevant literature. First, it exhibits the model for reporting questionable acts as proposed by Schultz *et al.* (1993). This is followed by the illustration of the research framework and the hypothesized model. Finally, this chapter deliberates the hypotheses of the study.

#### 3.1 Research Framework

On top of its extensive acceptance in whistleblowing literature, the practicality of Graham's model of principled organizational dissent in an accounting context is well justified as fraud is, unquestionably, an issue of principles (Schultz *et al.*, 1993). Over the years, researchers have utilized this seminal model especially concerning reporting wrongdoings in organizations. For instance, Schultz *et al.* (1993) adapted the model to depict considerations of an individual whistleblower in reporting questionable acts (as shown in Figure 3.1). Meanwhile, Hooks *et al.* (1994) extensively reviewed whistleblowing literature, and proposed a model for auditors' whistleblowing decision making process particularly on fraud reporting. Their proposition was centered on one of the vital components of effective internal control as advocated by COSO (2013), that is, information and communication.

In this light, the present study further extends the perspectives proposed by Schultz *et al.* (1993). Apart from the existing three dimensions of the model, namely, perceived seriousness of wrongdoing, perceived responsibility for reporting and perceived personal cost to report, this study also hypothesizes that perceived organizational support would have an influence on the internal auditors' whistleblowing likelihood. This proposition is made in relation to the Morrison and Milliken's (2000) organizational silence context.

The working research framework and the hypothesized model of this study are illustrated in Figure 3.2 and Figure 3.3 respectively.



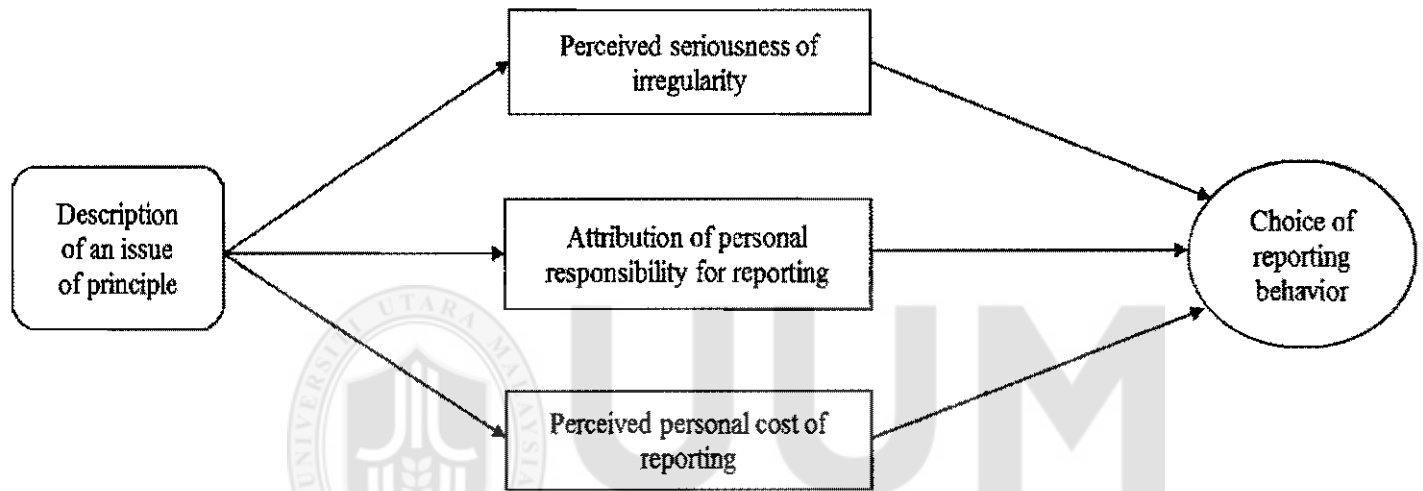


Figure 3.1  
*A Model for Reporting Questionable Acts*  
Source: Schultz *et al.* (1993)

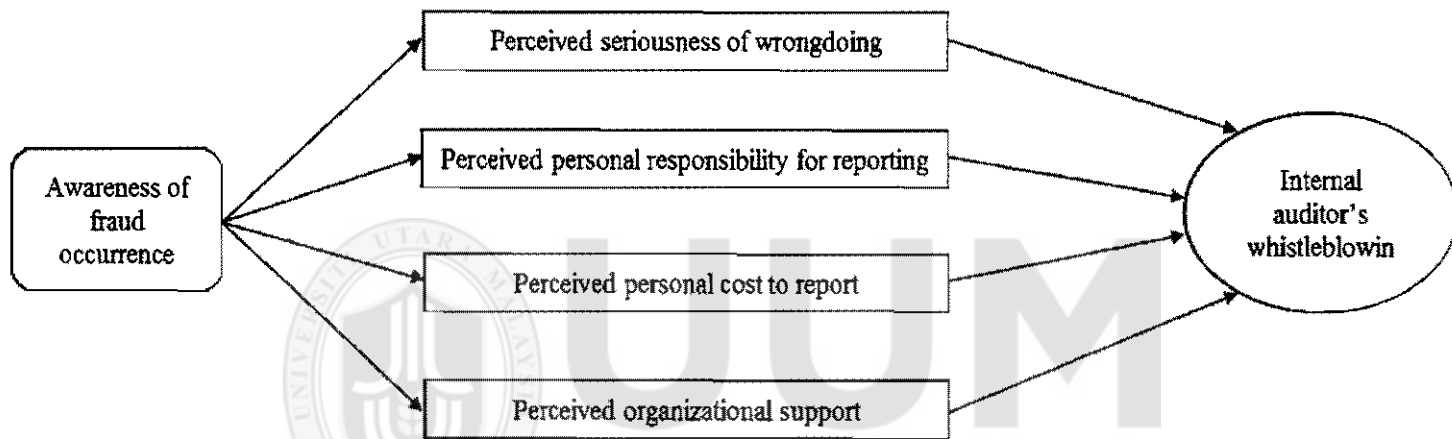


Figure 3.2  
*Research Framework: An Extended Model*

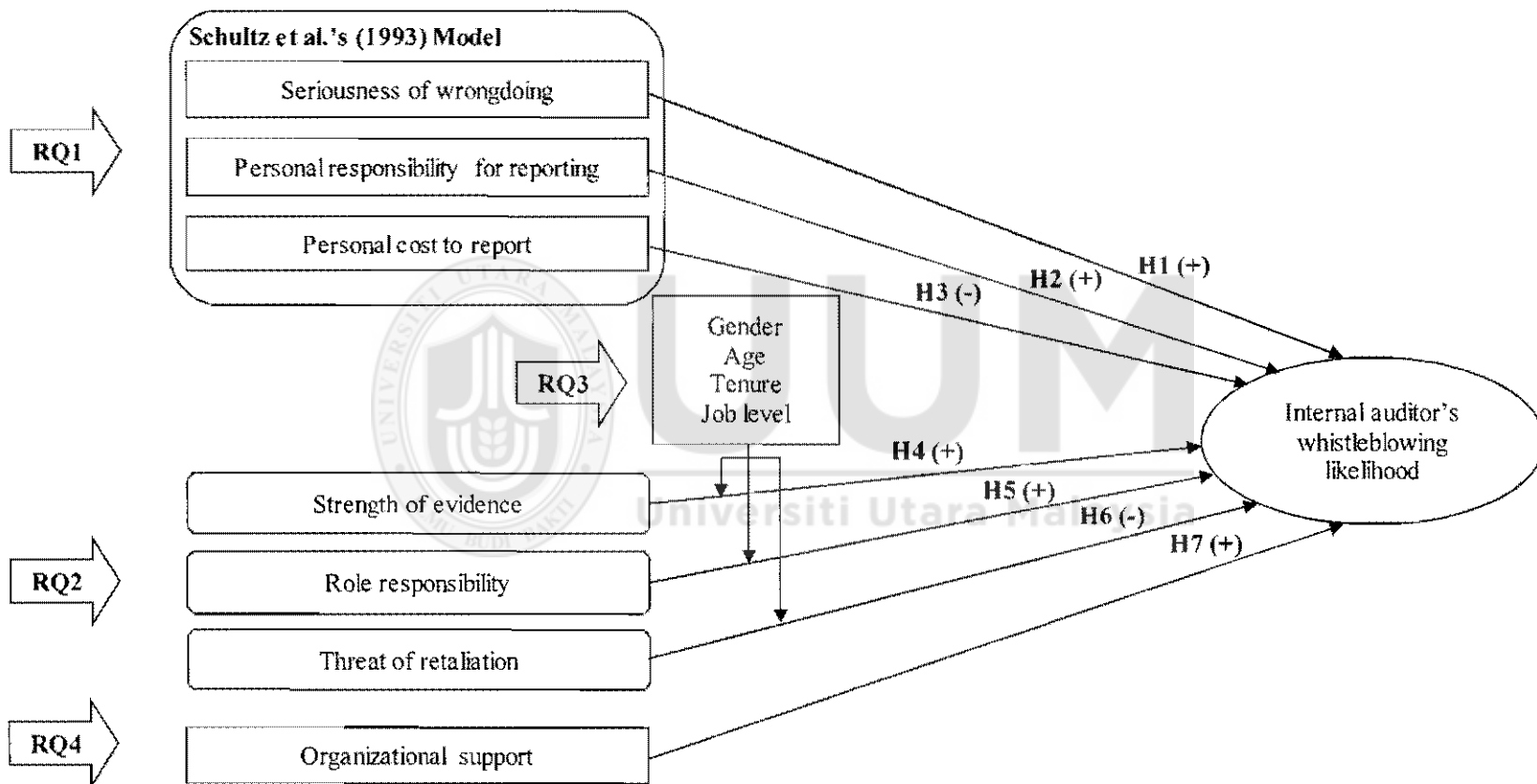


Figure 3.3  
*Internal Auditor's Whistleblowing Likelihood: A Hypothesized Model*



### **3.2 Hypotheses Development**

A hypothesis is defined as “a tentative, yet testable, statement, which predicts what you expect to find in your empirical data” (Sekaran & Bougie, 2010, p. 87). The current study’s hypotheses were developed primarily based on the perspectives of the model of principled organizational dissent.

Furthermore, due to their relevance to the internal auditing context, three additional dimensions, all of which related to the principled organizational dissent’s model are also examined. In particular, strength of evidence is linked to perceived seriousness of wrongdoing; role responsibility is relevant to perceived personal responsibility for reporting, and finally, threat of retaliation is associated with perceived personal cost to report.

Nevertheless, as the hypothesized model of this study was developed to explain the individual internal auditors’ whistleblowing likelihood, intuitively, the dependent variable may be related to certain individual characteristics. Despite mixed results, prior studies have found numerous demographic factors to be associated with whistleblowing. Accordingly, the factors are deliberately explained in specified subsections.

#### **3.2.1 Perceived seriousness of wrongdoing**

Generally, employees require good bases to report misconduct in the workplace. Prior studies suggest that perceived seriousness of wrongdoing was one of the key elements of employees’ reporting decision. Literature indicates that seriousness can

be described by the nature of the wrongdoing, specifically, whether it is a one-off or continuous occurrence. Empirical studies also recommend that participants perceive seriousness of wrongdoing differently according to types of wrongdoing, especially on its severity and harm (Miceli & Near, 1985; Near, Rehg, Van Scotter, & Miceli, 2004; Victor, Trevino, & Shapiro, 1993). In other words, a potential whistleblower may view that less serious wrongdoing may not require much attention from the management, thus, unnecessary, or not worthy of reporting (Brennan & Kelly, 2007). In fact, seriousness of wrongdoing was found to motivate the observer to report externally (Miceli & Near, 1984; 1985), especially in the case where co-workers were perceived to be at risk (Miceli *et al.*, 1991).

In addition, Miceli and Near (1985) recommend that seriousness is to be measured by financial consequences of the wrongdoing. This dimension is supported by research from accounting field where seriousness of wrongdoing is scaled by materiality of the financial impact (Curtis, 2006; Kaplan & Whitecotton, 2001; Loeb & Cory, 1989; Miceli *et al.*, 1991). This dimension was found to positively influence the whistleblowing activities among U.S. federal government employees (Near & Miceli, 1985). Additionally, King (1997) noted that prior studies assessed seriousness based on the frequency of wrongdoing and other organizational members' attitude toward wrongdoing. Literature suggests that frequency of the wrongdoing was used to predict the impact of wrongdoing based on past experiences (Near & Miceli, 1996). Employees were also found to consider any wrongdoing to be serious depending on the number of other observers (Zhuang *et al.*, 2005). Multiple sources and stronger evidence were also used to regard the wrongdoing as serious

(Near & Miceli, 1985). Therefore, it is sensible to believe that whistleblowing likelihood varies consistently with perceived seriousness of wrongdoing.

In light of the arguments above, this study hypothesizes that:

**Hypothesis 1 (H1):** *Perceived seriousness of wrongdoing will positively influence the internal auditors' whistleblowing likelihood.*

### **3.2.2 Perceived personal responsibility for reporting**

Perceived personal responsibility for reporting is the second element of Graham's model. It is suggested that employees would report a wrongdoing when they perceived that they are personally responsible to do so. In fact, the perception of one's personal responsibility may partly influence his or her likelihood to report a wrongdoing. Accordingly, many studies have established that perceived personal responsibility for reporting will directly influence the whistleblowing likelihood (Kaplan & Whitecotton, 2001; Schultz *et al.*, 1993).

Literature suggests that perceived responsibility may be triggered by employees' personal judgment that derives from individual moral compulsion (Miceli *et al.*, 1991), religious values (Chiu, 2002) as well as moral standards (Fritzsche & Becker, 1984; Miceli *et al.*, 1991). In addition, employees would personally feel more responsible to report when they are assigned by their job role to make that report. The feeling of responsibility is also argued to increase due to sense of social responsibility as well as employees' personal exposure to wrongdoing (Curtis, 2006;

Zhuang *et al.*, 2005). In fact, literature also found that employees would feel more responsibility to report when the wrongdoing is considered as serious.

In light of the arguments above, this study hypothesizes that:

**Hypothesis 2 (H2):** *Perceived personal responsibility for reporting will positively influence the internal auditors' whistleblowing likelihood.*

### 3.2.3 Perceived personal cost to report

Literature suggests that the likelihood to report could also be influenced by the perceived personal cost associated with the reporting. Whistleblowing literature, has explicitly regarded this factor as key to potential whistleblower to decide whether or not to blow the whistle. Among others, the whistleblower could be encountered with discrimination, demotion, sabotage, and threat of retaliation. These personal costs could be high and may significantly discouraged employees to report an observed wrongdoing (Dozier & Miceli, 1985).

Nevertheless, Schultz *et al.* (1993) and Hooks *et al.* (1994) advocated that perceived responsibility for reporting may influence whistleblower's perception on cost associated to reporting. More recent study such as Keil, Tiwana, Sainsbury, & Sneha (2010) examined whether personal responsibility plays a mediating role to benefit-to-cost differential. Their rationale centered on the idea that an employee who is made responsible to report will do so upon awareness of wrongdoing owing to two justifications, that is, either to be rewarded or to avoid punishment. Consequently, employees with higher responsibility for reporting will be more likely to perceived

less personal cost to report as compared with those who has lower responsibility for reporting. Internal auditors, although prescribed by job role to report wrongdoing that they observe, may also regard whistleblowing as a risky decision that would cost them personally. Particularly due to the nature of their job role, perceived personal cost to report could be critical in influencing the internal auditor's whistleblowing likelihood.

In light of the arguments above, this study hypothesizes that:

**Hypothesis 3 (H3):** *Perceived personal cost to report will negatively influence the internal auditors' whistleblowing likelihood.*

#### 3.2.4 Strength of evidence

Prior studies have found that an unambiguity of evidence had served as a driving force for employees to report organizational wrongdoing. Although evidence may be supported by numerous sources, written documentation has been one of the most credible. A valid documentation is critical to claim that a wrongdoing is actually happened. Indeed, this factor is critical especially when the case is brought to court, especially in serious fraud incidents. Previous research asserts that the frequency of whistleblowing activity is expected to increase when wrongdoing is unambiguous as it implies a genuine intention to report (Greenberger *et al.*, 1987). Similarly, Miceli and Near (1985) advocate that stronger and more convincing evidence could lead to higher whistleblowing likelihood. Moreover, they also revealed that employees would overcome their fear of negative consequences of reporting should they found the evidence is convincing and the wrongdoing is serious.

More recently, Apaza and Chang (2011) also concluded that strong evidence is necessary for whistleblowing effectiveness. Additionally, the decision to report externally was also found to be significantly supported by the extent of evidence strength (Dworkin & Baucus, 1998). These findings were consistent with the guidance from the auditing literature particularly on the influence of evidence quality. For instance, ambiguity of evidence could be inadequate to motivate individual auditors to report although they are prescribed by job role to report fraudulent activities.

In light of the arguments presented above, this study hypothesizes that:

**Hypothesis 4 (H4):** *The higher the strength of evidence, the higher will be the internal auditors' whistleblowing likelihood.*

### 3.2.5 Role responsibility

As mentioned previously, employees would report the organizational wrongdoing that they are aware of should they perceived themselves to be personally responsible to report. Perceived responsibility for reporting may arise when employees feel that they are either morally obligated, or prescribed by their job role to do so (Miceli *et al.*, 1991). Consequently, employees would assume higher responsibility for reporting owing to job role held by them. In this regard, prior studies propose that employees who have been prescribed to report wrongdoing would perceive themselves as more responsible to report as they would have higher opportunity to report (Miceli & Near, 1984). Regardless, Brief and Motowidlo (1986) argue that

even an informal role prescription could significantly impact perceived responsibility for reporting, thus indirectly influences the whistleblowing likelihood.

Accounting-related whistleblowing research had frequently involved auditors who are acknowledged for having prescribed role to report wrongdoing. In this regards, prior studies have established that auditors' whistleblowing likelihood is positively associated with the feeling of personal responsibility for reporting (Kaplan & Whitecotton, 2001; Schultz *et al.*, 1993). Specifically, Miceli *et al.* (1991) suggests that role assignment among internal auditors was found to positively influence reporting.

In light of the arguments presented above, this study hypothesizes that:

**Hypothesis 5 (H5):** *The more the role responsibility, the higher will be the internal auditors' whistleblowing likelihood.*

### **3.2.6 Threat of retaliation**

Prior to reporting, whistleblowers are commonly exposed to threat of retaliation that may unfavorably affects their career, as well as individual psychological state. Threats may come in various forms, for instance, isolation, defamation of character, intimidation, demotion, and job loss (Keil *et al.*, 2010; Parmelee, Near, & Jensen, 1982). It was suggested that the other party would threaten the potential whistleblower out of their own self-interest, or the perpetrator's direct or indirect interests. Employers or persons with higher power would usually threaten potential whistleblowers to scare them off or to intimidate them. Although, it is claimed that

employees would feel safe to report when protection against retaliation is guaranteed, numerous studies have failed to validate this hypothesis (Keil *et al.*, 2010; Miceli & Near, 1985; Miceli *et al.*, 1991; Near & Miceli, 1986). While a group of studies support that threat of retaliation had a minimal impact on whistleblowing (Miceli & Near, 1984; Near & Miceli, 1986), several others studies (Arnold & Ponemon, 1991; Farrell & Petersen, 1982; Trevino, 1986), on the other hand, suggest that threat of retaliation will lessen the whistleblowing likelihood as it denotes the potential cost associated with reporting.

Furthermore, threat of retaliation was found to be linked with higher likelihood of using external channel of reporting (Miceli & Near, 1985; Miceli *et al.*, 2009; Parmerlee *et al.*, 1982). According to Miceli and Near (1985), this finding suggested two key implications. First, threat of retaliation could lead to a higher frequency of external whistleblowing. Second, greater protection should be given to potential whistleblower to encourage internal reporting. Despite the inconsistency of findings, we may assume that potential whistleblowers who perceive some threat of retaliation are less likely to blow the whistle as compared with those without such perception (King, 1999; Mesmer-Magnus & Viswesvaran, 2005; Near & Miceli, 1996). In fact, threat of retaliation could possibly be the most influential determinant to employees' decision to report wrongdoing in organizations (Greenberger *et al.*, 1987; Near & Miceli, 1986).



In light of the arguments presented above, this study hypothesizes that:

**Hypothesis 6 (H6):** *The stronger the threat of retaliation, the lesser will be the internal auditors' whistleblowing likelihood.*

### 3.2.7 Gender

Despite the non-significance of gender effect in many ethical behavior studies (Vadera *et al.*, 2009), as compared with men, women were found to be more aware of ethical conditions (Mesmer-Magnus & Viswesvaran, 2005; O'Fallon & Butterfield, 2005), and more ethical in both judgment and behavior (Vermeir & Van Kenhove, 2008). Especially as the act of blowing the whistle is considered conforming to ethical belief, women are expected to be more likely to do so. Surprisingly, whistleblowing literature suggests that women were less likely to be involved in whistleblowing behavior (Dworkin & Baucus, 1998; Miceli & Near, 1988; Sims & Keenan, 1998). Ironically, women were reported to experience retaliation more frequently than men (Rehg, Miceli, Near, & Van Scotter, 2008), hence, their less likeliness to report could possibly due to career protection. On the contrary, as they usually assumed higher positions in organizations, and viewed to have higher credibility than women, men were found to be more likely to blow the whistle (Miceli & Near, 1988; Near & Miceli, 1995; Sims & Keenan, 1998). In fact, men were also found to be more prominent in many whistleblowing cases.

Further, Sims and Keenan (1998) reported that, as compared with their male counterparts, female employees were less likely blow the whistle externally. On the contrary, when anonymous reporting channel is available, female employees were

found to be more likely to report fraud as compared with male. This finding reveals that female employees are more concern over their identity exposure in relation to reporting. Under retaliatory conditions, however, male employees were found to be more likely to blow the whistle than female counterparts (Near & Miceli, 1985). In this light, Liyanarachchi and Newdick (2009) supported that there was a difference in the assessment of personal cost associated with reporting across genders. This tendency is also expected among internal auditors' participants.

In light of the arguments presented above, this study hypothesizes that:

**Hypothesis 4a (H4a):** *As strength of evidence increases from low to high, male internal auditors will be more likely to blow the whistle than their female counterparts.*

**Hypothesis 5a (H5a):** *As role responsibility increases from less to more, male internal auditors will be more likely to blow the whistle than their female counterparts.*

**Hypothesis 6a (H6a):** *As threat of retaliation increases from weak to strong, male internal auditors will be more likely to blow the whistle than their female counterparts.*

### 3.2.8 Age

Many studies reported that age significantly predicted ethical attitude and behavior. As compared with their younger counterparts, older employees are stricter on making ethical judgments. Despite a number of literatures indicated that age was a not significant predictor of ethical decision making (Craft, 2013; O'Fallon & Butterfield, 2005), as well as whistleblowing intention (Sims & Keenan, 1998), older organizational members were found to be more likely to blow the whistle than their younger counterparts. In fact, it was suggested that whistleblowers are mostly among those who aged around 40 years old. Additionally, whistleblowers were also found to have good employment record and that they are among leaders who are trusted. This characteristics help explain as to why older employees are more likely to be whistleblowers.

Moreover, older organizational members are more adept with authority and internal control systems in organizations. Therefore, as compared with younger members, older employees would have less restriction to report organizational wrongdoing (Keenan, 2000; Sims & Keenan, 1998). In this regard, Brennan and Kelly (2007) suggested that older organizational members had been more concerned with the repercussions of reporting on their career (Brennan & Kelly, 2007; Keenan, 2000; Miceli & Near, 1988). As discussed above, it can be suspected that age could also be associated with the whistleblowing likelihood among internal auditors.

In light of the arguments presented above, this study hypothesizes that:

**Hypothesis 4b (H4b):** *As strength of evidence increases from low to high, older internal auditors will be more likely to blow the whistle than their younger counterparts.*

**Hypothesis 5b (H5b):** *As role responsibility increases from less to more, older internal auditors will be more likely to blow the whistle than their younger counterparts.*

**Hypothesis 6b (H6b):** *As threat of retaliation increases from weak to strong, older internal auditors will be more likely to blow the whistle than their younger counterparts.*

### 3.2.9 Tenure

Despite weak and unclear relationship, positive association was found between tenure and whistleblowing decisions in prior studies (Miceli & Near, 1984; 1988). Literature asserts that longer tenured employees would be more likely to blow the whistle as they were near retirement, at higher position of power and more committed to the working organization (Mesmer-Magnus & Viswesvaran, 2005; Near & Miceli, 1995). On the other hand, younger tenure employees were found to be less concerned to stop problems at work and less aware of how the corporate culture works (Dworkin & Baucus, 1998). New organizational employees could be less likely to blow the whistle in organizations possibly as they could be less familiar with the appropriate reporting channel available.

As compared with shorter tenured employees, longer tenured ones are more likely to blow the whistle primarily as they know better on how to effectively make the report. As compared with new tenured staff, longer tenured employees would also have less ambiguity regarding response toward whistleblowing. Besides, longer tenured employees are more experienced and more knowledgeable regarding their working organizations' business operations. They understand both formal and informal authorities and the organization's control systems better as compared with their shorter tenured counterparts (Keenan, 1990; Miceli & Near, 1988). In fact, they also perceived as more committed and more loyal to the organizations they are working for. Thus, it can also be expected that tenure could have an impact on the internal auditors' whistleblowing likelihood.

In light of the arguments presented above, this study hypothesizes that:

**Hypothesis 4c (H4c):** *As strength of evidence increases from low to high, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.*

**Hypothesis 5c (H5c):** *As role responsibility increases from less to more, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.*

**Hypothesis 6c (H6c):** *As threat of retaliation increases from weak to strong, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.*

### 3.2.10 Job level

Individual employees' ability to address and eliminate wrongdoing in organizations is partly depending on their power levels (Near & Miceli, 1995). In this regard, literature asserts that individuals who hold key positions are more likely to blow the whistle (Near & Miceli, 1995). Job level was found to be imperative especially to influence other organizational members toward certain directive, such as stopping the wrongdoing, or supporting whistleblowing in organizations (Greenberger *et al.*, 1987). More importantly, holding top positions in organization not only would easily influence other organizational members, but also reduce the perceived risk associated with the reporting (Miceli & Near, 1984).

In this regard, prior studies assert that higher level managers are more likely to report wrongdoing as they are less threatened by retaliatory actions (Keenan, 1990). In fact, the high ranking officials were seen to be the setter of ethical climate and organizational culture, that they are more credible and powerful than other employees (Keenan, 2000, Keenan & Krueger, 1992). Therefore, it can be suspected that job level would have an influence on the internal auditors' whistleblowing likelihood.

In light of the arguments presented above, this study hypothesizes that:

**Hypothesis 4d (H4d):** *As strength of evidence increases from low to high, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.*

**Hypothesis 5d (H5d):** *As role responsibility increases from less to more, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.*

**Hypothesis 6d (H6d):** *As threat of retaliation increases from weak to strong, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.*

### **3.2.11 Perceived organizational support**

Silence phenomenon within organizations was argued to negatively influence the employees' morale. To comprehend the issue of silence among employees, numerous studies had referred to Morrison and Milliken's (2000) organizational silence model. The model suggests a number of effects of organizational silence. First, silence in organizations would make the employees to feel that they have no control over matters around them. Besides, the situation would also reinforce them to remain silent to avoid personal cost associated with reporting. Lastly, employees would feel that they receive very little empowerment and not being valued. This psychological effect of silence is also referred to as perceived organizational support. The model also advocates that perceived organizational would influence the levels of commitment and trust, which covers an individual relationship with another person, group, or organization (Eisenberger *et al.*, 1986).

The concept of perceived organizational support is grounded based on the social exchange theory where it posits that employees will be more committed to the organization when they perceived that their working organization values their

contribution and committed to their individual well-being (Eisenberger *et al.*, 1986). The argument is sensible as employees will portray a counterproductive behavior toward commitment and trust showed by the organization (Rhoades & Eisenberger, 2002). In fact, numerous literatures supported that employees who feel appreciated and valued will have a higher tendency to perform their job better as compared with those who feel not valued by their working organizations (Eisenberger *et al.*, 1990). Consequently, this behavior is believed to be able to induce employees to report unethical acts within the organization should they perceived positive and high support from their working organizations (Alleyne *et al.*, 2013).

In light of the arguments above, this study hypothesizes that:

**Hypothesis 7 (H7):** *Perceived organizational support will positively influence the internal auditors' whistleblowing likelihood.*

### 3.3 Summary

This chapter covers two key components of the study, namely, the research framework and the testable hypotheses. Prior to introducing the hypothesized model of the study, framework of the research was outlined. The chapter then elaborates the current study's hypotheses. In Table 3.1, the hypotheses are grouped according to relevant research questions.



Table 3.1  
List of Hypotheses

Research Question	Hypothesis
1	<b>H1:</b> <i>Perceived seriousness of wrongdoing will positively influence the internal auditors' whistleblowing likelihood.</i>
	<b>H2:</b> <i>Perceived personal responsibility for reporting will positively influence the internal auditors' whistleblowing likelihood.</i>
	<b>H3:</b> <i>Perceived personal cost to report will negatively influence the internal auditors' whistleblowing likelihood.</i>
2 & 3	<b>H4:</b> <i>The higher the strength of evidence, the higher will be the internal auditors' whistleblowing likelihood.</i>
	<b>H4a:</b> <i>As strength of evidence increases from low to high, male internal auditors will be more likely to blow the whistle than their female counterparts.</i>
	<b>H4b:</b> <i>As strength of evidence increases from low to high, older internal auditors will be more likely to blow the whistle than their younger counterparts.</i>
	<b>H4c:</b> <i>As strength of evidence increases from low to high, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.</i>
	<b>H4d:</b> <i>As strength of evidence increases from low to high, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.</i>

Table 3.1 (Continued)

Research Question	Hypothesis
2 & 3	<b>H5:</b> <i>The more the role responsibility, the higher will be the internal auditors' whistleblowing likelihood.</i>
	<b>H5a:</b> <i>As role responsibility increases from less to more, male internal auditors will be more likely to blow the whistle than their female counterparts.</i>
	<b>H5b:</b> <i>As role responsibility increases from less to more, older internal auditors will be more likely to blow the whistle than their younger counterparts.</i>
	<b>H5c:</b> <i>As role responsibility increases from less to more, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.</i>
	<b>H5d:</b> <i>As role responsibility increases from less to more, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.</i>
4	<b>H6:</b> <i>The stronger the threat of retaliation, the lesser will be the internal auditors' whistleblowing likelihood.</i>
	<b>H6a:</b> <i>As threat of retaliation increases from weak to strong, male internal auditors will be more likely to blow the whistle than their female counterparts.</i>
	<b>H6b:</b> <i>As threat of retaliation increases from weak to strong, older internal auditors will be more likely to blow the whistle than their younger counterparts.</i>
	<b>H6c:</b> <i>As threat of retaliation increases from weak to strong, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.</i>
	<b>H6d:</b> <i>As threat of retaliation increases from weak to strong, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.</i>
	<b>H7:</b> <i>Perceived organizational support will positively influence the internal auditors' whistleblowing likelihood.</i>

## **CHAPTER FOUR**

### **METHODOLOGY**

#### **4.0 Introduction**

This chapter explains the methodology of the present study. First, it describes the approach used to satisfy the research objectives. The chapter then outlines the research design, and followed by the development of questionnaire. Additionally, it presents the operationalization and measurement of variables. The chapter later elaborates on sampling and the data collection procedures. Concerns for validity and reliability of the instruments used in this study are also discussed. Finally, data analysis techniques employed are deliberated.

#### **4.1 Research Paradigm**

Literature offers two broad research paradigms characterized by the reality of the phenomenon in study, specifically, quantitative (positivist) and qualitative (interpretivist) (Creswell, 2012; Kumar, Talib, & Ramayah, 2013; Neuman, 1997). Positivist approach assesses the context of reality, where it is considered as stable, observable, and measureable from an objective point of view. Thus, relationship between variables can directly be established using quantitative data. Meanwhile, interpretivist approach advocates that the reality is only observable when subjective data are gathered. This suggests that the reality of a phenomenon can only be comprehended through some interventions and interpretations, and that it requires the use of qualitative data gathering instruments.

As in most business researches that measure participants' perception and attitude, clear and direct response of the participants are required in this study. The use of quantitative tool such as questionnaire could help researchers to establish direct relationships between the variables of interest, thus, participants' perceptions could be measured and objective result can be obtained. In this light, Mesmer-Magnus and Viswesvaran (2005) asserted that positivist approach is more commonly applied in whistleblowing studies as it provides meaningful empirical evidence to whistleblowing decision. Given these characteristics, this study applies quantitative research methodology as it is believed to be more appropriate and useful in satisfying the research objectives and in answering the research questions.

#### **4.2 Research Design**

The research objectives stated in Chapter 1 inspires the design of this research. Kumar *et al.* (2013) described research design as "...the plan of study followed to fulfill the research objectives or test the hypotheses of a study" (p. 58). Besides, it is also referred to as "...a way that the requisite data can be gathered and analyzed to arrive at a solution" (Sekaran & Bougie, 2010, p. 102). Due to its advantage, experimental design approach has gained considerable popularity among whistleblowing researchers. Thus far, numerous studies have applied this approach particularly to examine internal whistleblowing likelihood considering several factors (Arnold & Ponemon, 1991; Kaplan *et al.*, 2010; Kennett *et al.*, 2011; Liyanarachchi & Newdick, 2009; Schultz *et al.*, 1993). Correspondingly, apart from examining the correlational relationships between the variables of interest, the present study also adopts experimental approach on its manipulated independent

variables to answer relevant research question. In particular, a between-subjects experimental design is employed.

According to Kinnear and Gray (2008), a between-subjects experiment refers to “an experiment in which independent samples of participants are tested under different conditions” (p. 14). In light of its objectives, the present research meets a criterion for independent samples of data as it gather information from participants who independently respond to the study questionnaire. Prior whistleblowing studies recommend the use of experimental approach owing to a number of justifications. First, it is suggested that experiments may complement the archival and survey approaches in whistleblowing related studies (Kaplan & Whitecotton, 2001). Moreover, Ayers and Kaplan (2005) propose that experimental design may enhance internal validity. Apart from providing basis for causal relationships, Kaplan and Schultz (2007) emphasize that experimental approach gives a greater control over variables. More importantly, this approach uniquely adds to the body of knowledge by testing a specified hypothesized model (Kaplan & Whitecotton, 2001).

#### **4.3 Questionnaire Development**

Questionnaire is developed primarily to capture necessary information in answering the research questions (Dunn & Huss, 2004). And, it is also important that the type of information gathered can be used to correctly measure the variables. Due to sensitivity in ethics related studies, literature highlights the use of scenarios in replicating real business settings (Arnold & Ponemon, 1991; Kaplan & Schultz, 2007; Patel, 2003; Sims & Keenan, 1998; Xu & Ziegenfuss, 2008; Zhang *et al.*, 2009). As in most whistleblowing studies from an accounting perspective, scenarios

were also used in this study especially to set a proper context of fraud in organizations (Cohen, Pant, & Sharp, 1995; Lampe & Finn, 1992; Reidenbach & Robin, 1990). In the following subsections, design and elements of the study's questionnaire are elaborated.

#### **4.3.1 Questionnaire design**

Cover page of the questionnaire introduces the research title. To verify the researcher candidacy and to call for cooperation among the internal auditors, a certification letter from the Othman Yeop Abdullah Graduate School of Business (OYAGSB), Universiti Utara Malaysia was supplemented with the questionnaire (Refer to Appendix A). Additionally, the internal auditors were provided with an introductory note explaining the purpose of the current study. They were also informed that their participation in this study is voluntary, and that anonymity of their personal, as well as their working organizations' identity is assured (Refer to Appendix B).

The study's questionnaire is divided into four sections. Section A contains three scenarios relevant to the measured independent variables. Section B comprises another three scenarios concerning the manipulated independent variables. Based on the respective scenarios, participants were asked to indicate their reporting likelihood, as well as their perception of their colleagues' likelihood to report. Section C covers Eisenberger *et al.*'s (1986) perceived organizational support instrument. Lastly, participants are required to provide some demographic information in Section D. To gauge participants' comprehension of the manipulated conditions, one manipulation checks question for each scenario in Section B was incorporated at the end of the questionnaire (Refer to Appendix C).

#### 4.3.2 Questionnaire elements

To represent the independent variables of interest, questionnaire of the current study was structured to contain six scenarios and a survey instrument, all of which covered in four sections, particularly, Sections A to D. All the three scenarios in Section A were adapted from Schultz *et al.* (1993). These scenarios were chosen primarily due to their relevance to the model of principled organizational dissent. The three perspectives of principled dissent, namely, perceived seriousness of wrongdoing, perceived personal responsibility for reporting, and perceived personal cost to report are measured in each of the scenarios. The scenarios cover important dimensions regarding fraudulent incidents in organizations. Specifically, the first scenario relates to fraud in expense account reimbursement. Meanwhile, second scenario regards the issue of earning management through accounting record classification. Lastly, third scenario concerns with consignment goods treatment and its effects.

Meanwhile, Section B comprises another three scenarios independently selected to mirror the actual setting relevant to each of the study's manipulated independent variables. In this regard, each variable is operationalized by one scenario. Specifically, the first scenario which designates as Scenario 4 in the questionnaire is adapted from Brink *et al.* (2013). It relates to strength of evidence in the event of misreporting of financial information. Scenario 5 which covers role responsibility, as Scenarios 1 to 3, is also adapted from Schultz *et al.* (1993). It regards the unethical behavior of a purchasing manager. Lastly, Scenario 6 describes a threat of retaliation which is adapted from Liyanarachchi and Newdick (2009). It concerns with multiple one-off payments to an unknown bank account.

Section C consists of perceived organizational support's items, of which adapted from Eisenberger *et al.* (1986). And lastly, Section D requires information regarding participants' profile.

#### **4.3.3 Scale and response format**

Likert scales are very commonly applied in survey research (Neuman, 1997). They are used "to examine how strongly subjects agree or disagree with statements" (Sekaran & Bowie, 2010, p. 152). This type of scales is preferred mainly due to its appropriateness in measuring multiple indicators. Often, hypotheses are tested through quantitative measures provided by the operationalized scales (Neuman, 1997). Although both five and seven-point Likert scales are acceptable and satisfactory for testing purposes (Hinkin, 1995), the current study uses five-point Likert scales for the following justifications. First, Lissitz and Green (1975) argue that the reliability of the alpha coefficient increases as the point in the scale increases to five points. Furthermore, they also noted that using more than five-point scales will reduce reliability. Consistently, research suggests that the use of five-point scales is "as good as any" (Sekaran & Bowie, 2010, p. 151) as it was found that reliability of the ratings will not improve by increasing the scale from five to seven, or nine points.

On another note, literature asserts that there has always been a tendency among participants to check on one end of the response for all questions, denoting a problem of response set (Grove & Savich, 1979). In this regard, Neuman (1997) suggests that the response set problem, or also known as response bias, occurs when participants respond to the questionnaire by following a certain trend due to psychological



disposition or laziness. Accordingly, the current study applies reversed scales for a number of items to minimize the possibility of occurrence of this problem.

#### **4.3.4 Measurement bias**

One of the most common problems in using mail questionnaire is the issue of nonresponse. Apart from generalizability issue, concern for the rate of response for this study arises mainly due the sensitive nature of the research field, as well as the profile of the current study's participants. According to Ahmad (2011), hesitancy in responding to mail survey among Malaysian participants is common, and thus, can be expected. He highlighted that, other studies in Malaysia have also shown a similar pattern (Jusoh, Ibrahim, & Zainuddin, 2008; Jusoh & Parnell, 2008; Ming-Ling, 2008). For instance, previous studies indicated a considerably low response rates between 17.9% (Ahmad & Taylor, 2009) and 18% (Ahmad, 2011). Particularly due to the nature of study that require disclosure of classified and sensitive information, accounting research with less than 25% response rate is considered common (Jusoh & Parnell, 2008; Miceli & Near, 1988; Xu & Ziegenfuss, 2008). In fact, Ahmad (2011) revealed in his study that, several questionnaires were returned by participants who refused to complete the survey due to ethical restrictions set by their employers. Consistent with academic research, KPMG Malaysia Fraud Survey also indicated a fairly low response rate of 15.5% (KPMG, 2009). In fact, in their latest survey, KPMG Malaysia only managed to receive 10% of the total survey distributed (KPMG, 2014).

In order to achieve good response, each questionnaire was supplemented with a letter of certification from the Othman Yeop Abdullah Graduate School of Business

(OYAGSB), Universiti Utara Malaysia. Besides, an introductory note explaining the purpose of the study was also incorporated. These procedures were suggested and being applied in many prior studies as they were considered to be useful in inducing potential participants to participate (King & Bruner, 2000; Neuman, 1997; Sekaran & Bougie, 2010). Besides, Sekaran and Bowie (2010) also stress on the general appearance of the questionnaire. They assert that a questionnaire's attractiveness could enhance participants' convenience in answering the questions. In light of these recommendations, the study's questionnaires were printed in a booklet form. Also, Neuman (1997) suggests that a questionnaire of up to 15 pages long is appropriate for participants with high educational level. Given the professional background of the participants, the length of the study's questionnaire was considered a non-issue.

As in most business ethics research, requiring participants to provide sensitive information would draw a concern for social desirability bias. This problem implies the tendency of participants to provide answers based on their perceived acceptable norms, instead of their real and honest response (Neuman, 1997). On the same note, Bernardi and Guptill (2008) pointed that individuals would always incline to overstate or understate their reports to suit with culturally desirable and expected behaviors. Should proper control was not established; this bias will affect validity of the findings (Nyaw & Ng, 1994). According to King and Bruner (2000), anonymity could help minimizes the social desirability bias. In this regard, the present study also incorporates written assurance regarding confidentiality and anonymity of the participants' identity in the questionnaire. Additionally, as a mechanism to detect this bias, both first and third person approaches were used, as reflected in the response scales of all the scenarios (Schultz *et al.*, 1993; Zhang *et al.*, 2009).

#### 4.4 Operationalization and Measurement of Variables

In light of the objectives and scope of the current study, the internal auditors' whistleblowing likelihood was selected as the dependent variable, of which refers to the likelihood to blow the whistle on fraud occurrence that being aware of, to persons, or organizations that may be able to effect action. Meanwhile, the independent variables of this study were classified into two groups, particularly, measured and manipulated. There are four measured independent variables of interest in this study, namely, perceived seriousness of wrongdoing, perceived personal responsibility for reporting, perceived personal cost to report and perceived organizational support. Consistent with Schultz *et al.* (1993), seriousness of wrongdoing is viewed from the degree of the anticipated social harm. Similarly, responsibility for reporting is observed from the perspective of duty or obligation, while cost to report relates to the extent of the expected trouble, risk, and discomfort to the reporter as a result of reporting. As in prior studies, perceived organizational support refers to the employees' perception on the extent to which the organizations value their contribution and care about their well-being (Eisenberger *et al.*, 1986).

Furthermore, three manipulated independent variables are also examined, specifically, strength of evidence, role responsibility, and threat of retaliation. For the purpose of this study, strength of evidence is referred to as the extent to which evidences are available to the whistleblower. This includes "...documents or other evidence detailing wrongdoing" (Dworkin & Baucus, 1998, p. 1288). As adapted from Keil *et al.* (2010), role responsibility relates to the extent to which a prospective whistleblower "has a formally prescribed responsibility to report" (p. 792). Lastly, threat of retaliation is classified into strong (penalty), or weak (affiliation) conditions

(Arnold & Ponemon, 1991; Greenberger *et al.*, 1987). While penalty is associated with threat of retaliation that will directly affect whistleblower, affiliation regards threats that would impact other individuals, inside or outside the organization.

In this study, the measurement of variables was made primarily based on the respective literature a particular instrument is adapted. However, as mentioned previously, 5-point scale is utilized instead of 7-point due to methodological reasons. In fact, for the purpose of maintaining the consistency, and to avoid confusion among participants, a 5-point Likert scale is applied to all measures of variables.

#### **4.4.1 Dependent variables**

Consistent with previous research, the likelihood to report measures the participants' self-reporting tendency in light of the respective hypothetical scenarios (Ayers & Kaplan, 2005; Kaplan, 1995; Kaplan & Schultz, 2007; Kaplan & Whitecotton, 2001). The whistleblowing likelihood is measured using a scale ranging from 1 (*Less Likely*) to 5 (*Very Likely*).

#### **4.4.2 Measured independent variables**

The first three independent variables of this study are derived from Schultz *et al.*'s (1993) model. They are measured using three different scenarios. Participants are required to indicate their assessment concerning all the three perspectives in each scenario, particularly the seriousness of wrongdoing (social harm), personal responsibility for reporting (duty or obligation), and personal cost to report (trouble, risk and discomfort). These responses are measured from a scale ranging from 1

(*Very Low*) to 5 (*Very High*). Meanwhile, a shorter version of Eisenberger *et al.*'s (1986) Survey of Perceived Organizational Support instrument was used to measure participants' perception on the extent to which the organizations value their contributions and care about their well-being. Participants were asked to indicate their agreement to each of the item using a 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The average mean score of the 16-item instrument represents the measure of the participants' perceived organizational support, the fourth measured independent variable of this study.

#### **4.4.3 Manipulated independent variables**

In this study, three independent variables were manipulated independently at two levels each. As stated previously, each of them is measured using one scenario, as in Section B of the study's questionnaire. The first variable, that is, strength of evidence is designated as either "High" or "Low". This is followed by the second variable, role responsibility which is categorized as either "More" or "Less". While the final variable, that is, threat of retaliation is described as either "Strong" or "Weak". A  $2 \times 2$  factorial design experiment was conducted to test each of the manipulated independent variables with gender as the second independent. Meanwhile, for age group, tenure with the current employer, and job level,  $2 \times 4$  factorial designs were performed. Furthermore, a series of manipulation checks questions regarding the variables was also included.

#### **4.5 Sampling Procedures**

According to Sekaran and Bougie (2010), population refers to "the entire group of people, events, or things of interest that the researcher wishes to investigate" (p.

262). To set the population of this study, initially, several criteria revealed in the KPMG Malaysia Fraud, Bribery and Corruption Survey 2013 were considered. According to the survey, the highest percentage of fraud experience were reported by companies respondents that fall under Trading/Services (26%), Consumer Products (18%), and Construction (18%) sectors. In addition, majority of the companies reported an average annual revenue above RM50 million (89%). Also, 97% of them had less than 5,000 employees (KPMG, 2014). These selection criteria, however, were later found impractical to be applied simultaneously. Therefore, only the first criterion was finally used in defining the current study's population.

Prior whistleblowing studies that involved internal auditors had employed different sampling procedures. For instance, Ahmad (2011) received assistance from the Institute of Internal Auditors of Malaysia (IIA Malaysia) for the purpose of data collection. Specifically, professional, as well as associate members of the Institute were chosen as participants. As the present study is experimentally designed, similar sampling procedures as in Ahmad (2011) may not suitably be used. In addition, a number of methodological issues were also considered for sampling purposes.

First, the scope of this study is limited to internal auditors who work for public listed companies in Malaysia. In comparison, Ahmad (2011) used internal auditors who registered as members of IIA Malaysia. Although this sampling was seemed to be more convenient for collecting the data, unfortunately, it is not in line with the limited scope and context of the current study. The IIA Malaysia's membership is given to individuals, regardless of their working organizations' background. In other words, members of IIA Malaysia may comprise of those who work for various types

of organizations: public, private, governmental, non-profits, religious, and others. The diversity of participants' background is one of the concerns of this study as it would potentially raise a sector-specific bias. Between-subjects design puts great emphasis on issues of bias such this.

Moreover, the population of registered members of IIA Malaysia may comprise individuals who work as in-house internal auditors and those who work for outsourcing companies that provide internal audit function services. This fact would raise an issue of company-specific bias. To alleviate this bias, in this study, eight different sets of questionnaires that represent eight different treatment conditions were distributed to each of the selected companies. In other words, all the eight questionnaires were expected to be returned by participants from each company. Nevertheless, each participant only answers one of the eight sets.

#### **4.5.1 Sampling frame**

A sampling frame provides complete listings of the elements in the population that samples are drawn (Sekaran & Bougie, 2010). In determining the size of population of this study, at least two realities in each company under the sectors of interest were considered. First, there will be more than one individual internal auditor. And, the number of internal auditors varies depending on the size of the company. As it is impractical to ascertain the exact number of internal auditors in each company, thus, in selecting the samples for this study, a two-stage sampling technique was employed.

Instead of selecting individual internal auditors, samples of companies were drawn. This process was made utilizing the full listing of companies under the sectors of interest. Equal number of samples was randomly selected from each of the three sectors making up a total sample of 111 companies. By perusing through their latest annual reports, however, it was discovered that some of the selected companies had outsourced their internal audit function to independent parties. As there was no internal audit department exists, those companies were technically disqualified for sampling purposes. Subsequently, they were replaced by companies with an in-house internal audit function.

#### 4.5.2 Sampling elements

Sekaran and Bougie (2010, p. 263) defined an element as “a single member of the population”. The sampling element of this study is an individual internal auditor who works for Malaysia’s public listed companies in Trading/Services, Consumer Products, or Construction sector. These internal auditors were chosen to participate in this study mainly due to their exposure to the real internal auditing field coupled with dynamic business environment. Moreover, consistent with prior studies utilizing internal auditors, participants of this study are expected to have adequate awareness of issue of principles, such as fraud, considering their level of education and professional ethics (Schultz *et al.*, 1993). These criteria are in line with the conditions for reporting dissent in organizations (Schultz *et al.*, 1993). Apart from awareness of wrongdoing, employees should be able to gauge the anticipated response of the victim organization, as well as assessing their personal responsibility for reporting. Therefore, the selection of participants among internal auditors is considered meeting the conditions (Miceli & Near, 1984).



#### **4.5.3 Sample size**

This study adopts a formula as suggested by Tabachnick and Fidell (2007) in calculating the minimum sample size requirement:  $N > 50 + 8m$  (where  $m$  = number of independent variables) (Pallant, 2007). The formula is constructed based on the number of independent variables a study wishes to investigate. Applying the formula to the current study with seven independent variables, the minimum sample size required is 107.

#### **4.6 Data Collection Procedures**

This study involves five-stage procedures of data collection. To gain some fundamental inputs, the initial version of the study's questionnaire was first proposed during the proposal defense session. Then, two groups of pretesters, namely, academics and non-academics were employed to evaluate the practicality of the questionnaire. Subsequently, a pilot study was run to assess the validity and reliability of the questionnaire instruments. Finally, questionnaires were distributed to the internal auditors by mail in the actual study.

##### **4.6.1 Proposal of the questionnaire**

First draft of the questionnaire was incorporated in the research proposal. During the proposal defense session, feedbacks from the reviewers were compiled. At least two perspectives regarding the study's questionnaire were highlighted. First, reviewers had expressed their concerns of the link between the questionnaire and the hypothesized model of the study. In addition, they also commented on the use of scenarios in reflecting the reality of internal audit practice.

#### **4.6.2 Pretesting the questionnaire**

To ensure its functionality, the questionnaire of this study was set to undergo a two-stage pretesting process. The first stage involves academics at the School of Accountancy, Universiti Utara Malaysia. They were selected mainly due to their internal auditing background, particularly, either because they had some prior working experiences in internal audit profession and/or they are currently teaching internal auditing courses. Five of them responded to the email and provided their comments as requested. Further, two of the five pretesters also agreed to be consulted by the researcher. Meetings were then conducted with them. This procedure was undertaken to better understand the responses made earlier. Meanwhile, the second stage pretesting was conducted with the participation of non-academics, who are internal auditors by profession. Through some informal interviews, these pretesters have provided important insights especially concerning internal auditors' job role. Subsequent to receiving feedbacks from both groups of pretesters, scenarios of the current study were revised accordingly.

#### **4.6.3 Pilot study**

Although pilot study may be regarded as a 'mini version' of the actual data collection process, there are some distinct characteristics between the two. This is due to the fact that pilot study may be conducted for several different purposes. In this regard, two different data collection techniques were utilized in this research for pilot and the actual data collection. While random sampling was applied for actual data collection, in the pilot study, data was gathered using convenient sampling. This type of sampling is considered acceptable especially for pilot study as findings were not

meant to be generalized. Instead, this procedure was performed mainly to assess the feasibility of the questionnaire's instruments through validity and reliability testing.

In the pilot study, individuals are required to meet at least the following two criteria to be part of the samples. Particularly, he or she must be an internal auditor by profession and obtained at least a bachelor's degree. In light of these requirements, participants are expected to be versed in English language, hence were assumed to understand the scenarios well. To find the prospective participants, the researcher consulted few internal auditors in the field. Subsequently, these individuals distributed the questionnaire to colleagues at their workplace. In total, 48 copies of questionnaires were sent out to participants. However, only 38 questionnaires were safely returned, of which merely 32 responses were usable for analysis purposes.

In light of the comments received from the pilot study, few amendments were made to the study's questionnaire. For instance, in Section D, two demographic questions have been dropped. There was one participant who opined that "Marital status" should not be included in the questionnaire as it has no relevance to any of the study's objectives. Meanwhile, another participant expressed her concern that "Ethnicity" question should be removed as she thought that some participants might find it sensitive.

#### **4.6.4 Questionnaire administration**

Mail questionnaire has been a very common way of collecting data among research in business ethics (Randall & Gibson, 1990). Participants are reached out using mail questionnaire particularly due to ethical considerations. Accordingly, this method is considered appropriate as it requires participants to self-report their behavioral likelihood (Neuman, 1997). By maintaining their anonymity, participants are expected to respond more freely and honestly. In this light, the current study uses mail questionnaire to gather data from its participants.

To reach out to its intended participants, the current study's questionnaire was mailed to respective Chief Internal Auditor or Head of Internal Audit of each of the selected companies. A letter introducing the study was enclosed and cooperation from the recipients was requested, especially to participate and to distribute the questionnaires to other internal auditors in the organizations. To gain good participation among the internal auditors, objectives of the study were properly explained in the questionnaire. In addition, a letter of certification from OYAGSB was also incorporated.

#### **4.6.5 Questionnaire distribution**

To determine the number of questionnaires to be distributed, information regarding the minimum sample size and the minimum expected response rate were considered. In view of a declining trend in the rate of response among public listed companies' employees in Malaysia, a 12% response rate was regarded as the minimum response rate level. Thus, in order to obtain at least 107 samples, about 892 questionnaires

should be circulated to potential participants. Nevertheless, considering the number of questionnaires each company should receive, that is, eight different sets of questionnaires, a total of 888 questionnaires have been sent out to 111 companies.

As three independent variables were manipulated independently in this study, measures were taken to ensure that the questionnaires were randomly distributed to participants. As mentioned previously, there are eight different treatment conditions resulted from the manipulation of the variables. Therefore, each participant receives a questionnaire from any of these conditions. Table 4.1 shows the mechanism used to assign the questionnaires randomly to participants across the different treatment conditions.

Table 4.1  
*Experimental Conditions*

Experimental condition	Factor		
	Strength of evidence (Scenario 4)	Role responsibility (Scenario 5)	Threat of retaliation (Scenario 6)
1	Low	Less	Weak
2	Low	Less	Strong
3	Low	More	Weak
4	Low	More	Strong
5	High	Less	Weak
6	High	Less	Strong
7	High	More	Weak
8	High	More	Strong

#### 4.6.6 Ethical considerations

In collecting the data, some ethical concerns were cautiously observed (Kumar *et al.*, 2013; Sekaran & Bowie, 2010). First, a formal certification letter to conduct research was incorporated in the study’s questionnaire. This letter, of which issued by the research institution, is meant to certify the candidacy of the researcher, and that the

internal auditors' cooperation to participate in the study is sought. Participants were not only informed of the purpose of the study, but they were also assured that all the information provided will not be used for any other purposes except those of the study. Most importantly, confidentiality and anonymity of the participants were guaranteed.

#### **4.7 Validity and Reliability**

Among the key procedures performed prior to analyzing the data were assessments on the instruments' validity and reliability. Generally, validity can be classified into two: external and internal validity. While external validity assesses the generalizability of data on different set of participants, time, and settings, internal validity measures the ability of the instrument to measure what it intends to measure. Further, internal validity can be divided into three categories: content, criterion-related and construct validity. Content validity measures the adequacy of the research instrument in providing clear scope to definitions and conceptual terms. Thus, poorly defined terms serve as a threat to content validity. Criterion-related validity denotes the instrument ability to measure items accurately, of which mainly relates to the type of response scale. Finally, construct validity signifies the representativeness of the construct. By applying instruments already established in prior studies, the present study can be regarded as less susceptible to the issue of goodness-of-fit of the measures.

Meanwhile, reliability test is performed primarily to assess the consistency of the instruments' measures. A consistent instrument is replicable to other settings and to different group of participants. Reliability can be categorized into three types:

stability, equivalence and internal consistency. Internal consistency is more common in social science research, where it measures uniformity of an instrument's items in explaining the construct. Internal consistency is typically measured using Cronbach's alpha coefficient, from the scale of 0 to 1. Coefficient which recorded above 0.7 is considered as highly reliable.

#### **4.8 Data Analysis Techniques**

In light of the extent of the research questions, as well as the proposed hypotheses, both correlational and causal relationships between variables of interest were examined in this study. Accordingly, appropriate data analysis techniques were employed.

To ascertain correlational relationship between variables of interest in this study, bivariate analysis was conducted. Results of this analysis were useful, not only to examine the extent to which the variables correlate among each other, but more importantly, strength and direction of relationships between variables can be determined. In fact, bivariate analysis was also used to assess linearity of the relationships. It is important to note, however, that this analysis could not suggest any causal evidence between variables. On another note, multivariate analysis was commonly used, not only to test the predictive ability of independent variables on the dependent variable, but also to measure the relative influence of each independent variable on the outcome. Especially to assess the measured independent variables of interest, both standard and hierarchical multiple regressions analyses were carried out in the present study.

Additionally, in examining causal relationship between variables, analysis of variance (ANOVA) was also applied in this study. This analysis was mainly used to gauge the influence of independent variable(s) on a single continuous dependent variable. While, one-way ANOVA denotes a single independent variable, a two-way ANOVA refers to an analysis involving two independent variables. As compared with an independent samples t-test that only measures a dichotomous independent variable, a one-way ANOVA allows analysis to be conducted for an independent variable with more than two levels. Technically, mean scores between groups are compared. Especially due to the predictive ability of independent variables on the dependent variable, often times, the independent variables are also referred to as factors, hence, this type of analysis is also called factorial analysis. To establish the internal auditors' whistleblowing likelihood from the perspectives of the manipulated independent variables, apart from one-way ANOVA procedure, a two-way ANOVA was also performed in this study.

#### **4.9 Summary**

This chapter presents the methodology of the current study. First, it justifies the approach of the research, and then followed by the explanation on the research design. Next, the chapter outlines the questionnaire development process. Later, operationalization and measurement of the variables of interest are provided. This chapter also elaborates on the sampling and data collection procedures. Lastly, relevant techniques used to analyze data are discussed.



## **CHAPTER FIVE**

### **ANALYSES AND RESULTS**

#### **5.0 Introduction**

This chapter presents the analyses and results of the current study. It starts by addressing the preliminary procedures undertaken prior to performing the analyses. This is followed by some highlights on the descriptive statistics, particularly concerning the participants' profile, response across scenarios, as well as return across treatment conditions. Subsequently, the chapter reports the bivariate correlations, and also, the multiple regression analyses' results. Moreover, the results of ANOVA on the three manipulated variables were also explained. Utilizing relevant analyses' results, this chapter later deliberates on the testing of hypotheses. Lastly, some supplementary analyses were also provided.

In this study, data were analyzed using IBM SPSS Statistics for Windows (Version 22).

#### **5.1 Preliminary Procedures**

Prior to analyzing the data, some important procedures called data screening, were performed in order to ensure data credibility. First, the data file was examined whether data were keyed-in correctly. Later, the file was checked for any missing data and outliers. Additionally, an analysis was also conducted to see if data were normally distributed. In the following subsections, some of the procedures were explained in detail.

### 5.1.1 Missing data and outliers

Whether or not it is intentional, missing data is resulted from participants' failure to respond to any of the questions in the questionnaire. It is vital to check for any missing data as it may dramatically affect the study's results (Pallant, 2007). Generally, missing data can be classified as either scattered randomly or systematically. Between these two, randomly scattered missing data were considered less severe (Tabachnick & Fidell, 2007). On the other hand, data can be susceptible to nonresponse bias should the missing data scattered following a certain trend (Neuman, 1997). For the purpose of data analysis, non-available data were recognized as missing values.

Literature asserts that missing values below 10% of the sample is tolerable and may not significantly affect the interpretation of results (Cohen, 1988). In this regard, missing values were analyzed in this study using SPSS MVA. The results indicate that none of the study variables reported missing values of more than 5% of the total sample. This minimal percentage suggests that treatment for missing value was not a major concern in this study. Nevertheless, as suggested by Pallant (2007), pairwise exclusion of missing data was selected throughout the analyses in this study.

Meanwhile, concern for detecting outliers arises as extreme values could significantly affect normality of data distribution, and thus, influence the statistical results (Tabachnick & Fidell, 2007). Outliers can be assessed using histograms, box-plots, and z-scores. For a large sample size, a z-score greater than the absolute value of 4 is indicative of extreme observations (Hair *et al.*, 2006). Meanwhile, Tabachnick and Fidell (2007) considered standardized residual that is more than 3.3 or less than -

3.3 as outliers. Examination of outlier for each variable of this study reveals that only a handful cases had exceeded the suggested thresholds. Hence, as suggested by Pallant (2007), no further action was taken. The scatterplot is denoted as Figure 5.1.

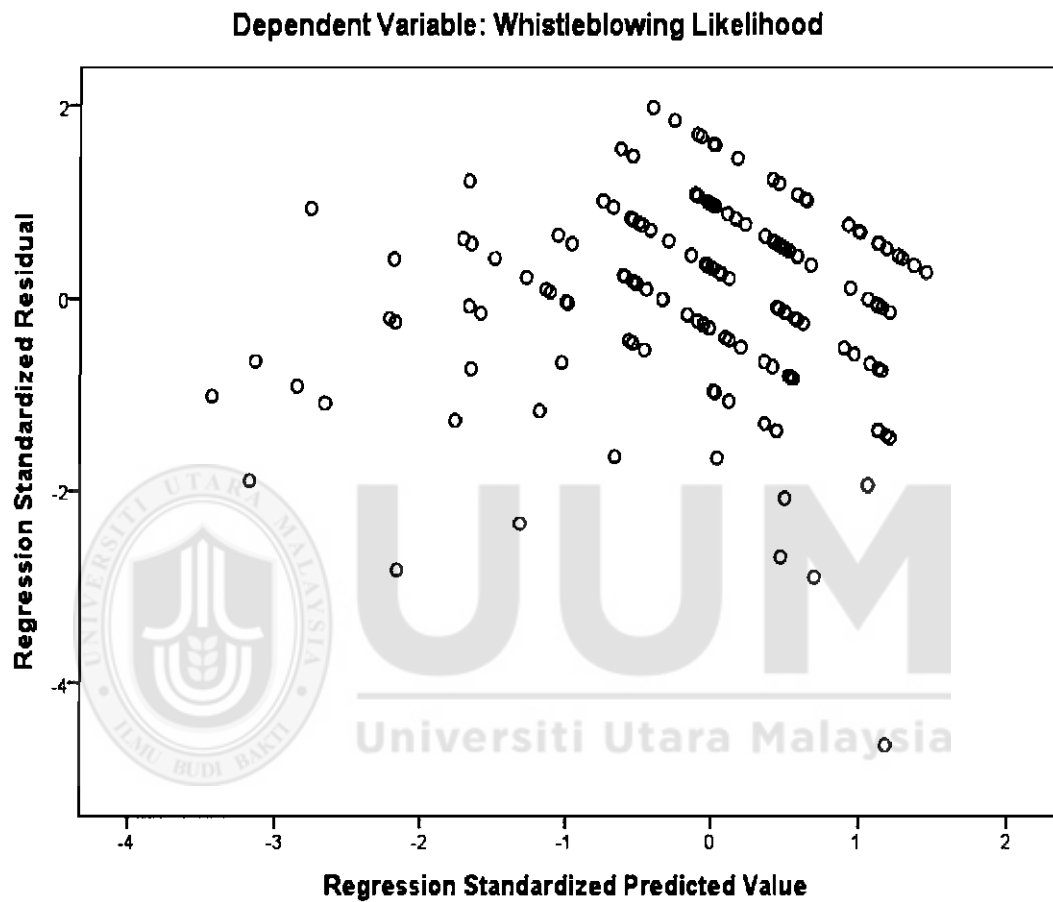


Figure 5.1  
*Scatterplot: Whistleblowing Likelihood*

Additionally, Mahalanobis distance was also used in detecting multivariate outliers. Despite the existence of several outliers, result of Cook’s distance reveals that the outliers would have no significant influence on the results of the models as a whole. This conclusion was made as all of the values are well below 1 (Refer to Table 5.7). Consequently, all responses were retained for analysis.

### 5.1.2 Normality

Normality of data distribution, especially of the dependent variables' scores, is one of the major concerns in data analysis. It can be assessed using a number of techniques. In this study, normality was first tested by observing the skewness and kurtosis values. Data were considered to conform to normality assumption if the values are close to zero. Results reveal that none of the dependent variables satisfy the normality assumption. Moreover, data normality was also measured using Kolmogorov-Smirnov (KS) statistics, of which normality is indicated by a non-significant value, that is, a Sig. value greater than .05. Similarly, assumption of data normality is violated. In addition, assessment on the multivariate normality was also made. The Normal P-P Plot suggests that there was no significant deviation from normality. Regardless, according to Pallant (2007), non-normality is quite common among social science studies with large sample size. In fact, due to the nature of the study's construct, that is, gathering data on perception, violation of normality assumption is reasonably expected. Considering the sample size and constructs measured, data non-normality is not a major issue in this study.

### 5.2 Factor Analysis

One of the common steps in data analysis is to validate the scale of measurement used in the study. Generally, this procedure is called factor analysis. In this study, factor analysis was performed on the 16-items version of Eisenberger *et al.*'s (1986) Survey of Perceived Organizational Support scale. To assess the appropriateness of items loadings on factors, principal component analysis was carried out using varimax rotation method. Prior to performing the analysis, the suitability of the data

set for factor analysis was first checked. The correlation matrix table indicates many correlation coefficients of at least .30. Besides, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value was .88, exceeding the threshold of .60. Also, Barlett's Test of Sphericity value was statistically significant ( $p = .000$ ). These results suggest that the data set is appropriate for the analysis.

The analysis reveals that, only three components represent eigenvalues of more than 1, of which in total, explain 56.53% of the variance. Nevertheless, the first factor loading explains 39.97% of the total variance. This result is supported by the screeplot, indicating a sharp drop from the first to the second component. Additionally, the Component Matrix table shows the unrotated items' loadings of each of the three components. As suggested in the literature, a minimum value of .40 was regarded as an acceptable item loading. Majority of the items satisfy this recommended value, indicating that they were properly loaded. Finally, the analysis also reveals that the lowest communality value was .474, way above the .30 threshold. This finding confirms that each item fits well with other items in a similar component. Considering these results, all items of the scale were retained for analysis.

### **5.3 Reliability**

Reliability is mainly concerned with the goodness of fit among instruments' items. It examines the correlation of multiple items in explaining a particular construct, of which typically denoted by a Cronbach's alpha value. In other words, reliability test indicates the extent to which each item independently provides meaning to a particular construct. This is commonly referred to as internal consistency. In this

study, reliability test was conducted to evaluate goodness of fit of two instruments. The first instrument was regarding the perspectives of principled organizational dissent's model. As the study utilizes three hypothetical scenarios relevant to the dimensions of principled organizational dissent, it is important to gauge whether the scenarios consistently measure the particular dimensions. For this purpose, participants' response to each dimension across the three scenarios was examined. The results are presented in Table 5.1.

Table 5.1  
*Reliability Test*

Construct	Cronbach's Alpha	N of Items
Perceived seriousness of the wrongdoing	.650	3
Perceived personal responsibility for reporting	.666	3
Perceived personal cost to report	.663	3
Perceived organizational support	.889	16

Table 5.1 indicates a Cronbach's alpha value of .650 for perceived seriousness of wrongdoing, .666 for perceived responsibility for reporting, and .663 for perceived personal cost to report. Note that each dimension reports an acceptable alpha value, that is, above .60. Thus, it was concluded that the scenarios had independently explained each of the dimensions of the principled organizational dissent's model. Meanwhile, the second instrument tested for reliability was regarding perceived organizational support. Specifically, assessment was made concerning participants' response to a 16-item Survey of Perceived Organizational Support (SPOS) scale. Reliability test for SPOS scale reveals a Cronbach's alpha value of .889. The value indicates that all items had individually explained the instrument's construct.

5.4 Social Desirability Bias

Literature asserts that research participants would always inclined to define themselves, consciously or unconsciously, by way of their response to questionnaire (Watkins & Cheung, 1995). In fact, they also tend to conform to social expectations especially when they regard their opinions to be different from others. This concern, generally, is termed as social desirability bias. To ascertain the existence of social desirability bias in this study, a paired-samples *t*-test was conducted. In this test, comparison of mean scores between the participants’ whistleblowing likelihood and their perception of their colleagues’ likelihood to report was made.

The result for Scenario 1 indicates that there was a statistically significant difference in the mean scores, particularly, between the participants’ whistleblowing likelihood ( $M = 4.30, SD = 0.873$ ) and their perceived colleagues’ likelihood to report ( $M = 3.72, SD = 0.901$ ),  $t(178) = 9.920, p < .005$  (two-tailed). The difference of mean scores was .587 with a 95% confidence interval ranging from .470 to .703. Also, eta squared statistics (.356) discloses a large effect size. Detailed results of all the scenarios are summarized in Table 5.2.

Table 5.2  
*Test of Social Desirability Bias*

Scenario	Participant (A)		Colleague (B)		Mean Diff.	<i>r</i> *	<i>df</i>	Eta squared
	Mean	Std Dev	Mean	Std Dev	(A) – (B)			
1	4.30	0.87	3.72	0.90	0.59	9.92	178	.36
2	3.93	1.00	3.48	0.88	0.45	7.82	177	.26
3	4.28	0.75	3.82	0.80	0.45	7.68	176	.25
4	3.82	1.12	3.57	1.08	0.25	4.41	178	.10
5	4.16	0.96	3.72	1.07	0.44	6.93	178	.21
6	4.06	0.87	3.54	1.02	0.51	7.79	178	.25

\* Correlation is significant at the 0.05 level (2-tailed).

Table 5.3 shows that the participants reported higher personal scores than their perceived response of their colleagues in all scenarios. The highest mean difference was found in response to Scenario 1 (0.587), which followed by Scenario 6 (0.514). Meanwhile, mean difference between the two scores for Scenario 4 denotes the least value (0.246), of which also indicates the only scenario with a moderate effect size.

The results of the paired-samples *t*-test show that the social desirability bias exists in the internal auditors' response. The eta squared statistics reveal that the two mean scores were significantly different throughout all the scenarios in this study (two-tailed,  $p < .005$ ). Although it may be difficult to explain qualitatively, this finding suggests that the participants were inclined to overestimate their personal response as compared with their perception on their colleagues' response. As mentioned earlier, the participants' tendency to underestimate response of their colleagues should they encountered with similar situations is rather natural. Therefore, social desirability bias was not a major issue in this study.

### **5.5 Multiple Regression Assumptions**

Prior to conducting the multiple regression analysis, several assumptions were first assessed. Some of them have been discussed in the earlier sections, while the remaining are presented as follows.



### 5.5.1 Linearity

This assumption states that the relationship between dependent variable and each of the independent variables is linear. Linearity can be assessed through residual statistics (Tabachnick & Fidell, 2007). Two variables can be considered to have a linear relationship if the normal P-P plot shows, more or less a straight line. The dependent variable's normal P-P plot of regression standardized residual is presented in Figure 5.2.

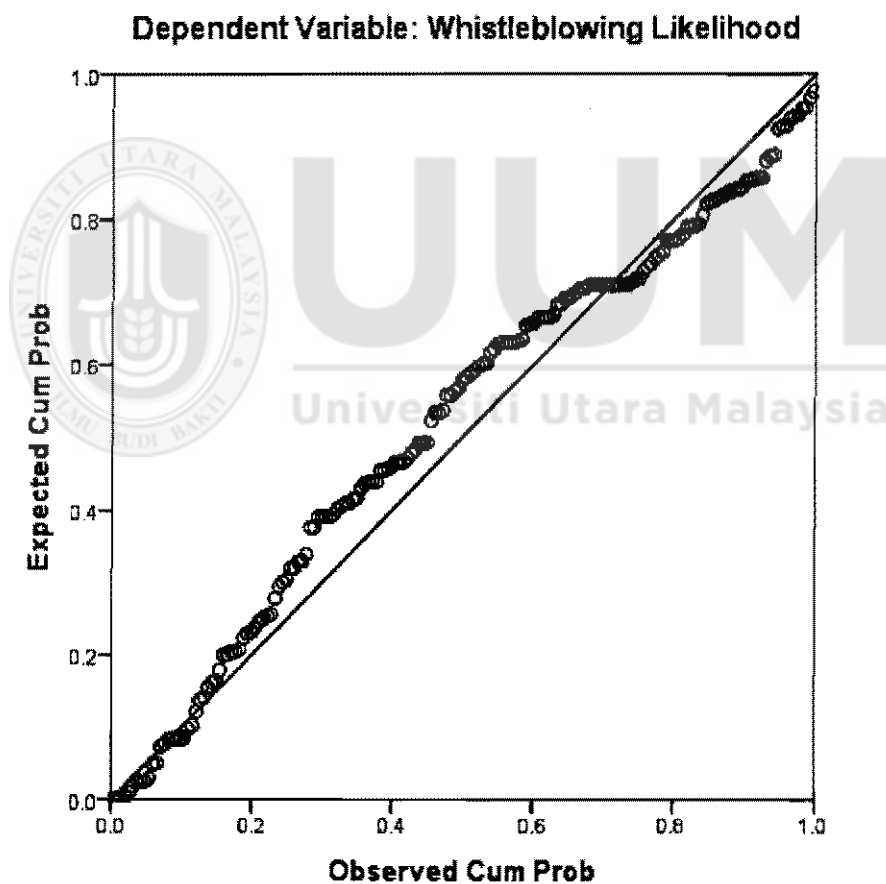


Figure 5.2  
*Normal P-P Plot of Regression Standardized Residual*

### **5.5.2 Homoscedasticity**

The homogeneity of variance assumption, or simply referred to as homoscedasticity, can be validated by comparing a null plot with scatterplots of residuals against dependent values, of which error variances are hypothesized to be equal. In this study, groups' scores were compared and analyzed. Levene's test for equality of variances was first conducted to examine the difference in mean scores of each condition of the three manipulated variables. Furthermore, groups' means scores of the demographic factors were also tested for homoscedasticity. The results are explained in Section 5.10.

### **5.5.3 Independence**

Furthermore, participants are also expected to provide independent and unbiased response. In order to meet this assumption, measures have been taken in this study to ensure that each participant's response would not be, in any way, influenced by others. Specifically, participants were not only informed that their response is anonymous, but they were also assured that their participation is confidential. To establish this, participants were required to personally return their answered questionnaire using the enclosed self-addressed envelope.

### **5.5.4 Multicollinearity**

Multicollinearity reflects whether the variables of interest serve as good estimates of a regression model. It occurs when two or more variables are highly correlated ( $r = .9$  and above) (Pallant, 2007). Apart from examining the correlation matrix, tolerance value and variance inflation factor (VIF) were also used in this study in assessing

multicollinearity. Literature suggests that a tolerance value lesser than 0.1 and VIF value greater than 10 are indicative of multicollinearity (Hair *et al.*, 2006; Pallant, 2007). The correlation matrix of this study indicates that none of the variables have a bivariate correlation of more than .70. Meanwhile, the assessment of tolerance level and VIF also reveal that multicollinearity was not a concern in this study. The lowest tolerance value was .599 and the highest VIF was 1.670 (Refer to Table 5.7).

## **5.6 Response Rate**

Out of the 888 questionnaires distributed in this study, only 179 were returned by the participants. Considering the trend of the rate of response among related research fields, a response rate of 20% in this study is considered satisfactory.

## **5.7 Descriptive Analysis**

The current study reports descriptive statistics in three parts. First, participants' profile is described. Subsequently, responses across scenarios, as well as return across treatment conditions are presented.

### **5.7.1 Participants' profile**

Statistics show that majority of participants have the following criteria: male (59.8%), aged from 25 to 35 years old (53.6%), earned a Bachelor's degree (83.2%) as the highest education level, tenured less than 2 years with the current employment (39.1%), a senior (34.6%), works for an organization with less than 500 employees (40.8%), and works for an organization with an annual revenue of RM500 million and above (54.7%). The statistics also indicates a significant number of participants

were: aged from 36 to 45 years old (26.3%), earned a Master's degree (10.6%) as the highest education level, tenured from 2 to 5 years with the current employment (34.6%), a junior (32.4%), works for an organization with more than 5,000 employees (30.2%), and works for an organization with an annual revenue of RM100 million to less than RM500 million (27.9%). Table 5.3 shows the breakdown of participants' profile.



Table 5.3  
Participants' Profile

Demographic Info		Frequency	Percentage
Gender	Male	107	59.78
	Female	72	40.22
	<b>Total</b>	<b>179</b>	<b>100</b>
Age	Under 25 years old	13	7.26
	25 – 35 years old	96	53.63
	36 – 45 years old	47	26.26
	46 or older	23	12.85
	<b>Total</b>	<b>179</b>	<b>100</b>
Education	Diploma	11	6.15
	Bachelor's Degree	149	83.24
	Master's Degree	19	10.61
	PhD	0	0
	<b>Total</b>	<b>179</b>	<b>100</b>
Tenure	Less than 2 years	70	39.11
	2 to 5 years	62	34.64
	6 to 10 years	34	18.99
	11 years or more	13	7.26
	<b>Total</b>	<b>179</b>	<b>100</b>
Job level	Junior	58	32.4
	Senior	62	34.64
	Manager	46	25.7
	Senior Manager or higher	13	7.26
	<b>Total</b>	<b>179</b>	<b>100</b>
Size	1 to 500 employees	73	40.78
	501 to 1,000 employees	5	2.79
	1,001 to 5,000 employees	47	26.26
	More than 5,000 employees	54	30.17
	<b>Total</b>	<b>179</b>	<b>100</b>
Turnover	Under RM50 million	14	7.82
	RM50 million to less than RM100 million	17	9.50
	RM100 million to less than RM500 million	50	27.93
	RM500 million and above	98	54.75
	<b>Total</b>	<b>179</b>	<b>100</b>

Although it was considered impractical to simultaneously satisfy all the criteria suggested by KPMG Malaysia Fraud, Bribery and Corruption Survey 2013 report especially in setting the population and choosing the samples for this study, this section aims to examine if the sampling requirements were generally fulfilled. For

this purpose, three demographic variables are considered, particularly, participants' education level, size of organization and annual turnover of their working organizations.

As discussed earlier in Chapter 4, this study aims to engage participants among internal auditors who work for public listed companies in specified sectors. Thus, the majority of participants can be expected to hold at least a Bachelor's degree. As suggested by descriptive analysis, 93.8% of participants met this criterion. Besides, the statistics also indicates that participants were represented by those who work for organizations with less than 5,000 employees (69.8%). Also, 92.2% of participants work for organizations with a reported average annual revenue above RM50 million. These descriptive analyses reveal that profile of the current study's participants was fairly similar to the survey's participants. This finding, therefore, ascertains the appropriateness of sampling of this study.

### **5.7.2 Response across scenarios**

In regard to participants' response concerning perceived seriousness of wrongdoing, Scenario 1 ( $M = 4.44$ ,  $SD = .750$ ) reports the highest mean score, of which followed by response to Scenario 3 ( $M = 4.41$ ,  $SD = .726$ ). Meanwhile, Scenario 2 ( $M = 4.13$ ,  $SD = .879$ ) indicates the least perceived seriousness of wrongdoing, of which with the highest standard deviation. A similar trend also applies to participants' response regarding perceived personal responsibility for reporting. The mean response for Scenario 1 ( $M = 4.22$ ,  $SD = .738$ ) was the highest of all the three scenarios. This is followed by response to Scenario 3 ( $M = 4.19$ ,  $SD = .829$ ), while mean response to Scenario 2 ( $M = 3.85$ ,  $SD = .905$ ) was the least. This trend still persists in

participants’ response to perceived personal cost to report. Specifically, the highest mean score were recorded by response to Scenario 1 ( $M = 4.02$ ,  $SD = .930$ ), and then followed by response to Scenario 3 ( $M = 3.80$ ,  $SD = 1.035$ ). The mean score of response to Scenario 2 ( $M = 3.63$ ,  $SD = .943$ ) remained the least among the scenarios.

Consistent with the three perspectives discussed above, the mean response for whistleblowing likelihood for Scenario 1 ( $M = 4.30$ ,  $SD = .873$ ) was found to be the highest across the first three scenarios of the questionnaire. The second highest was response to Scenario 3 ( $M = 4.28$ ,  $SD = .752$ ), whereas Scenario 2 ( $M = 3.93$ ,  $SD = .997$ ) reported the least mean response. Nevertheless, note that Scenario 2 has shown the highest standard deviation as compared with the other two scenarios. This result indicates that Scenario 2 recorded the least consistent response among the participants. Summary of response across scenarios are presented in Table 5.4.

Table 5.4  
*Response across Scenarios*

Variable		Scenario 1	Scenario 2	Scenario 3
Seriousness of wrongdoing	Mean	4.44	4.13	4.41
	(SD)	(.750)	(.879)	(.726)
Responsibility for reporting	Mean	4.22	3.85	4.19
	(SD)	(.738)	(.905)	(.829)
Cost to report	Mean	4.02	3.63	3.80
	(SD)	(.930)	(.943)	(1.035)
Whistleblowing likelihood	Mean	4.30	3.93	4.28
	(SD)	(.873)	(.997)	(.752)

### 5.7.3 Return across treatment conditions

As the questionnaires were distributed evenly across treatment conditions, it is also important to assess if the returned questionnaires were representative of the

conditions. Frequency analysis indicates that the minimum number of questionnaires returned according to treatment conditions was 20, that is, for treatment conditions 3, 4, and 6. Meanwhile, treatment condition 5 records the highest return with 27 questionnaires. The highest to lowest number ratio of 1.35 was considered acceptable for analysis purposes. Table 5.5 reports the number of response across treatment conditions.

Table 5.5  
*Return across Treatment Conditions*

Condition	Frequency
1	23
2	22
3	20
4	20
5	27
6	20
7	21
8	26
<b>Total</b>	<b>179</b>

### 5.8 Bivariate Analysis

Generally, bivariate analysis was performed to examine the degree, as well as direction of correlation between variables of interest. In this study, relationships between the dependent variable and all of the four measured independent variables of interest were assessed. Pooled scores of all the three scenarios in Section A were primarily used for analysis. Pearson product-moment correlation coefficient indicates that there were positive correlations in all of the relationships with varying strength. A large correlation was found between perceived seriousness of wrongdoing  $r(179) = .68, p < .005$  and the whistleblowing likelihood. Meanwhile, perceived personal responsibility for reporting was moderately associated with the whistleblowing



likelihood  $r(179) = .45, p < .005$ . And finally, both perceived personal cost to report and perceived organizational support reported small correlations with the whistleblowing likelihood,  $r(179) = .24, p = .001$  and  $r(179) = .29, p < .005$ , respectively. Detailed results of the correlation analyses are presented in Table 5.6. Apart from the analysis on the pooled scores, bivariate relationships between the variables from the perspective of each of the scenarios were also evaluated. The results are reported as Appendix D.

Table 5.6  
*Pearson Correlation – Pooled*

Variable	1	2	3	4	5
1 Whistleblowing likelihood	1				
2 Seriousness of wrongdoing	.679**	1			
3 Responsibility for reporting	.453**	.594**	1		
4 Cost to report	.244**	.384**	.431**	1	
5 Organizational support	.293**	.183*	.116	.060	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

In addition, this study also examines some between-groups correlations. Although demographic factors were not explicitly hypothesized in this study, the related data, specifically, gender, age, tenure, and job level, were also gathered to serve as control variables. For the purpose of between-groups correlation and multiple regression analyses, these demographic data were recoded into two groups from the initial four categories. Specifically, age group was recoded into 1 (*Younger*) and 2 (*Older*). “Younger” represents participants whom under 36 years old, whereas “Older” denotes participants whom aged 36 years or older. Meanwhile, tenure with current employment was recoded into 1 (*Shorter*) and 2 (*Longer*). “Shorter” is meant for participants who have tenured with current employment for less than 6 years, while

“Longer” signifies participants who have tenured for at least 6 years. Finally, job level was recoded into 1 (*Lower*) and 2 (*Higher*). “Lower” represents participants at non-managerial level, whereas “Higher” is for participants at managerial level. The between-groups’ correlation coefficients are disclosed as Appendix E.

## **5.9 Multivariate Analysis**

Multivariate analysis was conducted in this study to test the predictive ability of independent variables on the dependent variable, that is, the internal auditors’ whistleblowing likelihood. Both standard multiple regression and hierarchical (also known as sequential) multiple regressions were conducted for their specified purposes. Standard multiple regression was performed to evaluate the predictive power of all the independent variables as a group, where all independent variables were entered into the equation simultaneously. Furthermore, as the current study extends the existing model, the influence of additional factor was also assessed using hierarchical multiple regression.

First, the standard multiple regression was conducted. Four regression analyses were carried out, specifically, one for each of the hypothetical scenarios in Section A and one for the overall results. Table 5.7 reports the analysis of the pooled scores. Results of the three scenarios, however, are presented as Appendix F.

Table 5.7  
*Standard Multiple Regression – Pooled*

Variable	$\beta$	t	Sig.	Tolerance	VIF
Seriousness of wrongdoing	.641	9.190	.000	.627	1.595
Responsibility for reporting	.090	1.259	.210	.599	1.670
Cost to report	-.042	-.668	.505	.789	1.268
R square*			.466		
F			50.879		
Mahal. Distance			26.500		
Cook's Distance			.097		

\*(Sig. = .000)

The regression analysis indicates that the three-variable model significantly predicts the internal auditors’ whistleblowing likelihood,  $R\text{ square} = .466$ ,  $F(3, 175) = 50.879$ ,  $p < .001$ . In other words, the variables explain 46.6% of the variance in the dependent variable, and that the F ratio was statistically significant at 1% level. The result also reveals that both seriousness of wrongdoing and responsibility for reporting have positively impact the whistleblowing likelihood, while cost to report negatively affect the dependent variable. Besides, not only that seriousness of wrongdoing ( $\beta = .641$ ,  $p < .005$ ) has the strongest influence on the internal auditors’ whistleblowing likelihood, it also was the only variable that statistically significant.

Subsequently, hierarchical multiple regressions were performed to control the effect of a number of variables. By applying this procedure, the sequence of variables in predicting the internal auditors’ whistleblowing likelihood can also be established. In this study, this procedure comprises two separate tests. First, the effect of perceived organizational support on the dependent variable was controlled for. Meanwhile the second test controls the influence of demographic factors. Detailed results are presented in Tables 5.8 and 5.9 respectively.

Table 5.8  
*Hierarchical Multiple Regressions: Perceived Organizational Support*

	$\beta$	t	Sig.
<b>Control Variable</b>			
Perceived Organizational Support	.293	4.083	.000
R square*		.086	
F		16.670	
<b>Main Variable</b>			
Seriousness of wrongdoing	.610	8.871	.000
Responsibility for reporting	.087	1.253	.212
Cost to report	-.039	-.639	.524
R square*		.495	
Change in R square		.409	
F		42.646	

\*(Sig. = .000)

Data of perceived organizational support was first entered at Step 1 as control variable. Subsequently, the three main variables of principled organizational dissent were entered at Step 2. The analysis indicates that the control variable explains 8.6% of the variance in the internal auditors’ whistleblowing likelihood. Meanwhile, the new model explains 49.5% of the total variance as a whole,  $F(4, 174) = 42.646, p < .005$ . This shows that, after controlling for perceived organizational support, the variables additionally explain 40.9% of the variance in the whistleblowing likelihood,  $R\text{ square change} = .409, F\text{ change } (3, 174) = 46.975, p < .005$ . The final model indicates that only two out of the four variables were statistically significant, with seriousness of wrongdoing recorded the highest beta value ( $\beta = .610, p < .005$ ), followed by perceived organizational support ( $\beta = .174, p < .002$ ). The beta value for the control variable decreases, as compared with the initial model ( $\beta = .293, p < .005$ ).

Table 5.9  
*Hierarchical Multiple Regression: Demographic Factors*

	$\beta$	t	Sig.
<b>Control Variable</b>			
Gender	-.068	-.889	.375
Age	-.115	-1.227	.222
Tenure	.061	.669	.504
Job level	.099	1.079	.282
R square		.018	
F		.809	
<b>Main Variable</b>			
Seriousness of wrongdoing	.648	9.170	.000
Responsibility for reporting	.079	1.066	.288
Cost to report	-.031	-.491	.624
R square*		.471	
Change in R square		.453	
F		21.777	

\*(Sig. = .000)

In the second hierarchical regression analysis, the predictive ability of three-variable model on the internal auditors' whistleblowing likelihood was tested, after the effect of four demographic variables, as stated in Table 5.9, are controlled for. The result suggests that the demographic variables explain only 1.8% of the variance in the dependent variable. While the main variables collectively explain 47.1% of the total variance,  $F(7, 171) = 21.777$ ,  $p < .005$ . Particularly, there was an additional explanation of 45.3% of total variance in the whistleblowing likelihood, after controlling for the demographic variables,  $R$  square change = .453,  $F$  change (3, 171) = 48.845,  $p < .005$ . Similar to the earlier hierarchical regression analysis, seriousness of wrongdoing recorded the highest beta value ( $\beta = .648$ ,  $p < .005$ ) in the final model. In fact, in the current analysis, it was the only variable with a statistically significant result.

### 5.10 Factorial Analysis

As explained in Chapter 4, both one- and two-way ANOVA tests were performed in this study. While a one-way ANOVA examines the role of only one independent variable, a two-way ANOVA studies the influence of two categorical independent variables on a continuous dependent variable. Prior to conducting the analysis, however, two key ANOVA assumptions were first assessed. First, data normality was examined. As explained earlier, data regarding the dependent variable of this study was not normally distributed. Despite the analysis of variance (ANOVA) is robust to non-normality of data distribution, multivariate normality was also evaluated. The Normal P-P Plot, as mentioned previously, shows that the data was 'reasonably' normal (Pallant, 2007). In other words, although did not satisfy the normality assumption, they were not significantly deviate from normality. This finding suggests that non-normality of data distribution had not significantly influence the study's results.

Furthermore, assessment on the equal variance assumption was also made (Hair *et al.*, 2006). This test compares mean scores between groups receiving different treatment conditions, as well as the different groups of demographic variables in this study. For the treatment groups, results of the Levene's test reveal that this assumption was violated. Therefore, alternative statistics for violation of equal variance assumption were applied in reporting the analyses. As suggested by Pallant (2007), Welsh and Brown-Forsythe tests' results were considered for the purpose of one-way ANOVA. In regard to two-way ANOVA test, Sig. value of more than .01 was used in determining the significance of main effects and interaction effects

(Pallant, 2007). Nevertheless, results concerning the demographic factors satisfy the homoscedasticity assumption.

#### 5.10.1 Manipulation checks

As mentioned previously, manipulation checks questions were incorporated in the study's questionnaire in order to assess the effectiveness of experimental conditions' manipulation. This procedure was done by comparing mean scores between conditions of each of the manipulated variables. An independent samples *t*-test revealed a significant difference at the  $p < .05$  level in scores for strength of evidence:  $t(165.742) = -5.34, p < .005$ . In other words, participants who received low strength of evidence condition ( $M = 3.04$ ) reported a significantly lower level of certainty that the incident was occurred than participants who received high strength of evidence condition ( $M = 3.98$ ). As indicated by eta squared, the effect size was .14.

Similar test on the second manipulated variable also revealed a significant difference at the  $p < .05$  level in scores for role responsibility:  $t(151.2) = -4.497, p < .005$ . Particularly, participants who received less role responsibility condition ( $M = 3.79$ ) reported a significantly lower level of responsibility to report than participants who received more role responsibility condition ( $M = 4.43$ ). Although statistically significant, eta squared statistics (.10) only indicates a moderate effect size.

Finally, the one-way between-groups analysis of variance also showed a significant difference at the  $p < .05$  level in the threat of retaliation scores:  $t(165.02) = -4.589, p < .005$ . Specifically, participants who received weak threat of retaliation condition

( $M = 3.65$ ) reported a significantly lower perception of threat of retaliation than participants who received strong threat of retaliation condition ( $M = 4.30$ ). Similar to role responsibility, the actual difference of response between the two conditions of threat of retaliation indicates a moderate effect of size, denoted by eta squared of .11. The results suggest that participants had successfully gauged the manipulation of conditions in all of the three scenarios.

### 5.10.2 Analysis of Variance (ANOVA)

As mentioned earlier, in testing some of the study's hypotheses, both one- and two-way ANOVA procedures were performed. First, one-way ANOVA was carried out to investigate whether there is a significant difference between conditions of the manipulated independent variables. In this regard, the whistleblowing likelihood of each of the Scenarios 4 through 6 was considered as the dependent variable. The analyses' results indicate that the scores were significantly different at the  $p < .05$  level for strength of evidence conditions:  $F(1, 177) = 41.164, p < .005$ . A large of effect size was indicated by eta squared of .189. Scores for both conditions of role responsibility were also found to be significantly different at the  $p < .05$  level:  $F(1, 177) = 14.307, p < .005$ . The actual difference, however, was moderate, showed by eta squared statistics of .075. Similarly, there was a significant difference between scores of threat of retaliation conditions at the  $p < .05$  level:  $F(1, 177) = 9.901, p = .002$ . Nevertheless, the effect size was small, indicated by eta squared of .053. The findings reveal that despite the difference between scores of conditions in all the three variables were statistically significant, magnitude of the actual differences were varies. As denoted by eta squared statistics, the effect size for strength of evidence, role responsibility, and threat of retaliation conditions were large, moderate, and



small, respectively. Results of the one-way ANOVA test are summarized in Table 5.10.

Table 5.10  
*One-way ANOVA: Manipulated Variables*

Manipulated Variable	Condition	Mean	F	Sig.	Eta squared
Strength of evidence	Low	3.31	41.16	.000	.19
	High	4.28			
Role responsibility	Less	3.90	14.31	.000	.08
	More	4.43			
Threat of retaliation	Weak	4.25	9.90	.002	.05
	Strong	3.85			

Especially due to violation of homogeneity of variance assumption, results of Welch F test were also considered. Similarly, the analysis indicate that the difference in mean scores between the groups were statistically significant across all the manipulated variables. Detailed results are stated in Table 5.11.

Table 5.11  
*Robust Tests of Equality of Means*

Manipulated Variable	Statistic*	df1	df2	Sig.
Strength of evidence	39.90	1	152.150	.000
Role responsibility	14.59	1	162.547	.000
Threat of retaliation	9.80	1	158.380	.002

\*Asymptotically F distributed.

Subsequently, to fulfill Research Question 3, a two-way ANOVA procedure was carried out extending the one-way ANOVA test. The moderating role of some demographic factors on the relationship between the manipulated independent variables and the participants’ whistleblowing likelihood were assessed. In particular, gender, age, tenure with the current employer, and job level were independently used as the second independent variable for this purpose.

First, the role of gender on conditions of strength of evidence in the internal auditors' whistleblowing likelihood was examined. Both independent variables measured at two levels each. The interaction effect between gender and strength of evidence was not statistically significant,  $F(1, 175) = .883, p = .349$ . Additionally, the main effect for gender was also not significant,  $F(1, 175) = .09, p = .764$ . Nevertheless, there was a statistically significant main effect for strength of evidence,  $F(1, 175) = 37.177, p < .005$ , with a large effect size denoted by partial eta squared of .175. Similarly, interaction effect between gender and role responsibility did not reach statistical significance,  $F(1, 175) = 1.246, p = .266$ . Besides, the main effect for gender was also not significant,  $F(1, 175) = .20, p = .655$ . The role responsibility, however, has a significant main effect,  $F(1, 175) = 12.336, p = .001$ . Despite statistically significant, partial eta squared value of .066 indicates only a moderate effect size. Finally, the interaction effect between gender and threat of retaliation were also found to be not statistically significant,  $F(1, 175) = .000, p = .993$ . The main effect for gender was also did not reach statistical significance,  $F(1, 175) = .152, p = .697$ . Regardless, threat of retaliation shows a significant main effect,  $F(1, 175) = 9.062, p = .003$  although, as represented by partial eta squared (.049), with a small effect size. Results of the interaction effects regarding gender are summarized in Table 5.12.

Table 5.12

*Two-way ANOVA: Summary of Interaction Effects (Gender)*

<b>Interaction</b>	<b>F</b>	<b>Sig.</b>	<b>Partial Eta Squared</b>
Gender * Strength of Evidence	.883	.349	.005
Gender * Role Responsibility	1.246	.266	.007
Gender * Threat of Retaliation	.000	.993	.000

Next, the influence of age on the conditions of the manipulated variables regarding whistleblowing likelihood was assessed. This study categorizes participants' age into

four groups. Specifically, Group 1: Under 25 years old, Group 2: 25 – 35 years old, Group 3: 36 – 45 years old, and Group 4: 46 or older. Therefore, this two-way ANOVA test involves a 2 x 4 factorial design. The interaction effect between age group and strength of evidence was not statistically significant,  $F(3, 171) = 1.368, p = .254$ . Although denoted by a small effect size (.047), the main effect for age group was statistically significant,  $F(3, 171) = 2.831, p = .04$ . A post hoc test was examined to study the difference further. The Tukey HSD test reveals that the mean scores for “Under 25 years old” age group ( $M = 3.00, SD = .913$ ) was significantly different from both “25 – 35 years old” group ( $M = 3.90, SD = 1.090$ ) and “36 – 45 years old” group ( $M = 3.85, SD = 1.122$ ). The “46 or older” group ( $M = 3.87, SD = 1.217$ ) was not significantly different from any of the other groups. Likewise, the strength of evidence also showed a significant main effect,  $F(1, 171) = 28.02, p < .005$ . The partial eta squared indicates a large effect size (.141). Meanwhile, interaction effect between age group and role responsibility was found to be not significant,  $F(3, 171) = .134, p = .94$ . Besides, the main effect for age group was also not statistically significant,  $F(3, 171) = .383, p = .765$ . Regardless, there are a significant main effect for role responsibility,  $F(1, 171) = 9.992, p = .002$ , with a small effect size (.055). Lastly, the interaction effect between age group and threat of retaliation did not reach statistical significance,  $F(3, 171) = .324, p = .808$ . Also, age group did not show a significant main effect,  $F(3, 171) = .344, p = .794$ . Similarly, the main effect for threat of retaliation was not statistically significant,  $F(1, 171) = 3.294, p = .071$ . Results of the interaction effects regarding age are summarized in Table 5.13.

Table 5.13

*Two-way ANOVA: Summary of Interaction Effects (Age)*

<b>Interaction</b>	<b>F</b>	<b>Sig.</b>	<b>Partial Eta Squared</b>
Age * Strength of Evidence	1.368	.254	.023
Age * Role Responsibility	.134	.940	.002
Age * Threat of Retaliation	.324	.808	.006

Moreover, the current study also gauges the impact of tenure with the current employer on each conditions of the manipulate variables. Tenure was also categorized into four groups, namely, Group 1: Less than 2 years, Group 2: 2 to 5 years, Group 3: 6 to 10 years, and Group 4: 11 years or more. First, there was no statistical significance in the interaction effect between tenure and strength of evidence,  $F(3, 171) = 1.574, p = .198$ . In addition, the main effect for tenure also was not significant,  $F(3, 171) = .681, p = .565$ . Nevertheless, strength of evidence had a significant main effect,  $F(1, 171) = 38.589, p < .005$ , with a large effect size, showed by partial eta squared of .184. Meanwhile, the interact effect between tenure and role responsibility was also not significant,  $F(3, 171) = .559, p = .642$ . The main effect for tenure did reach statistical significance,  $F(3, 171) = .655, p = .581$ . Regardless, role responsibility indicates a significant main effect,  $F(1, 171) = 7.114, p = .008$ . As shown by partial eta squared (.04), the difference had a small effect size. The interaction effect between tenure and threat of retaliation was not significant,  $F(3, 171) = .064, p = .979$ . The main effect for tenure was also not significant,  $F(3, 171) = .98, p = .404$ . Nonetheless, threat of retaliation showed a statistical significant main effect,  $F(1, 171) = 5.508, p = .02$ , with a small effect size (.031). Results of the interaction effects regarding tenure are summarized in Table 5.14.

Table 5.14

*Two-way ANOVA: Summary of Interaction Effects (Tenure)*

Interaction	F	Sig.	Partial Eta Squared
Tenure * Strength of Evidence	1.574	.198	.027
Tenure * Role Responsibility	.559	.642	.010
Tenure * Threat of Retaliation	.064	.979	.001

Finally, the effect of job level on conditions of the manipulated variables was studied. Job level was classified into four groups, particularly, Group 1: Junior, Group 2: Senior, Group 3: Manager, and Group 4: Senior Manager or higher. Similar to age group and tenure, this grouping resulted in 2 x 4 two-way between-subjects factorial design. The interaction effect between job level and strength of evidence was not statistically significant,  $F(3, 171) = .801, p = .495$ . In addition, there was also no statistical significance in the main effect for job level,  $F(3, 171) = 1.206, p = .309$ . Nonetheless, the main effect for strength of evidence was significant,  $F(1, 171) = 27.572, p < .005$ , with a moderate effect size of .139. Likewise, the interaction effect between job level and role responsibility had not reach statistical significance,  $F(3, 171) = .534, p = .660$ . The main effect for job level, however, indicates a statistical significance,  $F(3, 171) = 2.934, p = .035$ , denoted by a small effect size (.049). A post hoc analysis indicates that "Senior Manager or higher" group ( $M = 4.85, SD = .376$ ) was significantly different from both "Junior" group ( $M = 4.02, SD = .982$ ) and "Senior" group ( $M = 4.13, SD = .966$ ). Meanwhile, "Manager" group ( $M = 4.17, SD = .973$ ) was not significantly different from any of the other groups. The main effect for role responsibility was also significant,  $F(1, 171) = 7.871, p = .006$ . Partial eta squared (.044), however, indicates only a small effect size. Lastly, the interaction effect between job level and threat of retaliation is not significant,  $F(3, 171) = .152, p = .928$ . Besides, the main effect for job level was also not reach statistical significance,  $F(3, 171) = 1.315, p = .271$ . Nevertheless, there was a

statistically significant main effect for threat of retaliation,  $F(1, 171) = 7.343, p = .007$ , with a small effect size (.041). Results of the interaction effects regarding job level are summarized in Table 5.15.

Table 5.15  
*Two-way ANOVA: Summary of Interaction Effects (Job level)*

Interaction	F	Sig.	Partial Eta Squared
Job level * Strength of Evidence	.801	.495	.014
Job level * Role Responsibility	.534	.660	.009
Job level * Threat of Retaliation	.152	.928	.003

The detailed results of the two-way ANOVA procedure in this study are presented as Appendix G.

### 5.11 Hypotheses Testing

This study proposes seven main hypotheses relating to the internal auditors' whistleblowing likelihood. Considering the study's objectives, as well as the research questions stated in Chapter 1, the hypotheses were grouped accordingly. In particular, Hypotheses 1 through 3 regard Research Objective 1. Meanwhile, Hypotheses 4 through 6 were constructed to measure Research Objective 2. To satisfy Research Objective 3, Hypotheses 4a-4d through 6a-6d were suggested. And finally, Hypothesis 7 concerns Research Objective 4. Applying suitable statistical techniques, testing of hypotheses was made according to the respective grouping.

#### 5.11.1 Tests of Hypotheses 1 through 3

The following three hypotheses represent the first three measured independent variables of this study, namely, perceived seriousness of wrongdoing, perceived

personal responsibility for reporting, and perceived personal cost to report. To test the hypotheses, all of which related to Research Objective 1, standard multiple regression was carried out. Each hypothesis is restated below, and then followed by the results of the hypothesis testing.

**H1:** *Perceived seriousness of wrongdoing will positively influence the internal auditors' whistleblowing likelihood.*

In assessing the predictive ability of the perceived seriousness of wrongdoing on the dependent variable, result of the pooled scores was utilized instead of the individual scenarios' response. As shown in Table 5.7, the result reveals that perceived seriousness of wrongdoing ( $\beta = .641, p < .005$ ) was significantly and positively predicted the internal auditors' whistleblowing likelihood. Besides, correlational analysis also indicates that the perceived seriousness of wrongdoing  $r(179) = .679, p < .001$  was strongly and positively related to the whistleblowing likelihood. Therefore, H1 was supported.

**H2:** *Perceived personal responsibility for reporting will positively influence the internal auditors' whistleblowing likelihood.*

Although positively influence the dependent variable, result of the standard multiple regression analysis shows that perceived personal responsibility for reporting ( $\beta = .090, p = .210$ ) was not a significant predictor of the internal auditors' whistleblowing likelihood. In fact, it only explains 9% of the total variance of the dependent variable. Meanwhile, result of Pearson correlation coefficient, as

presented in Table 5.6, suggests that there was a strong and significant positive association  $r(179) = .453, p < .001$  between perceived personal responsibility for reporting and the whistleblowing likelihood. Regardless, H2 was rejected.

**H3:** *Perceived personal cost to report will negatively influence the internal auditors' whistleblowing likelihood.*

Despite a significant positive correlation between perceived personal cost to report and the dependent variable,  $r(179) = .244, p = .001$ , result of the regression analysis on the pooled scores reveals that the perceived personal cost to report ( $\beta = -.042, p = .505$ ) was not significantly predicted the internal auditors' whistleblowing likelihood. Therefore, H3 was also rejected.

In answering Research Question 1, the first three hypotheses relevant to the model of principled organizational dissent were tested. The results show that only H1 was supported.

#### **5.11.2 Tests of Hypotheses 4 through 6**

This subsection primarily examines the influence of strength of evidence, role responsibility, and threat of retaliation on the internal auditors' whistleblowing likelihood by testing Hypotheses 4 through 6 respectively. The results were used to answer Research Question 2. Subsequently, as to satisfy Research Question 3, the moderating role of four demographic factors on the relationship between each of the manipulated variables and the internal auditors' whistleblowing likelihood were



verified, of which represented by Hypotheses 4a-4d through 6a-6d. Each hypothesis is restated, and followed by relevant results.

**H4:** *The higher the strength of evidence, the higher will be the internal auditors' whistleblowing likelihood.*

In testing the hypothesis, the difference in mean scores between the treatment conditions was analyzed. As shown in Table 5.10, result of the one-way ANOVA suggests that, at both 5% and 1% significance level, the difference was statistically significant,  $F(1, 177) = 41.164, p < .005$ . In other words, there was a significant difference in the whistleblowing likelihood between the two groups of participants, one that receiving low strength of evidence treatment condition, and the other with high strength of evidence condition. Additionally, as the assumption of homoscedasticity was violated, result of the Welch F test was also considered. Consistently, the test also indicates a significant result,  $F(1, 152.150) = 39.90, p < .005$ . Furthermore, descriptive statistics reveals that low strength of evidence condition ( $M = 3.31$ ) recorded a lower mean of scores than of high evidence strength condition ( $M = 4.28$ ). The result suggests that the internal auditors will be less likely to report when the strength of evidence is low than when it is high. Therefore, H4 was supported.

**H4a:** *As strength of evidence increases from low to high, male internal auditors will be more likely to blow the whistle than their female counterparts.*

This hypothesis concerns whether gender interacts well with strength of evidence. In this regard, the moderating role of gender on the manipulated variable was gauged using a two-way ANOVA procedure. As shown in Table 5.12, the result suggests that the interaction effect between gender and strength of evidence,  $F(1, 175) = .883$ ,  $p = .349$ , was not significant. In other words, there was no significant effect of gender on the internal auditors' whistleblowing likelihood for both low and high strength of evidence conditions. Therefore, H4a was rejected.

**H4b:** *As strength of evidence increases from low to high, older internal auditors will be more likely to blow the whistle than their younger counterparts.*

Applying similar analysis, the moderating role of age on the manipulated variable was assessed. Although there was no significant interaction effect between age and strength of evidence,  $F(3, 171) = 1.368$ ,  $p = .254$ , result of the analysis suggests that there was a statistically significant difference in the whistleblowing likelihood between age groups concerning Scenario 4,  $F(3, 171) = 2.831$ ,  $p = .04$ . Particularly, a post hoc test reveals that the mean scores for "Under 25 years old" age group ( $M = 3.00$ ,  $SD = .913$ ) was significantly different from both "25 – 35 years old" group ( $M = 3.90$ ,  $SD = 1.090$ ) and "36 – 45 years old" group ( $M = 3.85$ ,  $SD = 1.122$ ). Meanwhile, the "46 or older" group ( $M = 3.87$ ,  $SD = 1.217$ ) was not significantly different from any of the other groups. Regardless, H4b was not supported.

**H4c:** *As strength of evidence increases from low to high, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.*

This hypothesis regards the interaction between tenure and strength of evidence. Accordingly, the moderating role of tenure on the manipulated variable was examined. As shown in Table 5.14, result of the interaction effect affirms that there was no significant effect of tenure on the internal auditors' whistleblowing likelihood for both low and high strength of evidence conditions,  $F(3, 171) = 1.574, p = .198$ . Therefore, H4c was rejected.

**H4d:** *As strength of evidence increases from low to high, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.*

To test the hypothesis, the moderating role of job level on strength of evidence was gauged. Result of the interaction effect reveals that there was no significant effect of job level on the internal auditors' whistleblowing likelihood across strength of evidence conditions,  $F(3, 171) = .801, p = .495$ . Therefore, H4d was not supported.

**H5:** *The more the role responsibility, the higher will be the internal auditors' whistleblowing likelihood.*

For the purpose of testing the hypothesis, the difference in mean scores between treatment conditions was examined. The result, as presented in Table 5.10, was significant,  $F(1, 177) = 14.307, p < .005$ , at both 5% and 1% significance level. To put it simply, there was a significant difference in the whistleblowing likelihood between the two groups of participants, one that receiving less role responsibility treatment condition, and the other with more role responsibility condition. Besides,

the Welch F test also shows a significant result,  $F(1, 162.547) = 14.59, p < .005$ . Additionally, descriptive statistics reveals that less role responsibility condition ( $M = 3.90$ ) reported a lower mean of scores than condition of more role responsibility ( $M = 4.43$ ). The result suggests that the internal auditors will be less likely to report when the role responsibility is less than when it is more. Similar to H4, H5 was also supported.

**H5a:** *As role responsibility increases from less to more, male internal auditors will be more likely to blow the whistle than their female counterparts.*

As presented in Table 5.12, result of a two-way ANOVA shows that there was no significant interaction effect between gender and role responsibility,  $F(1, 175) = 1.246, p = .266$ . In other words, the result proposes that there was no significant effect of gender on the internal auditors' whistleblowing likelihood for both less and more role responsibility conditions. Therefore, H5a was rejected.

**H5b:** *As role responsibility increases from less to more, older internal auditors will be more likely to blow the whistle than their younger counterparts.*

In testing the hypothesis, the moderating role of age on the manipulated variable was evaluated. Result of the analysis reveals that there was no significant interaction effect between age and role responsibility,  $F(3, 171) = .134, p = .940$ . This finding implies that the effect of age on the internal auditors' whistleblowing likelihood across role responsibility conditions was not significant. Therefore, H5b was not supported.

**H5c:** *As role responsibility increases from less to more, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.*

The hypothesis concerns whether tenure interacts well with role responsibility. Hence, the moderating role of tenure on the manipulated variable was tested. The result, as stated in Table 5.14, suggests that there was no significant interaction effect between tenure and role responsibility,  $F(3, 171) = .559, p = .642$ . Particularly, there was no significant effect of tenure on the internal auditors' whistleblowing likelihood for both role responsibility conditions. Therefore, H5c was rejected.

**H5d:** *As role responsibility increases from less to more, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.*

To test the hypothesis, the moderating role of job level on the manipulated variable was assessed. Although there was no significant interaction effect between job level and role responsibility,  $F(3, 171) = .534, p = .660$ , result of the analysis indicates that there was a statistically significant difference in the whistleblowing likelihood between different job levels concerning Scenario 5. Specifically, a post hoc analysis shows that "Senior Manager or higher" group ( $M = 4.85, SD = .376$ ) was significantly different from both "Junior" group ( $M = 4.02, SD = .982$ ) and "Senior" group ( $M = 4.13, SD = .966$ ). Meanwhile, "Manager" group ( $M = 4.17, SD = .973$ ) was not significantly different from any of the other groups. Regardless, H5d was not supported.

**H6:** *The stronger the threat of retaliation, the lesser will be the internal auditors' whistleblowing likelihood.*

The difference in mean scores between treatment conditions was analyzed in order to test the hypothesis. The analysis reveals a significant result,  $F(1, 177) = 9.901, p = .002$ , at both 5% and 1% significance level. In particular, there was a significant difference in the whistleblowing likelihood between the two groups of participants, one that receiving weak threat of retaliation treatment condition, and the other with strong threat of retaliation condition. Similarly, the Welch F test also indicates a significant result,  $F(1, 158.380) = 9.80, p = .002$ . In this light, descriptive statistics shows that, as compared with the strong threat of retaliation condition ( $M = 3.85$ ), the weak threat of retaliation condition ( $M = 4.25$ ) recorded a higher mean of scores. This result signifies that the internal auditors will be more likely to report when threat of retaliation is weak than when it is strong. Therefore, H6 was supported.

**H6a:** *As threat of retaliation increases from weak to strong, male internal auditors will be more likely to blow the whistle than their female counterparts.*

The hypothesis regards the moderating role of gender on the manipulated variable. Result of a two-way ANOVA shows that there was no significant interaction effect between gender and threat of retaliation,  $F(1, 175) = .000, p = .993$ . In particular, the effect of gender on the internal auditors' whistleblowing likelihood for both conditions of threat of retaliation was not significant. Therefore, H6a was rejected.

**H6b:** *As threat of retaliation increases from weak to strong, older internal auditors will be more likely to blow the whistle than their younger counterparts.*

Similar analysis was applied to assess whether age interacts well with the manipulated variable. As shown in Table 5.13, the result suggests that there was no significant interaction effect between age and threat of retaliation,  $F(3, 171) = .324, p = .808$ . The finding denotes that there was no significant effect of age on the internal auditors' whistleblowing likelihood for both weak and strong threat of retaliation treatment conditions. Therefore, H6b was not supported.

**H6c:** *As threat of retaliation increases from weak to strong, longer tenured internal auditors will be more likely to blow the whistle than their shorter tenured counterparts.*

To test the hypothesis, the moderating role of tenure on the manipulated variable was investigated. Similarly, result of the analysis indicates that there was no significant effect between tenure and threat of retaliation,  $F(3, 171) = .064, p = .979$ . In other words, the effect of tenure on the internal auditors' whistleblowing likelihood across threat of retaliation conditions was not significant. Therefore, H6c was rejected.

**H6d:** *As threat of retaliation increases from weak to strong, internal auditors with higher job level will be more likely to blow the whistle than their counterparts with lower job level.*

This hypothesis concerns whether job level interacts well with threat of retaliation. Hence, the moderating role of job level on the manipulated variable was studied. Result of the analysis, as presented in Table 5.15, shows that the interaction effect between job level and threat of retaliation,  $F(3, 171) = .152, p = .928$ , was not significant. Specifically, the result suggests that job level has no significant effect on the internal auditors' whistleblowing likelihood for both weak and strong threat of retaliation conditions. Therefore, H6d was not supported.

In summary, all of the three hypotheses relating to Research Question 2 were supported, while all of the hypotheses concerning Research Question 3 were rejected.

### 5.11.3 Tests of Hypothesis 7

As mentioned earlier, Research Question 4 regards the influence of perceived organizational support on the likelihood to blow the whistle among internal auditors. The relevant hypothesis is restated prior to presenting the tests' results.

**H7:** *Perceived organizational support will positively influence the internal auditors' whistleblowing likelihood.*

To study the influence of perceived organizational support on the internal auditors' whistleblowing likelihood, hierarchical multiple regression analysis was conducted. In this regard, the impact of perceived organizational support on the dependent variable was controlled for, and that the outputs of the regression models were compared. As shown in Table 5.8, individually, perceived organizational support explains 8.6% of the total variance of the dependent variable. Besides, in a combined



model with the three variables of principled organizational dissent, the variable had significantly predicted the internal auditors' whistleblowing likelihood ( $\beta = .293, p < .001$ ). Additionally, result of the correlation analysis also reveals that perceived organizational support was significantly and positively associated with the whistleblowing likelihood  $r(179) = .293, p < .001$ . Therefore, Hypothesis 7 was supported.

The result affirms that perceived organizational support positively predicts the internal auditors' whistleblowing likelihood, thus, satisfying Research Question 4.

### 5.12 Supplementary Analyses

Although not explicitly hypothesized in this study, some between-group comparisons regarding the demographic variables were also examined. Using independent samples *t*-test, this study gauges the influence of the participants' demographic characteristics on the scores of whistleblowing likelihood. Despite no violation of the equal variance assumption, the analyses' results suggest that there was no significant difference between groups in all of the demographic factors. First, the whistleblowing likelihood scores for male ( $M = 4.21, SD = .712$ ) was higher than of female,  $M = 4.12, SD = .69; t(177) = .899, p = .37$  (two-tailed). The magnitude of the difference, however, was very small (eta squared = .005). Likewise, the difference in scores of the whistleblowing likelihood for younger ( $M = 4.19, SD = .689$ ) and older,  $M = 4.15, SD = .729; t(177) = .393, p = .695$  (two-tailed) was also not statistically significant with eta squared (.00087) indicates a very small effect size. As for tenure, shorter tenure group ( $M = 4.15, SD = .73$ ) reported a lower whistleblowing likelihood scores as compared with the longer tenure group,  $M = 4.23, SD = .626; t(177) = -$

.613,  $p = .541$  (two-tailed). Eta squared also shows a very small effect size of .002. Finally, there was no significant difference in scores between participants at lower job level ( $M = 4.14$ ,  $SD = .739$ ) and higher job level,  $M = 4.25$ ,  $SD = .621$ ;  $t(177) = -1.009$ ,  $p = .314$  (two-tailed), with a very small effect size (eta squared of .0057). Table 5.16 summarizes the analyses' results.

Table 5.16  
*Whistleblowing Likelihood across Demographic Groups*

Demographic Factor	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Gender	.038	.845	.899	177	.370
Age	.644	.423	.393	177	.695
Tenure	.076	.783	-.613	177	.541
Job level	.616	.434	-1.01	177	.314

Moreover, difference in the perceived organizational support scores between groups of the demographic variables was also tested. Similar to analysis presented earlier, none of the variables shows a statistically different between-groups score. On another note, only two of the demographic factors satisfy the assumption of equal variance. The perceived organizational support scores for male ( $M = 3.47$ ,  $SD = .547$ ) was lower as compared with their female counterparts,  $M = 3.54$ ,  $SD = .434$ ;  $t(177) = -.902$ ,  $p = .368$  (two-tailed) with a very small effect size (.0046). The scores was also not significantly different between younger ( $M = 3.45$ ,  $SD = .56$ ) and older participants,  $M = 3.57$ ,  $SD = .396$ ;  $t(175.245) = -1.663$ ,  $p = .098$  (two-tailed). Eta squared (.015) reveals a small effect size. On another note, shorter tenure participants ( $M = 3.48$ ,  $SD = .55$ ) reported lower scores of perceived organizational support as compared with longer tenured colleagues,  $M = 3.54$ ,  $SD = .349$ ;  $t(128.078) = -.756$ ,  $p = .451$  (two-tailed). Eta square indicates a very small effect size (.0032). Lastly,

scores between participants at lower level ( $M = 3.48$ ,  $SD = .533$ ) was lower as compared with those at higher level,  $M = 3.53$ ,  $SD = .442$ ;  $t(177) = -.621$ ,  $p = .536$  (two-tailed) with an eta square of .0022 indicating a very small effect size.

Table 5.17  
*Perceived Organizational Support across Demographic Groups*

Demographic Factor	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Gender	2.165	.143	-.902	177	.368
Age	5.138	.025	-1.663	175.245	.098
Tenure	6.256	.013	-.756	128.078	.451
Job level	1.72	.191	-.621	177	.536

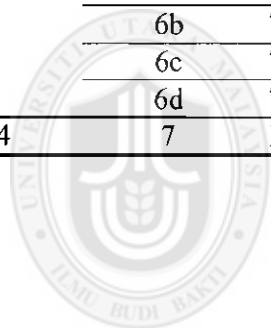
### 5.13 Summary

In testing the current study’s hypotheses, a number of data analysis techniques were performed. First, descriptive analysis presents the profile of participants. Meanwhile, bivariate analysis was used to examine the relationships between the variables of interest. As to validate the influence of the measured independent variables on the dependent variable, multiple regression analyses were conducted. Finally, the manipulated independent variables of this study were analyzed using factorial between-subjects ANOVA procedure.

Although supports for many of the key hypotheses were found, majority of the hypotheses of this study were not supported. Results of the hypothesis testing are summarized in Table 5.18.

Table 5.18  
*Summary of Hypothesis Testing*

Research Question	Hypothesis	Variable	Supported?	
			Yes	No
1	1	Seriousness of wrongdoing	√	
	2	Responsibility for reporting		√
	3	Cost to report		√
2 & 3	4	Strength of evidence	√	
	4a	Strength of evidence and Gender		√
	4b	Strength of evidence and Age		√
	4c	Strength of evidence and Tenure		√
	4d	Strength of evidence and Job level		√
	5	Role responsibility	√	
	5a	Role responsibility and Gender		√
	5b	Role responsibility and Age		√
	5c	Role responsibility and Tenure		√
	5d	Role responsibility and Job level		√
	6	Threat of retaliation	√	
	6a	Threat of retaliation and Gender		√
	6b	Threat of retaliation and Age		√
	6c	Threat of retaliation and Tenure		√
	6d	Threat of retaliation and Job level		√
4	7	Perceived organizational support	√	



Universiti Utara Malaysia

## **CHAPTER SIX**

### **DISCUSSION AND CONCLUSION**

#### **6.0 Introduction**

This chapter primarily discusses the research findings. First, it recapitulates the study. Subsequently, results of the analyses were elaborated. In addition, this chapter also highlights some theoretical as well as practical contributions of this research. Furthermore, several limitations of the current study were addressed. This chapter also proposes a number of recommendations for future research. The final section concludes this study.

#### **6.1 Recapitulation of the Study**

While performing the audit job in their working organizations, internal auditors will have access to some classified information. Needless to say, such exposure opens doors for the internal auditors to observe various forms of organizational wrongdoing. From the corporate governance perspective, reliance upon internal audit functions to detect wrongdoing in organizations seems evident especially due to the internal auditors' prescribed role to report (Miceli *et al.*, 1991).

Given this context, the current study examines the internal auditors' whistleblowing likelihood upon awareness of fraud occurrence. Fundamentally, the decision was viewed from the perspectives of the principled organizational dissent's model. Moreover, three variables related to the model were manipulated and hypothesized to

influence the dependent variable. Some demographic characteristics of the individual internal auditors were also evaluated, especially concerning their moderating role on the relationship between the manipulated variables and the dependent variable. Finally, the influence of perceived organizational support on the whistleblowing likelihood was also examined as an extension of the existing reporting model.

Due to the nature of research questions, as well as the scope of the current study, quantitative research methodology was employed in this study. To obtain participants' response, the current study uses mail questionnaire, of which consists of six hypothetical scenarios and an instrument. The questionnaire was divided into four sections. In Section A, the participants were asked to respond to three scenarios relevant to principled organizational dissent's model. Meanwhile, in Section B, participants indicate their whistleblowing likelihood concerning three scenarios independently regarding three dimensions related to the model of principled organizational dissent. Specifically, the three dimensions are: strength of evidence, role responsibility, and threat of retaliation. Each scenario represents a particular dimension which manipulated at two levels. Section C comprises instrument of Survey of Perceived Organizational Support (Eisenberger *et al.*, 1986). Section D requires some demographic information of the participants.

Hypotheses of this study were tested using several data analysis techniques. Apart from bivariate and multivariate analyses, one- and two-way ANOVA procedures were also performed. As in many experimental studies on whistleblowing, some of the participants' demographic characteristics were controlled for the purpose of

analysis. Consequently, the roles of demographic factors on the internal auditors' whistleblowing likelihood were measured.

In relation to Research Objective 1, results of the analyses suggest that only one of the three perspectives of the principled organizational dissent's model significantly predicts the dependent variable of this study, that is, perceived seriousness of wrongdoing. Nevertheless, in reference to Research Objective 2, all of the manipulated variables of this study are strongly related to the internal auditors' whistleblowing likelihood. Meanwhile, it was also found that, with regard to Research Objective 3, none of the demographic variables tested had significantly moderated the manipulated variables in influencing the internal auditors' whistleblowing likelihood. Finally, the result reveals that perceived organizational support was not only associated with, but also significantly and positively predicted the internal auditors' whistleblowing likelihood. Accordingly, this finding satisfies Research Objective 4. The following sections discuss the findings of this study in greater detail.

## **6.2 Discussion of Results**

Results of this study are discussed based on the hypothesized model. Specifically, the discussion is outlined according to the study's hypotheses, covering all of the variables of interest in this study.

### **6.2.1 Perceived seriousness of wrongdoing and whistleblowing likelihood**

Many studies show that seriousness of wrongdoing serves as one of the critical factors of the employees' whistleblowing decision (King, 1997; Miceli & Near, 1985; Singer, Mitchell, & Turner, 1998). In other words, employees would blow the

whistle should they perceive that the wrongdoing is serious enough for them to act. This finding implicitly means that, a wrongdoing which considered as less serious may not adequately induce employees to report (Brennan & Kelly, 2007). Nonetheless, prior studies indicate that seriousness was measured in various ways. Literature from the accounting context, for instance, usually weighs seriousness of wrongdoing financially, where the materiality of the impact of wrongdoing is scaled in monetary value (Kaplan & Whitecotton, 2001; Miceli *et al.*, 1991). Besides, seriousness was also gauged from the frequency of wrongdoing, as well as employees' attitude toward wrongdoing (King, 1997). In addition, literature suggests that seriousness also characterized by relevant situational characteristics such as the number of wrongdoers, the potential harm to others, the impact of the harmful effects, the certainty of negative outcomes, and frequency of the wrongdoing (Curtis, 2006; Near & Miceli, 1996). Literature also indicated that types of wrongdoing and its severity were found to positively influence the whistleblowing likelihood (Near & Miceli, 1996).

Consistent with Schultz *et al.* (1993), in this study, perceived seriousness of wrongdoing regards the extent of the anticipated social harm. In particular, seriousness is referred to the extent of the negative impact of fraud occurrence on the social well-being. The pooled result indicates that, as compared with the other two variables of principled organizational dissent, seriousness recorded the highest correlation with the dependent variable. In fact, the result was consistent throughout the three scenarios. Meanwhile, result of the standard multiple regression analysis on pooled scores also reveals that perceived seriousness of wrongdoing was significantly and positively predicted the internal auditors' whistleblowing



likelihood. Similar trend was also found for each of the three scenarios, that the variable had a significant positive influence on the dependent variable. Moreover, the descriptive statistics across scenarios also reveals that participants considered Scenario 1 as illustrating the most serious case of fraud, followed by Scenario 3 and Scenario 2.

As mentioned earlier, seriousness of wrongdoing was also measured based on types of the wrongful acts (Near *et al.*, 2004). In this regard, result of this study appears to support prior research findings. Nevertheless, considering the types of fraud portrayed in the scenarios, surprisingly, participants consider a misappropriation of asset, as in Scenario 1, to be relatively more serious than financial statement fraud, of which denoted in Scenarios 2 and 3. Although rarely happens, as compared with asset misappropriation, financial statement fraud may greatly cost the organizations. In contrast, despite commonly involved smaller financial value, misappropriation of asset usually occurs more frequently than financial statement fraud. It is conceivable, therefore, to concur that participants generally regard seriousness of wrongdoing from the context of the possible frequency of fraud occurrence. Nevertheless, Scenario 2 was considered by participants as less serious as compared with the other two scenarios possibly as it relates to earnings management. Despite being within the law, the trend toward fraudulent reporting was observed (Bamahros & Wan-Hussin, 2015).

In summary, seriousness of wrongdoing was not only related to, but also significantly and positively predicted the internal auditors' whistleblowing likelihood. This finding supports the result of many previous researches (Miceli &

Near, 1985; Near & Miceli, 1995; Singer *et al.*, 1998), although Kaplan and Whitecotton (2001) found that there was no significant association between seriousness of wrongdoing and auditors' reporting intentions.

### **6.2.2 Perceived personal responsibility for reporting and whistleblowing likelihood**

Literature reveals that employees were more likely to blow the whistle, not only when they think such action is appropriate, but also when they feel that they were personally responsible to do so (Arnold & Ponemon, 1991; Miceli & Near, 1985). Research also asserts that the feeling of responsibility to report wrongdoing is related to several factors, among others, moral compulsion (Miceli *et al.*, 1991), ethical beliefs (Sonnier & Lassar, 2013), and job role to report (Zhuang *et al.*, 2005). Moreover, the perception could also be influenced by the feeling of social responsibility and the degree of personal exposure to wrongdoing (Zhuang *et al.*, 2005). Besides, prior studies reported that employees would feel more responsible to report wrongdoing when the case is more serious (Kaplan & Whitecotton, 2001; Taylor & Curtis, 2010).

In this study, perceived responsibility for reporting is viewed from the perspective of duty or obligation. This operationalization is suitable especially concerning the context of this study, that is, involving internal auditors as participants. As compared with non-auditor employees, internal auditors were prescribed by their job role to report wrongful acts in organizations. Result of correlational analysis shows that perceived personal responsibility for reporting was significantly and positively associated with the internal auditors' whistleblowing likelihood. Besides, result of

each of the three scenarios also indicates this variable was positively related to the dependent variable. Response of Scenario 3 had the highest association with the whistleblowing likelihood, followed by responses of Scenario 2 and Scenario 1. Meanwhile, result of the pooled scores reveals that perceived personal responsibility for reporting was not a significant predictor of the internal auditors' whistleblowing likelihood. Nonetheless, this variable was significantly and positively predicted the dependent variable in each of the scenarios. On another note, descriptive statistics indicates that participants' perceived responsibility for reporting was highest for Scenario 1, followed by Scenario 3. Similar to seriousness, participants perceived personal responsibility to report Scenario 2 the least.

In relation to the discussion of perceived seriousness of wrongdoing in Section 6.2.1, the results suggest that participants have higher perceived responsibility to report in scenarios they consider as more serious. This finding implicitly indicates that, participants' perceived responsibility for reporting a misappropriation of asset is greater than of a financial statement fraud. Conversely, considering the perceived responsibility to report, internal auditors were more likely to blow the whistle on a financial statement fraud than on a misappropriation of asset. Similarly, perceived personal responsibility for reporting predicts whistleblowing likelihood better in cases of financial statement fraud than of asset misappropriation.

Overall, results of this study suggest that perceived personal responsibility for reporting was not significantly influence the internal auditors' whistleblowing likelihood. Despite the scenarios demonstrated in this study were perceived as serious, the participants' perceived responsibility for reporting was found to be

relatively lower. Nevertheless, the perceived responsibility was high across scenarios when the fact of the case was perceived as serious and costly to report.

### **6.2.3 Perceived personal cost to report and whistleblowing likelihood**

Prior to making a report, employees usually evaluate the possible cost associated with the reporting (Dozier & Miceli, 1985), of which may serve as a major hurdle for potential whistleblowers to act. As a result of whistleblowing, generally, the reporters' career prospects were put at stake. The whistleblowers could be threatened for retaliation, neglected for promotion, isolation, intimidation, demotion, defamation of characters, and expulsion (Dworkin & Baucus, 1998; Jubb, 1999; Near & Miceli, 1985). Besides, their family and friends could also be at jeopardy. Hence, it is sensible to predict that individual employees will be less likely to blow the whistle when they perceive such action could be retaliated (King, 1999; Near & Miceli, 1996). In this light, researchers argued that the whistleblowing likelihood will increase if the perceived personal cost associated with reporting is reduced (Ponemon, 1994; Sonnier & Lassar, 2013). Nonetheless, this personal cost to report varies depending on individual judgment; hence, literature has reported mixed findings. Despite it has been widely hypothesized to have influence on the individual employees' reporting likelihood, many studies have failed to validate this standpoint (Miceli *et al.*, 1991).

Similar to prior research utilizing the model, in this study, perceived personal cost to report refers to the expected trouble, risk, and discomfort to the reporter. Result of the correlation analysis indicates that perceived personal cost to report is positively associated with the whistleblowing likelihood. Similar results were also found in

each of the three scenarios. Meanwhile, result of the standard multiple regression analysis on the pooled scores shows that perceived personal cost to report has a weak negative effect on the internal auditors' whistleblowing likelihood. Similarly, the negative effect on the dependent variable was also observable in Scenarios 1 and 2. Result of Scenario 3, however, suggests that this variable had positively influenced the whistleblowing likelihood. Nevertheless, none of the results was significant. Despite the results of pooled scores show that cost to report is negatively associated with the whistleblowing likelihood, the analysis' result of individual scenarios indicated otherwise. Across Scenario 1 through 3, the correlation results were increasing, while the regression results show that predictive ability of the variable on the dependent variable changes from negative to positive. On another note, the descriptive statistics across scenarios reveals that perceived personal cost was highest for Scenario 1, and the least for Scenario 2.

In the context of the different types of fraud presented in this study, the finding suggests that participants consider reporting a misappropriation of asset as more costly than blowing the whistle on a financial statement fraud. Yet, considering the perceived cost to report, internal auditors were more likely to blow the whistle on financial statement fraud than on asset misappropriation. It is also important to highlight that, results of the three perspectives of principled organizational dissent's model showed a similar trend across scenarios. Specifically, participants were consistent in their response to the scenarios that they indicate a relatively higher perceived cost to report in scenarios that they regard as more serious and feel more responsible to report. In summary, as in many prior studies, perceived personal cost

to report does not significantly predict whistleblowing likelihood (Keil *et al.*, 2010; Miceli & Near, 1985; Near & Miceli, 1986; Miceli *et al.*, 1991).

#### **6.2.4 Strength of evidence and whistleblowing likelihood**

Fundamentally, any reported misconducts should be verifiable and of serious nature worthy of further investigation (Curtis, 2006). In this regard, research suggests that employees would be more inclined to report should they have solid evidence regarding the wrongdoing. Thus, it is advocated that, stronger and more convincing evidence lead to a higher whistleblowing frequency (Greenberger *et al.*, 1987). Similarly, unambiguity of evidence was also proposed to increase whistleblowing likelihood as it exemplifies genuine reporting intention (Miceli & Near, 1985). In fact, it is also asserted that possible retaliation may be alleviated if the whistleblower can provide genuine evidence (Mesmer-Magnus & Visweswaran, 2005). Despite their prescribed role to report organizational wrongdoings, internal auditors would still require strong evidence to support their claims against fraud.

Literature suggests that strength of evidence was usually measured by the availability of corroborated evidences, especially in the form of written documentation. In an internal auditing context, documentation is commonly required by internal auditors for the purpose of conducting their audit work. Also, as compared with other type of sources of evidence, documentary evidence was more accessible to internal auditors. Accordingly, in this study, strength of evidence refers to the availability of evidences held by the whistleblower. Adapting the scenario of Brink *et al.* (2013), the strength of evidence was manipulated at two levels, namely, low versus high. The context regarding the strength of evidence was clearly set up in Scenario 4. The case revolves

an issue of improper disclosures, of which assets were overstated. In a low evidence condition, it was portrayed that the actor, that is, the internal auditor had only suspected the case, without any supporting journal entries. Meanwhile, in a high evidence strength condition, with the availability of supporting journal entries, the internal auditor was confident of the fraud occurrence.

Result of one-way ANOVA suggests that there was a significant difference in scores between participants receiving low evidence condition and those receiving high strength of evidence condition. Specifically, the descriptive statistics shows that the mean score for high strength of evidence condition was significantly above the mean score for low evidence strength condition. In other word, the result suggests that the higher the evidence strength, the more likely that the internal auditors would blow the whistle. Despite the serious nature of the financial statement fraud, this finding suggests that the internal auditors' whistleblowing likelihood was largely depending on the strength of evidence.

#### **6.2.5 Role responsibility and whistleblowing likelihood**

Literature asserts that whistleblowing is associated with the prescribed role to report (Rothwell & Baldwin, 2007). Specifically, employees would feel more responsible to report when they were prescribed by their job role to do so (Arnold & Ponemon, 1991). This finding implies that employees would be less likely to report should they perceive themselves as less responsible for such action. In this regard, due to the assigned role to report organizational wrongdoings they are aware of, as compared with other employees, internal auditors were generally expected to feel more responsible to report.

In this study, role responsibility refers to the extent to which a potential whistleblower has a prescribed responsibility to report. Role responsibility is depicted in Scenario 5, manipulated at two levels: less versus more. Essentially, the scenario illustrates a typical type of fraud concerning conflict of interest in purchasing schemes. In a less role responsibility condition, the actor was described as a new joiner, who is still under probation with the employer. This situation was used to imply less role responsibility to report. On the other hand, in a more role responsibility condition, the actor was designated as a permanent staff, who technically assumes more role responsibility to report.

Result of the one-way ANOVA shows that there was a significant difference in response between participants who received less role responsibility treatment condition and those who received more responsibility condition. Specifically, descriptive statistics reveals that mean scores for less role responsibility condition was lower than the mean score for more role responsibility condition. The result suggests that internal auditors who received less role responsibility condition indicated lower tendency to blow the whistle than those who received more role responsibility condition. In other words, the result affirms that the more role responsibility assumed by the internal auditors, the more likely that they would blow the whistle. This finding denotes that internal auditors consider role responsibility to be an important factor influencing their tendency to blow the whistle. More importantly, result of this study highlights the effect of role responsibility in the internal auditors' whistleblowing likelihood.



### 6.2.6 Threat of retaliation and whistleblowing likelihood

Before deciding to report, potential whistleblowers would usually weigh the anticipated response to the reporting. This is because, often times, they were threatened with retaliatory actions. The effect of threat of retaliation on whistleblowing, however, was not clear and inconclusive. For instance, some studies found that employees were not scared off by threat of retaliation they receive, that they would blow the whistle externally instead. Nonetheless, these prior studies involved respondents from various backgrounds. Especially due to their nature of work, it can be expected that internal auditors would be more exposed to threat of retaliation.

In this study, threat of retaliation, as presented in Scenario 6, was manipulated into strong (*penalty*) versus weak (*affiliation*) conditions. Penalty relates to threat of retaliation directly affect whistleblower, while affiliation regards threat that impact other individuals, inside or outside the organization. Scenario 6 describes a case of a fraudulent disbursement to an unknown account. Upon awareness of the asset misappropriation, the internal auditor plans to make a report. Nevertheless, the actor subsequently received a threat of retaliation. In a weak threat condition, the company's CFO, who is a close family friend will be affected. Meanwhile, a strong threat condition denotes retaliation that will negatively impacted the reporter personally. Accordingly, it was hypothesized that the level of threat received by potential whistleblowers under these two conditions would be significantly different.

The one-way ANOVA results suggest that there was a significant difference in scores between participants who received weak threat of retaliation treatment

condition and those who received strong threat of retaliation condition. Particular, descriptive statistics indicates that, as compared with the mean score for strong threat of retaliation, the mean score for weak threat of retaliation was higher. In other words, it is suggested that, the stronger threat of retaliation, the less likely that the internal auditors would blow the whistle. In summary, the result supports that, internal auditors regard these two types of threat of retaliation to be significant in their whistleblowing decision.

#### **6.2.7 Gender and whistleblowing likelihood**

Many studies assert that there was a gender effect in ethical judgment, especially regarding ethics, beliefs, values, and behavior (Schminke, Ambrose, & Miles, 2003). In particular, women were found to be more ethical than men, both in judgment and behaviour (Vermeir & Van Kenhove, 2008). Nevertheless, empirical results indicate that male employees were more willing to blow the whistle than their female counterparts (Miceli & Near, 1988; Sims & Keenan, 1998). Literature suggests that this finding was due to the fact that men generally hold higher position in organizations, and thus, more exposed to wrongdoing.

As shown in Table 5.3, majority of the current study participants were male (59.8%). The statistics describes at least three possibilities. First, as compared with their female counterparts, the number of male internal auditors was higher, hence, more participation. Secondly, male internal auditors were more interested to voice their concern regarding the issues. And finally, male internal auditors were keener to participate in academic research.

Results of the between-groups correlational analysis across demographic factors in this study reveal that male internal auditors had higher perception on seriousness of wrongdoing than their female counterparts. Moreover, they also had higher perceptions on both personal responsibility and personal cost to report. Regardless, result of a two-way ANOVA indicates that gender has no significant interaction effect with any of the manipulated variables of this study. Specifically, the difference in scores between male and female internal auditors was not significant for both conditions of the manipulated variables.

Nevertheless, supplementary analysis of this study suggests that male internal auditors were more likely to blow the whistle than their female counterparts. The result, despite was not significant, appears to support prior research findings.

#### **6.2.8 Age and whistleblowing likelihood**

Research asserts that older employees would have lower personal cost to report than their younger colleagues as they were more experienced in anticipating the risks associated with the reporting. Also, due to the fact that the older employees have relatively shorter career prospect, they were also argued to be more likely to take the risk associated with the reporting. Accordingly, literature advocates that older employees, in general, would be more likely to blow the whistle than their younger counterparts. On the other hand, younger employees would be less likely to report in order to avoid retaliation.

About 39.1% of participants of this study were classified as older employees while the rest (60.9%) were younger. Nevertheless, result of the between-groups

correlational analysis across demographic factors reveals that, older internal auditors had higher perception of seriousness. Besides, they also perceive more personal responsibility for reporting than their younger colleagues. In fact, older internal auditors also reported higher perceived personal cost to report. On another note, although the effect of age on the whistleblowing likelihood for both low and high strength of evidence was not significant, there was a significant main effect of age on the dependent variable concerning Scenario 4. Specifically, results of a post hoc test suggest that the mean scores for “Under 25 years old” age group was significantly different from both “25 – 35 years old” group and “36 – 45 years old” group. Regardless, the “46 or older” group was not significantly different from any of the other groups.

Supplementary analysis of this study, however, indicates that younger internal auditors were more likely to blow the whistle than their older colleagues. Despite the non-significant result, this finding contradicts many prior studies. Generally, younger employees usually associated with shorter tenure with the employer and lower job level. This proposition could not support the finding of this study because, as denoted in Sections 6.2.9 and 6.2.10, internal auditors who had shorter tenure and hold lower position indicate less likelihood to blow the whistle.

#### **6.2.9 Tenure and whistleblowing likelihood**

Prior research suggests that the longer the employee’s tenure with the current employer, the more likely that he or she would blow the whistle. This finding highlights an important justification. In particular, tenure varies relatively with the employees’ degree of understanding of the organization. In this regard,

understanding can be referred to the anticipation of the employer's attitude toward both the wrongdoing and the whistleblowing. In fact, this perspective implicitly reflects the employees' expected personal cost to report. Accordingly, the longer the employee's tenure with the organization; the better understanding and judgment the employees would have developed regarding the employer. On the other hand, shorter tenured employees were relatively inexperienced in anticipating the attitude of the organization, thus, the less likely they would blow the whistle.

In this study, about 26.3% of participants were classified as longer tenured employees while the remaining (73.7%) had shorter tenure. Result of the correlation analysis of tenure across demographic groups indicates that, as compared with internal auditors who had shorter tenure, longer tenured internal auditors had higher perception of fraud's seriousness. In fact, they also perceive more personal responsibility for reporting and had higher perception on cost to reporting than their counterparts with shorter tenure. Meanwhile, result of a two-way ANOVA reveals that tenure has no significant interaction effect with any of the manipulated variables. In other words, there was no significant difference in scores between tenure groups for both conditions of the manipulated variables.

Nonetheless, supplementary analysis of this study reveals that longer tenured internal auditors were more likely to blow the whistle than the internal auditors who had shorter tenure with the current employer. This finding is consistent with prior research possibly due to justifications as discussed above.

#### **6.2.10 Job level and whistleblowing likelihood**

Literature asserts that, as compared with their lower level counterparts, employees with higher job level are more likely to blow the whistle. This proposition could be made in light of power status. Specifically, employees who have more power in the workplace would be more willing to report wrongdoing. In other words, the more power the employees possess, the more likely they would report (Keenan, 2000). Secondly, higher level employees were more likely to report as they perceive less personal cost. The more power the employees possess, the lesser would be their perceived personal cost associated with the reporting. In fact, they would be less likely to be threatened with retaliation due to their power status (Keenan, 1990). It is also suggested that higher level employees would be more likely to report as they know the most effective way to do so. In other words, as compared with lower level employees, employees at higher level are more informed of the appropriate procedures as well as the proper channel to report (Keenan, 2000).

As shown in Table 5.3, about 67% of participants in this study were at lower job level, while 33% of them at higher job level. The between-groups correlation across demographic factors also suggests that internal auditors at lower job level had a higher perception of seriousness than those at higher position. Nevertheless, as compared with higher level internal auditors, internal auditors at lower level perceived less personal responsibility for reporting and higher personal cost to report. On another note, although the effect of job level on the whistleblowing likelihood for both less and more role responsibility was not significant, there was a significant main effect of job level on the dependent variable regarding Scenario 5. Specifically, a post hoc analysis indicates that "Senior Manager or higher" group was significantly

different from both “Junior” group and “Senior” group. Meanwhile, “Manager” group was not significantly different from any of the other groups.

On another note, supplementary analysis of this study suggests that internal auditors who hold higher position were more likely to blow the whistle than those who were at lower position. Although was not significant, this result appears to be in line with prior research findings possibly owing to reasons as discussed earlier.

#### **6.2.11 Perceived organizational support and whistleblowing likelihood**

The organizational support theory advocates that it is important for employers to value their employees' contributions and take care of their social well-being. This is because; employees would form a series of actions to reciprocate the treatment that they received. More importantly, this reciprocity relationship was argued to influence whistleblowing likelihood among employees. Specifically, employees with high perceived organizational support were regarded to be more likely to blow the whistle than those who have low perceived organizational support. On the other hand, if the employees perceive that their working organizations were not appreciative of their contribution, and not supportive toward their well-being, it would be unlikely that they will report wrongdoing in the organizations. Similar to other prior studies investigating this perspective, in the present research, perceived organizational support refers to the participants' perception of the extent to which the organization values their contribution and care about their well-being (Eisenberger *et al.*, 1986).

Based on the pooled scores of the three scenarios, perceived organizational support was found to be positively associated with the whistleblowing likelihood.

Specifically, the higher the POS, the more likely the internal auditors would blow the whistle. Moreover, result of the hierarchical regression analysis also suggests that perceived organizational support was significantly and positively predicts the internal auditors' whistleblowing likelihood. In fact, in light of the study's extended hypothesized model, perceived organizational support was ranked the second highest variable explaining the variance of the dependent variable, after perceived seriousness of wrongdoing. Moreover, the overall fitness of the model was also improved with the extension. This finding indicates the suitability of perceived organizational support to be studied in light of the perspectives of principled organizational dissent in understanding the internal auditors' whistleblowing likelihood.

Meanwhile, correlational analysis across demographic groups reveals that perceived organizational support was related to internal auditors who are female, older, had longer tenure and at higher position. In light of the results, a supplementary analysis was performed to test on the influence of perceived organizational support across the demographic factors. The results indicate that there was no significant difference between mean scores of perceived organizational support across the demographic groups. In summary, as compared with their male counterparts, female internal auditors were found to have higher perceived organizational support. Besides, internal auditors who are older, longer tenured, and at higher position had also recorded higher perceived organizational support than those who are younger, shorter tenured, and at lower position.



It is also important to note that the likelihood to blow the whistle and the level of perceived organizational support across demographic groups was mixed. Specifically, both male and younger internal auditors were found to be more likely to blow the whistle, while, female and older internal auditors had shown higher perceived organizational support. Nevertheless, both longer tenured and higher position internal auditors had higher whistleblowing likelihood and higher perceived organizational support. In summary, the results suggest that both tenure with the current employer and job level were related to whistleblowing likelihood and perceived organizational support among internal auditors. In particular, the longer the internal auditors work for the current employer and the higher the position they hold, the higher will be their perceived organizational support, and also the more likely that they will blow the whistle. As tenure generally advances positively with job level, it may be concluded that perceived organizational support is related to organizational hierarchy in organizations.

### **6.3 Contributions of the Study**

Apart from satisfying the objectives, this study also contributes to theory and practice.

#### **6.3.1 Theoretical contributions**

This study is underpinned by the Graham's model of principled organizational dissent. Apart from validating the existing perspectives, as suggested by Sonnier and Lassar (2013), dimensions relevant to the model were also examined. Specifically, in light of perceived seriousness of wrongdoing, the effect of strength of evidence on

the dependent variable was tested. Meanwhile, role responsibility was assessed in relation to perceived personal responsibility for reporting. And finally, in regard to perceived personal cost to report, the role of threat of retaliation on the dependent variable was gauged. Results of the analysis suggest that all of the dimensions had significantly influenced the internal auditors' whistleblowing likelihood. The current study not only provides empirical evidence, but also verifies the influence of the relevant dimensions in explaining the dependent variable of this study.

Moreover, this study also integrates some relevant theoretical perspectives in effort to better understand the whistleblowing decision. Utilizing an important element of the organizational silence literature, the influence of perceived organizational support on the dependent variable of this study was also gauged. This perspective was introduced as it was considered relevant to an organizational context. Subsequently, a hypothesized model of internal auditors' whistleblowing likelihood was proposed. Results of analyses reveal that perceived organizational support was not only significantly and positively correlated, but also significantly predicted the internal auditors' whistleblowing likelihood. In summary, the integration of theories and models has helped better explain the dependent variable of this study.

### **6.3.2 Practical contributions**

Given its relevance to the world of practice, the current research also brings some practical contributions. Result of the present study suggests that, internal auditors would be more likely to blow the whistle primarily due to seriousness of the case. Ironically, serious cases such as fraud had cost organizations significantly. In this regard, apart from creating an environment that is conducive for business to grow,

organizations should also provide effective control system in order to mitigate fraud occurrence. In fact, evidence of fraud could also be maintained if proper internal control system is in place.

Studies also assert that, employees' attitude toward whistleblowing partly explains their whistleblowing decision. In particular, positive judgment may encourage more whistleblowing among employees (Miceli & Near, 1985). In this light, literature asserts that management that encourages employees to report wrongdoing provides adequate infrastructural support, effective policy and procedures, as well as clear designated roles and responsibilities regarding whistleblowing. These mechanisms not only offer an environment that is conducive for reporting, but also would lessen the cost associated with the reporting.

Considering the influence of perceived organizational support on the internal auditors' whistleblowing likelihood, this study suggests that it is important for the management to appreciate their employees' contribution and to care about their well-being. Specifically, the management may initiate some policies, procedures, or practices in organizations that would make the internal auditors to feel valued and cared for by their working organizations. As suggested by the result of this study, this perspective is important to fuel the whistleblowing behavior among internal auditors. Needless to say, by building good rapport between management and the internal auditors, perceived organizational support among internal auditors will improved, and hence, the whistleblowing frequency may be expected to increase.

#### 6.4 Limitations of the Study

Apart from its confined scope, this study also assumes several limitations. Especially due to the sensitive nature of the research field, it is rather challenging for researchers to gather information on actual whistleblowing decision. In most cases, participants would choose to be anonymous and remain unidentified to avoid retaliatory actions. Considering the extent of the research objectives, as well as the research questions, whistleblowing likelihood among the participants was examined instead of the actual whistleblowing behavior. In this regard, hypothetical scenarios were used to measure the whistleblowing likelihood (Arnold & Ponemon, 1991; Ayers & Kaplan, 2005; Brennan & Kelly, 2007; Chiu, 2002; Kaplan & Schultz, 2007; Keenan, 2002; Patel, 2003; Rothwell & Baldwin, 2007; Xu & Ziegenfuss, 2008). Although challenged with the issue of validity, this approach is justifiable considering the difficulty to validate actual whistleblowing behavior (Patel, 2003).

The use of hypothetical scenarios, however, is debatable especially as scenarios may not adequately represent the reality and nature of wrongdoing (Brennan & Kelly, 2007; Xu & Ziegenfuss, 2008). Although the use of hypothetical scenario was seen advantageous to ensure internal validity, it was also argued that the study will be limited to the context of the scenarios incorporated. Moreover, scholars also stressed that it is difficult to verify whether the responses to scenarios will be perfectly replicated by the participants should the case persists in reality. They added that, even so happen, the action could be due to social desirability bias. Nevertheless, some researchers considered the use of scenarios as appropriate and effective in acquiring data for whistleblowing studies (Gundlach, Martinko, & Douglas, 2008). In fact, it has been acknowledged to provide more practical context to participants as

it allows a greater control over several variables (Ayers & Kaplan, 2005; Reidenbach & Robin, 1990). Owing to these favorable justifications, many researchers have established the use of scenarios in ethics related studies such as whistleblowing (Ayers & Kaplan, 2005; Kaplan & Schultz, 2007; Mesmer-Magnus & Viswesvaran, 2005).

Due to ethical sensitivity of the research field, participants of this study were required to self-report their answers. This data collection approach was used to encourage the participants to respond to the questionnaire more freely. However, this method might raise an issue of social desirability bias. Particularly, literature asserts that an individual participant would tend to respond to questionnaire as the way he or she thinks others would perceive as acceptable (Neuman, 1997). This problem is very common especially among studies acquiring data via mail questionnaire. Nonetheless, prior studies suggest that social desirability bias varies with participants' anonymity (King & Bruner, 2000; Randall & Fernandes, 1991). In the context of the current study, minimal social desirability bias is expected as participants provided their response anonymously.

Unless due consideration is taken, results of this study may not be generalized into other settings. First, sampling bias may exist as a result of the sampling procedures used. Consequently, this study may not represent other whistleblowing environments as it only involves internal auditors who work for Malaysia's public listed companies in certain sectors. Besides, the scope of this study is limited to the context of the scenarios, especially regarding the type of fraudulent acts. Also, the present study mainly covers whistleblowing decision from the perspectives of principled

organizational dissent. Nevertheless, this research has been cautiously designed, that necessary procedures were undertaken in order to mitigate some possible biases and to alleviate the influence of extraneous factors on the results.

## **6.5 Recommendations for Future Research**

As mentioned in many parts of this thesis, research on individual employees' whistleblowing decision is still sparse especially from the accounting context. In this light, the present thesis proposed a model of the internal auditors' whistleblowing likelihood underpinned by the principled organizational dissent's model. Additionally, it extends the existing model by incorporating the perspective of perceived organizational support, of which grounded on the employer-employee relationship. The dimensions hypothesized in this study could be further validated in future research in other related settings, such as among internal auditors in other sectors, other industries, or other types of organizations. Moreover, especially due to its relevance to the issue of principles, the hypothesized model could also be further extended to involve other accounting-related professionals such as accounts executives, accountants, and external auditors. Comparison between these types of participants could enrich the body of knowledge concerning the current study's framework.

Also, beyond the limited context of this research, there are many other factors that could possibly influence internal auditors to blow the whistle. As suggested in this study, internal auditors were highly concerned over seriousness of wrongdoing, possibly owing to the different types of fraud portrayed in the hypothetical scenarios. This develops an understanding that employees would be more likely to report when

they observe a more serious type of fraud, and vice versa. In this regard, comparing several different types of fraud may offer more dynamic understanding of the reporting likelihood. Hence, studies that explicitly engage various types of fraud are worth to be pursued.

The current study extends the existing model to validate an element which has not been adequately established in prior studies. Nevertheless, there are more theoretical perspectives yet to be utilized in order to explain the internal auditors' role in reporting organizational wrongdoing. Specifically, it is also important to understand whistleblowing from other important contexts. Due to the limited scope of the hypothesized model, many of these factors could not be verified in the present study. For instance, this study does not account the relationship between the whistleblower and the wrongdoer through power distance theory (Greenberger *et al.*, 1987; Near & Miceli, 1985; Rehg *et al.*, 2008). The number of observers of the wrongdoing as suggested by the bystander intervention theory was also not being considered in this study (Dozier & Miceli, 1985). Furthermore, the study neglects the dynamic interaction of participants within their working groups (O'Fallon & Butterfield, 2012), as well as the interpersonal closeness between the observer and the wrongdoer (King, 1997). Hence, more studies are needed to provide empirical evidence to better understand the decision.

As in many Asian countries, whistleblowing is culturally unwelcome in Malaysia. Considering the nature of the research area as well as the research questions, the current study was carried out using a purely quantitative approach. Especially owing to the perspective that is of interest of this study, namely perceived organizational

support, qualitative data collection techniques were considered to be somewhat challenging. This study also suggests that more evidence is needed to better understand factors contributing toward whistleblowing behavior especially from a constructivist point of view. Cohesive efforts are needed to cope with the issues through an in-depth understanding of the reporting decision. This can be achieved by utilizing qualitative data gathering techniques such as interviews and focus group discussions.

## **6.6 Conclusion**

Considering the critical importance of internal audit functions in preventing and detecting fraud in organizations, this study examines the internal auditors' whistleblowing likelihood. Result of this study supports prior research findings that the dependent variable is generally explained by the fact of case. As compared with perceived responsibility and perceived cost to report, perceived seriousness mostly served as catalyst to the whistleblowing decision. As fraud in organizations commonly considered a serious event, internal auditors indicated a high tendency to blow the whistle against fraud.

Additionally, the study also affirms several other dimensions of interest. In particular, the influence of evidence strength was highlighted. Result of analysis found that strength of evidence can be considered as a significant factor to the internal auditors' whistleblowing likelihood. Finding of this study also emphasizes the influence of role responsibility on the whistleblowing decision among internal auditors. Generally, internal auditors will be more likely to blow the whistle when they are required to do so by their job role. Besides, the different type of threat of



retaliation was also found to be an important factor to whistleblowing among internal auditors. Also, in relation to the organizational support perspective, result of this study underscores the importance of reciprocity relationship between internal auditors and their employers. Specifically, internal auditors were found to be more likely to blow the whistle when they have high level of perceived organizational support.

As mentioned previously, the current research's findings bring some important contributions to theory and practice. First, this study not only verifies the influence of the existing perspectives of the model, but also supports the effect of dimensions relevant to the model on the internal auditors' whistleblowing likelihood. Furthermore, to better understand the dependent variable, this study also promotes more theoretical integration to be pursued in future research. In a practical context, this study suggests the organizations to maintain an effective control system in effort to mitigate fraud occurrence. In fact, a proper internal control system could provide better quality evidence for the internal auditors' reporting purposes. Moreover, the finding of this study also proposes that organizations should keep good rapport with the internal auditors. This relationship is important as it not only influences, but also reflects the extent of the internal auditors' whistleblowing likelihood.

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## Appendix A: Certification Letter



OTHMAN YEOP ABDULLAH  
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KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/K-14  
19 November 2014

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

### LETTER FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Muhammad Hariz bin Hamid (Matric no: 93979)** is a bonafied student of Doctor of Philosophy (PhD), Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia. He is conducting a research entitled **"An Examination of the Internal Auditors' Whistleblowing Likelihood upon Awareness of Fraud Occurrence"** under the supervision of Assoc. Prof. Dr. Nasruddin B. Zainudin.

In this regard, I hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you,

**"SCHOLARSHIP, VIRTUE, SERVICE"**

Yours faithfully

**ABDUL SHAKUR BIN ABDULLAH**  
Assistant Registrar  
for Dean  
Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor  
- Student's File (93979)

---

Universiti Pengurusan Terkemuka  
The Eminent Management University



## **Appendix B: Introductory Note**

**Dear Internal Auditor,**

This study is being conducted in fulfilment of the requirement for the degree of Doctor of Philosophy at the Universiti Utara Malaysia (UUM). This questionnaire is specially designed for the study to gauge whistleblowing likelihood among internal auditors. Specifically, it aims to help the current study to examine the internal auditors' whistleblowing likelihood upon awareness of fraud occurrence.

**As an internal auditor who works for a public listed company in Malaysia, you are invited to participate in this study.** The information you are going to provide is vital for me to better understand a significant decision in organizations. Please be noted that all information will be used for the purpose of this study only.

**This questionnaire is divided into four (4) sections as follows:**

- Section A – Principled Organizational Dissent
- Section B – Strength of Evidence, Role Responsibility, Threat of Retaliation
- Section C – Perceived Organizational Support
- Section D – Demographic Information

**There is no right or wrong answer.** However, you are not expected to discuss with your colleagues or anyone else in responding to this questionnaire as your honest answer is all that matters.

**Thank you in advance for your valuable time and willingness to participate.** In normal circumstances, the questionnaire will require about 25 to 30 minutes to complete. Please be assured that:

- Your participation is totally voluntary and strictly confidential.
- Your identity and profile of your working organization are completely anonymous.
- Results of this study will be reported in aggregate form only.

**Kindly read through and follow the specific instructions for each section.** Should you have any queries or concerns regarding this study, please do not hesitate to contact me via email ([hariz@student.uum.edu.my](mailto:hariz@student.uum.edu.my)) or call at +6012 551 7589.

MUHAMMAD HARIZ BIN HAMID  
PhD Student  
Universiti Utara Malaysia

## Appendix C: Questionnaire

### SECTION A

This section comprises three (3) hypothetical scenarios: **Scenario 1**, **Scenario 2**, and **Scenario 3**, all of which involving **professional dissent** in the accounting context.

**Important notes:**

- i. This study holds a premise that an individual reporting likelihood reflects his/her actual behavior.
- ii. Try to imagine yourself assuming the specified role as suggested in each scenario.
- iii. Your response to the questions should be based on the respective hypothetical organizational situations.

#### Scenario 1

You are an internal auditor for a large company whose shares are publicly traded on the Bursa Malaysia. One routine part of your job was reviewing expense accounts. When your Marketing Director's expense reimbursement request came to the top of the pile, you were intrigued as you knew that he had quite a reputation as a big spender. Your interest quickly turned to dismay as you found reimbursement requests for items such as a moderately expensive necklace, a fur stole, and a bill for personal secretary of the director's wife with no real justification. You knew that these items were not reimbursable according to company policy.

You decided to ask the director about them. He was clearly upset about the inquiry and responded, "The founder's son signature on those requests. What other documents do you need? He knows I'm responsible for the success we have had in developing this company. And besides I'm a director here."

On the way back to your office, you realized that although the founder's son had the title of Chief Financial Officer, he also had a reputation as a playboy and was hardly ever at the office.

Considering Scenario 1, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

- (A) (I) How likely is that YOU would report the wrongdoing to persons or organizations that may be able to effect action.

① Less Likely	②	③	④	⑤ Very Likely
------------------	---	---	---	------------------

- (II) The likelihood that a COLLEAGUE of yours who has become aware of this wrongdoing would report it to persons or organizations that may be able to effect action.

① Never	②	③	④	⑤ Always
------------	---	---	---	-------------

- (B) YOUR perception on the seriousness of the wrongdoing (*degree of the anticipated social harm*), the responsibility for reporting (*duty or obligation*), and the personal cost to report (*extent of the expected trouble, risk and discomfort*).

- (I) SERIOUSNESS of the wrongdoing

① Very Low	②	③	④	⑤ Very High
---------------	---	---	---	----------------

- (II) PERSONAL RESPONSIBILITY for reporting

① Very Low	②	③	④	⑤ Very High
---------------	---	---	---	----------------

- (III) PERSONAL COST to report

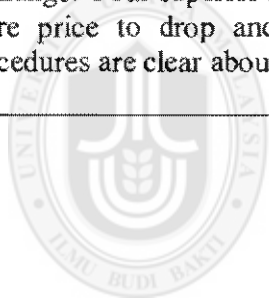
① Very Low	②	③	④	⑤ Very High
---------------	---	---	---	----------------

## Scenario 2

You are an internal auditor for ED Berhad, a company listed on Bursa Malaysia. ED has been successful in penetrating the whole Asian market through innovative financing arrangements, including liberal return policies on leased equipment. Following accepted accounting practice, ED has treated the long-term leases as a sale in the initial year of the lease.

A problem has arisen, however, that a competitor has brought out a more advanced, modern machine that has distinct cost advantages. You have learned from a salesman that one of ED's largest clients intends to exercise the return clause, which will affect current earnings substantially. You also discovered that the return will be widespread and an estimate to remove the profit in accordance with accepted accounting practices was prepared.

You present this finding to your superior, ED's Chief Internal Auditor, despite knowing that your superior will not even discuss the issue. After reflecting on the problem, you recall a company rumor that ED needs to conclude a critical merger within the next two months. The merger involves a share-for-share exchange. Your superior reasons that a sharp reduction in earnings will cause ED's share price to drop and probably stop the merger. Yet accepted accounting procedures are clear about reducing profit.



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Considering Scenario 2, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

- (A) (I) How likely is that YOU would report the wrongdoing to persons or organizations that may be able to effect action.

① Less Likely	②	③	④	⑤ Very Likely
------------------	---	---	---	------------------

- (II) The likelihood that a COLLEAGUE of yours who has become aware of this wrongdoing would report it to persons or organizations that may be able to effect action.

① Never	②	③	④	⑤ Always
------------	---	---	---	-------------

- (B) YOUR perception on the seriousness of the wrongdoing (*degree of the anticipated social harm*), the responsibility for reporting (*duty or obligation*), and the personal cost to report (*extent of the expected trouble, risk and discomfort*).

- (I) SERIOUSNESS of the wrongdoing

① Very Low	②	③	④	⑤ Very High
---------------	---	---	---	----------------

- (II) PERSONAL RESPONSIBILITY for reporting

① Very Low	②	③	④	⑤ Very High
---------------	---	---	---	----------------

- (III) PERSONAL COST to report

① Very Low	②	③	④	⑤ Very High
---------------	---	---	---	----------------

### Scenario 3

You are an internal auditor for ABC Berhad, a Malaysian conglomerate whose shares are traded on the Bursa Malaysia. You enjoyed your work and had progressed, since you graduated in 2005 with a degree in accounting and finance, to the position of Internal Audit Manager for ABC Chemicals in Kerteh, Terengganu. Your opportunity for advancement with ABC Berhad seemed quite promising.

Meanwhile, a plant manager of ABC Chemicals in Kerteh, had established a fine record with ABC Berhad after being hired away from a competitor four years ago. He and you got along well. After year end, you noticed that there was a record of sales regarding a major shipment to XYZ Chemicals. You highlighted this finding to the plant manager since you knew that the shipment was a consignment (a loan of inventory for possible future sale) and should not be treated as sales revenue until an actual sale was made. In fact, the shipment was so large that it would materially overstate income.

An upset plant manager responded; "XYZ always ends up buying the consignment anyway. We need this sale to make our budget and get the bonuses for our people. Besides, the amount is not large enough to make any difference in ABC's overall financial statements and it should assure my promotion to division manager."

You wondered what your alternatives were.

Considering Scenario 3, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

(A) (I) How likely is that YOU would report the wrongdoing to persons or organizations that may be able to effect action.

1	2	3	4	5
Less Likely				Very Likely

(II) The likelihood that a COLLEAGUE of yours who has become aware of this wrongdoing would report it to persons or organizations that may be able to effect action.

1	2	3	4	5
Never				Always

(B) YOUR perception on the seriousness of the wrongdoing (*degree of the anticipated social harm*), the responsibility for reporting (*duty or obligation*), and the personal cost to report (*extent of the expected trouble, risk and discomfort*).

(I) SERIOUSNESS of the wrongdoing

1	2	3	4	5
Very Low				Very High

(II) PERSONAL RESPONSIBILITY for reporting

1	2	3	4	5
Very Low				Very High

(III) PERSONAL COST to report

1	2	3	4	5
Very Low				Very High

## SECTION B

This section consists of three (3) hypothetical scenarios: **Scenario 4 [Strength of Evidence]**, **Scenario 5 [Role Responsibility]**, and **Scenario 6 [Threat of Retaliation]**.

### Scenario 4 [Low Strength of Evidence]

You are working for a company whose shares are held by public and traded on the Bursa Malaysia. It is a common practice in your company that access to accounting records are given to accounting personnel only. Specifically, account executives are responsible for recording transactions while those at managerial positions authorize such records with the ability to amend.

Recently, however, there was a questionable accounting treatment that concerns the management. As an internal auditor, you went through the accounting records carefully to see what had happened and whether an account executive (AE) had made a mistake that an account manager (AM) had corrected. After further investigation, you thought that you had an idea about what had happened. The AE had recorded several items related to building maintenance as expenses last year. Although you could not find any journal entries in the accounting system to support your assumptions, you suspected that the AM might have been responsible for changing the classification of these items from expenses to "long-term assets". If so, expenses were underreported by increasing assets. This would have had the effect of significantly increasing income.

If this was what happened, the AM had not talked with the AE or any other relevant persons before changing the classification of these expenses. Additionally, you were not able to determine whether these same items had been expensed in prior years.

Considering Scenario 4, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

- (A) YOUR likelihood to blow the whistle to persons or organizations that may be able to effect action.

①	②	③	④	⑤
Less Likely				Very Likely

- (B) The likelihood that a COLLEAGUE of yours will blow the whistle to persons or organizations that may be able to effect action.

①	②	③	④	⑤
Never				Always

#### Scenario 4 [High Strength of Evidence]

You are working for a company whose shares are held by public and traded on the Bursa Malaysia. It is a common practice in your company that access to accounting records are given to accounting personnel only. Specifically, account executives are responsible for recording transactions while those at managerial positions authorize such records with the ability to amend.

Recently, however, there was a questionable accounting treatment that concerns the management. As an internal auditor, you went through the accounting records carefully to see what had happened and whether an account executive (AE) had made a mistake that an account manager (AM) had corrected. After further investigation, you are confident that the AM had engaged in an unethical act of misreporting financial information. The AE had properly recorded several items related to building maintenance as expenses last year. After year-end, the AM posted a series of journal entries into the accounting system that inappropriately changed the classification of these items from expenses to "long-term assets". That is, expenses were underreported by increasing assets. This had the effect of significantly increasing income.

He had not talked with the AE or any other relevant persons before improperly changing the classification of these expenses. In further support of the act of misreporting financial information, you noted that the same items had been expensed in prior years. Therefore, his changes were clearly out of harmony with prior year reports.

Considering Scenario 4, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

- (A) YOUR likelihood to blow the whistle to persons or organizations that may be able to effect action.

1	2	3	4	5
Less Likely				Very Likely

- (B) The likelihood that a COLLEAGUE of yours will blow the whistle to persons or organizations that may be able to effect action.

1	2	3	4	5
Never				Always

**Scenario 5 [Less Role Responsibility]**

You had just been employed for nearly ten months as an internal auditor for EZ Berhad, a company listed on Bursa Malaysia. From your routine audit job, you discovered that a purchasing manager who received above-average annual performance reviews has made a large purchase from Lego Corporation. You have corroborated evidence to believe that the purchase was inclusive of personal lodging for VIP club members, a high-class facility belonging to Lego for one week under the manager's name. You directly asked the manager about the deal because you learned that Lego's bid was slightly higher than the other suppliers' bids. The manager explained that he had done business with Lego for years and that they had a good business relationship.

You are concerned because you knew that accepting gifts (even small ones) or favors from suppliers was against EZ's policy. Besides, the company policy encourages employees to report ethical violations to the appropriate persons.

You are the only person who knew about this wrongdoing. However, based on past practices of the company toward employees on probation, you are aware that you will not be deemed personally responsible by your job role should you fail to report wrongdoing of fraudulent nature such this.

Considering Scenario 5, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

(A) YOUR likelihood to blow the whistle to persons or organizations that may be able to effect action.

1	2	3	4	5
Less Likely				Very Likely

(B) The likelihood that a COLLEAGUE of yours will blow the whistle to persons or organizations that may be able to effect action.

1	2	3	4	5
Never				Always

### Scenario 5 [More Role Responsibility]

You have been employed for nearly three years as an internal auditor for EZ Berhad, a company listed on Bursa Malaysia. From your routine audit job, you discovered that a purchasing manager who received above-average annual performance reviews has made a large purchase from Lego Corporation. You have corroborated evidence to believe that the purchase was inclusive of personal lodging for VIP club members, a high-class facility belonging to Lego for one week under the manager's name. You directly asked the manager about the deal because you learned that Lego's bid was slightly higher than the other suppliers' bids. The manager explained that he had done business with Lego for years and that they had a good business relationship.

You are concerned because you knew that accepting gifts (even small ones) or favors from suppliers was against EZ's policy. Besides, the company policy encourages employees to report ethical violations to the appropriate persons.

You are the only person who knew about this wrongdoing. As a permanent employee, you are aware that you are prescribed by your job role to report wrongdoing of fraudulent nature such this and shall be deemed personally responsible should you fail to do so.

Considering Scenario 5, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

- (A) YOUR likelihood to blow the whistle to persons or organizations that may be able to effect action.

①	②	③	④	⑤
Less Likely				Very Likely

- (B) The likelihood that a COLLEAGUE of yours will blow the whistle to persons or organizations that may be able to effect action.

①	②	③	④	⑤
Never				Always

### Scenario 6 [Weak Threat of Retaliation]

You are an internal auditor for a company whose shares are publicly traded on the Bursa Malaysia. Each quarter you analyze the organization's performance to ensure it is meeting its desired goals. Upon analyzing the latest reports, you find an unusual and large decrease in the cash-flow statement for the quarter. You conduct an investigation and at first it appears that a purchase of equipment in the last quarter is to explain for the decrease in cash. However, you think you would have remembered a significant purchase like this and conduct a paper trail on the asset purchase.

You find out that no such purchase took place and that the paper trail led to a deposit of a significant amount of cash into an unknown bank account. Furthermore, you find multiple one-off payments to this account. You bring the matter to the attention of the Chief Internal Auditor (CIA), but nothing comes of it. The lack of response leads you to believe something unethical is occurring and asks the CIA to take action.

The CIA tells you that if you disclose this information, the Chief Financial Officer (who is your close family friend) will lose his job and may face criminal charges.

Considering Scenario 6, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

- (A) YOUR likelihood to blow the whistle to persons or organizations that may be able to effect action.

1	2	3	4	5
Less Likely				Very Likely

- (B) The likelihood that a COLLEAGUE of yours will blow the whistle to persons or organizations that may be able to effect action.

1	2	3	4	5
Never				Always



### Scenario 6 [Strong Threat of Retaliation]

You are an internal auditor for a company whose shares are publicly traded on the Bursa Malaysia. Each quarter you analyze the organization's performance to ensure it is meeting its desired goals. Upon analyzing the latest reports, you find an unusual and large decrease in the cash-flow statement for the quarter. You conduct an investigation and at first it appears that a purchase of equipment in the last quarter is to explain for the decrease in cash. However, you think you would have remembered a significant purchase like this and conduct a paper trail on the asset purchase.

You find out that no such purchase took place and that the paper trail led to a deposit of a significant amount of cash into an unknown bank account. Furthermore, you find multiple one-off payments to this account. You bring the matter to the attention of the Chief Internal Auditor (CIA), but nothing comes of it. The lack of response leads you to believe something unethical is occurring and asks the CIA to take action.

The CIA tells you that if you disclose the information you will be most unlikely to receive a promotion at your current work place or find work in any other organization, as you will be perceived as untrustworthy.

Considering Scenario 6, please CIRCLE a number from 1 to 5 on the respective scales below to indicate:

- (A) YOUR likelihood to blow the whistle to persons or organizations that may be able to effect action.

① Less Likely	②	③	④	⑤ Very Likely
------------------	---	---	---	------------------

- (B) The likelihood that a COLLEAGUE of yours will blow the whistle to persons or organizations that may be able to effect action.

① Never	②	③	④	⑤ Always
------------	---	---	---	-------------

## SECTION C

This section intends to measure your perception on the **support** given by your working organization. Following is a series of statements designed for the purpose. Please **CIRCLE** the number corresponding to your level of agreement with each statement.

No.	Statement	Strongly Disagree					Strongly Agree				
1.	The organization values my contribution to its well-being.	1	2	3	4	5					
2.	If the organization could hire someone to replace me at a lower salary it would do so.	1	2	3	4	5					
3.	The organization fails to appreciate any extra effort from me.	1	2	3	4	5					
4.	The organization strongly considers my goals and values.	1	2	3	4	5					
5.	The organization would ignore any complaint from me.	1	2	3	4	5					
6.	The organization disregards my best interests when it makes decisions that affect me.	1	2	3	4	5					
7.	Help is available from the organization when I have a problem.	1	2	3	4	5					
8.	The organization really cares about my well-being.	1	2	3	4	5					
9.	Even if I did the best job possible, the organization would fail to notice.	1	2	3	4	5					
10.	The organization is willing to help me when I need a special favor.	1	2	3	4	5					
11.	The organization cares about my general satisfaction at work.	1	2	3	4	5					
12.	If given the opportunity, the organization would take advantage of me.	1	2	3	4	5					
13.	The organization shows very little concern for me.	1	2	3	4	5					
14.	The organization cares about my opinions.	1	2	3	4	5					
15.	The organization takes pride in my accomplishments at work.	1	2	3	4	5					
16.	The organization tries to make my job as interesting as possible.	1	2	3	4	5					

## SECTION D

This section requires some **demographic** information of you and your working organization. Please indicate (X) on the appropriate boxes. Your answers are strictly confidential.

1. Gender

☐ Male

☐ Female

2. Age (range)

☐ Under 25 years old

☐ 36 – 45 years old

☐ 25 – 35 years old

☐ 46 or older

3. Educational level

☐ Diploma

☐ Master's degree

☐ Bachelor's degree

☐ PhD

4. Tenure (with the current employer)

☐ Less than 2 years

☐ 6 to 10 years

☐ 2 to 5 years

☐ 11 years or more

5. Current job level

☐ Junior

☐ Manager

☐ Senior

☐ Senior Manager or higher

6. Size of your working organization

☐ 1 to 500 employees

☐ 1,001 to 5,000 employees

☐ 501 to 1,000 employees

☐ More than 5,000 employees

7. Annual turnover of the organization

☐ Under RM50 million

☐ RM50 million to less than RM100 million

☐ RM100 million to less than RM500 million

☐ RM500 million and above

## MANIPULATION CHECK QUESTIONS

Based on the respective scenarios you have read earlier, please CIRCLE the number that best represents your opinion in response to each of the following questions.

### Scenario 4 (Strength of Evidence)

How certain are you that the account manager (AM) had committed the wrongful act?

1 Low	2	3	4	5 High
----------	---	---	---	-----------

### Scenario 5 (Role Responsibility)

How do you rate your role responsibility for reporting the incident?

1 Less	2	3	4	5 More
-----------	---	---	---	-----------

### Scenario 6 (Threat of Retaliation)

How do you consider the threat of retaliation level?

1 Weak	2	3	4	5 Strong
-----------	---	---	---	-------------

## COMMENTS

You are welcome to give your overall and/or specific comments regarding this questionnaire. Should you have any that you would like me to know, please write it down in the space provided below.

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*-End of Questionnaire-*

**Thank you for your participation!**

**Please return your questionnaire by using the enclosed self-addressed envelope latest by 31 December 2014 (Wed).**

### Appendix D: Pearson Correlation (Scenarios 1-3)

Variable	Scenario 1					Scenario 2					Scenario 3				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1 Whistleblowing likelihood	1					1					1				
2 Seriousness of wrongdoing	.525**	1				.598**	1				.542**	1			
3 Responsibility for reporting	.348**	.419**	1			.470**	.623**	1			.491**	.535**	1		
4 Cost to report	.047	.235**	.271**	1		.248**	.442**	.524**	1		.357**	.360**	.409**	1	
5 Organizational support	.270**	.084	.032	.001	1	.252**	.187*	.126	.020	1	.163*	.134	.087	.094	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

### Appendix E: Pearson Correlation (Between Groups)

Gender	Variable	1	2	3	4	5
Male	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.734**	1			
	3 Responsibility for reporting	.498**	.636**	1		
	4 Cost to report	.286**	.362**	.389**	1	
	5 Organizational support	.284**	.113	.041	.040	1
Female	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.595**	1			
	3 Responsibility for reporting	.380**	.533**	1		
	4 Cost to report	.171	.424**	.505**	1	
	5 Organizational support	.333**	.323**	.270*	.103	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

Age	Variable	1	2	3	4	5
Younger	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.622**	1			
	3 Responsibility for reporting	.356**	.549**	1		
	4 Cost to report	.227*	.385**	.442**	1	
	5 Organizational support	.139	.021	.022	.080	1
Older	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.755**	1			
	3 Responsibility for reporting	.571**	.643**	1		
	4 Cost to report	.263*	.358**	.423**	1	
	5 Organizational support	.648**	.540**	.306*	.089	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

<b>Tenure</b>	<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Shorter	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.655**	1			
	3 Responsibility for reporting	.403**	.587**	1		
	4 Cost to report	.244**	.454**	.514**	1	
	5 Organizational support	.230**	.109	.089	.087	1
Longer	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.768**	1			
	3 Responsibility for reporting	.606**	.624**	1		
	4 Cost to report	.284	.252	.315*	1	
	5 Organizational support	.625**	.539**	.222	.009	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

<b>Job level</b>	<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Lower	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.729**	1			
	3 Responsibility for reporting	.430**	.594**	1		
	4 Cost to report	.344**	.480**	.603**	1	
	5 Organizational support	.208*	.144	.062	.071	1
Higher	1 Whistleblowing likelihood	1				
	2 Seriousness of wrongdoing	.538**	1			
	3 Responsibility for reporting	.500**	.610**	1		
	4 Cost to report	.078	.234	.227	1	
	5 Organizational support	.534**	.285*	.220	.051	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

### Appendix F: Standard Multiple Regression (Scenarios 1-3)

	Scenario 1			Scenario 2			Scenario 3		
Variable	$\beta$	t	Sig.	$\beta$	t	Sig.	$\beta$	t	Sig.
Seriousness of wrongdoing	.476	6.806	.000	.513	6.616	.000	.367	5.021	.000
Responsibility for reporting	.179	2.531	.012	.192	2.344	.020	.244	3.271	.001
Cost to report	-.114	-1.721	.087	-.079	-1.112	.268	.126	1.859	.065
R square*	.307			.377			.364		
F	25.830			35.142			32.954		
Mahal. Distance	19.049			19.081			26.407		
Cook's Distance	.263			.102			.201		

\*(Sig. = .000)



## Appendix G: Two-way ANOVA: Detailed Results

### Scenario 4 (Strength of Evidence)

#### Panel A: ANOVA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	.093	1	.093	.090	.764	.001
Strength of Evidence	38.210	1	38.210	37.177	.000	.175
Gender * Strength of Evidence	.908	1	.908	.883	.349	.005
Error	179.859	175	1.028			

#### Panel B: Mean (Standard Deviation)

Gender	Strength of Evidence		Total
	Low	High	
Male	3.22 (1.134) N = 46	4.31 (.847) N = 61	3.84 (1.117) N = 107
Female	3.41 (1.208) N = 39	4.21 (.857) N = 33	3.78 (1.129) N = 72
Total	3.31 (1.165) N = 85	4.28 (.848) N = 94	3.82 (1.119) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Age	8.381	3	2.794	2.831	.040	.047
Strength of Evidence	27.649	1	27.649	28.020	.000	.141
Age * Strength of Evidence	4.051	3	1.350	1.368	.254	.023
Error	168.736	171	.987			

**Panel B: Means (Standard Deviation)**

Age	Strength of Evidence		Total
	Low	High	
Under 25 years old	2.71 (.756) N = 7	3.33 (1.033) N = 6	3.00 (.913) N = 13
25 – 35 years old	3.44 (1.201) N = 43	4.26 (.836) N = 53	3.90 (1.090) N = 96
36 – 45 years old	3.40 (1.225) N = 25	4.36 (.727) N = 22	3.85 (1.122) N = 47
46 or older	2.90 (.994) N = 10	4.62 (.768) N = 13	3.87 (1.217) N = 23
Total	3.31 (1.165) N = 85	4.28 (.848) N = 94	3.82 (1.119) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Tenure	2.072	3	.691	.681	.565	.012
Strength of Evidence	39.166	1	39.166	38.589	.000	.184
Tenure * Strength of Evidence	4.791	3	1.597	1.574	.198	.027
Error	173.556	171	1.015			

**Panel B: Means (Standard Deviation)**

Tenure	Strength of Evidence		Total
	Low	High	
Less than 2 years	3.36 (1.220) N = 33	4.11 (.936) N = 37	3.76 (1.135) N = 70
2 to 5 years	3.42 (1.137) N = 26	4.22 (.797) N = 36	3.89 (1.026) N = 62
6 to 10 years	3.05 (1.276) N = 20	4.50 (.760) N = 14	3.65 (1.300) N = 34
11 years or more	3.33 (.516) N = 6	5.00 (.000) N = 7	4.23 (.927) N = 13
Total	3.31 (1.165) N = 85	4.28 (.848) N = 94	3.82 (1.119) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Job level	3.694	3	1.231	1.206	.309	.021
Strength of Evidence	28.151	1	28.151	27.572	.000	.139
Job level * Strength of Evidence	2.453	3	.818	.801	.495	.014
Error	174.591	171	1.021			

**Panel B: Means (Standard Deviation)**

Job level	Strength of Evidence		Total
	Low	High	
Junior	3.27 (1.258) N = 30	3.89 (.956) N = 28	3.57 (1.156) N = 58
Senior	3.33 (1.155) N = 30	4.38 (.707) N = 32	3.87 (1.079) N = 62
Manager	3.33 (1.111) N = 21	4.52 (.770) N = 25	3.98 (1.105) N = 46
Senior Manager or higher	3.25 (1.258) N = 4	4.44 (.882) N = 9	4.08 (1.115) N = 13
Total	3.31 (1.165) N = 85	4.28 (.848) N = 94	3.82 (1.119) N = 179

### Scenario 5 (Role Responsibility)

#### Panel A: ANOVA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	.172	1	.172	.200	.655	.001
Role Responsibility	10.582	1	10.582	12.336	.001	.066
Gender * Role Responsibility	1.069	1	1.069	1.246	.266	.007
Error	150.111	175	.858			

#### Panel B: Means (Standard Deviation)

Gender	Role Responsibility		Total
	Less	More	
Male	3.87 (1.063) N = 62	4.53 (.694) N = 45	4.15 (.979) N = 107
Female	3.97 (1.098) N = 30	4.31 (.780) N = 42	4.17 (.934) N = 72
Total	3.90 (1.070) N = 92	4.43 (.741) N = 87	4.16 (.959) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Age	1.009	3	.336	.383	.765	.007
Role Responsibility	8.765	1	8.765	9.992	.002	.055
Age * Role Responsibility	.353	3	.118	.134	.940	.002
Error	150.003	171	.877			

**Panel B: Means (Standard Deviation)**

Age	Role Responsibility		Total
	Less	More	
Under 25 years old	3.75 (1.165) N = 8	4.60 (.548) N = 5	4.08 (1.038) N = 13
25 – 35 years old	3.85 (1.010) N = 46	4.36 (.749) N = 50	4.11 (.916) N = 96
36 – 45 years old	4.04 (1.083) N = 24	4.52 (.790) N = 23	4.28 (.971) N = 47
46 or older	3.93 (1.269) N = 14	4.44 (.726) N = 9	4.13 (1.100) N = 23
Total	3.90 (1.070) N = 92	4.43 (.741) N = 87	4.16 (.959) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Tenure	1.699	3	.566	.655	.581	.011
Role Responsibility	6.155	1	6.155	7.114	.008	.040
Tenure * Role Responsibility	1.452	3	.484	.559	.642	.010
Error	147.943	171	.865			

**Panel B: Means (Standard Deviation)**

Tenure	Role Responsibility		Total
	Less	More	
Less than 2 years	3.71 (.973) N = 31	4.46 (.756) N = 39	4.13 (.931) N = 70
2 to 5 years	3.97 (1.167) N = 34	4.36 (.621) N = 28	4.15 (.973) N = 62
6 to 10 years	3.89 (1.100) N = 19	4.40 (.910) N = 15	4.12 (1.038) N = 34
11 years or more	4.38 (.916) N = 8	4.60 (.894) N = 5	4.46 (.877) N = 13
Total	3.90 (1.070) N = 92	4.43 (.741) N = 87	4.16 (.959) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Job level	7.150	3	2.383	2.934	.035	.049
Role Responsibility	6.393	1	6.393	7.871	.006	.044
Job level * Role Responsibility	1.300	3	.433	.534	.660	.009
Error	138.897	171	.812			

**Panel B: Means (Standard Deviation)**

Job level	Role Responsibility		Total
	Less	More	
Junior	3.58 (1.065) N = 26	4.38 (.751) N = 32	4.02 (.982) N = 58
Senior	3.79 (1.114) N = 29	4.42 (.708) N = 33	4.13 (.966) N = 62
Manager	4.00 (1.038) N = 27	4.42 (.838) N = 19	4.17 (.973) N = 46
Senior Manager or higher	4.80 (.422) N = 10	5.00 (.000) N = 3	4.85 (.376) N = 13
Total	3.90 (1.070) N = 92	4.43 (.741) N = 87	4.16 (.959) N = 179



## Scenario 6 (Threat of Retaliation)

### Panel A: ANOVA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	.112	1	.112	.152	.697	.001
Threat of Retaliation	6.636	1	6.636	9.062	.003	.049
Gender * Threat of Retaliation	.000	1	.000	.000	.993	.000
Error	128.155	175	.732			

### Panel B: Means (Standard Deviation)

Gender	Threat of Retaliation		Total
	Weak	Strong	
Male	4.27 (.691) N = 59	3.87 (.981) N = 48	4.09 (.853) N = 107
Female	4.22 (.751) N = 32	3.83 (.984) N = 40	4.00 (.904) N = 72
Total	4.25 (.709) N = 91	3.85 (.977) N = 88	4.06 (.872) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Age	.765	3	.255	.344	.794	.006
Threat of Retaliation	2.443	1	2.443	3.294	.071	.019
Age * Threat of Retaliation	.722	3	.241	.324	.808	.006
Error	126.831	171	.742			

**Panel B: Means (Standard Deviation)**

Age	Threat of Retaliation		Total
	Weak	Strong	
Under 25 years old	4.14 (.378) N = 7	4.17 (.408) N = 6	4.15 (.376) N = 13
25 – 35 years old	4.32 (.701) N = 53	3.86 (.861) N = 43	4.11 (.806) N = 96
36 – 45 years old	4.17 (.857) N = 18	3.83 (1.256) N = 29	3.96 (1.122) N = 47
46 or older	4.15 (.689) N = 13	3.70 (.823) N = 10	3.96 (.767) N = 23
Total	4.25 (.709) N = 91	3.85 (.977) N = 88	4.06 (.872) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Tenure	2.164	3	.721	.980	.404	.017
Threat of Retaliation	4.056	1	4.056	5.508	.020	.031
Tenure * Threat of Retaliation	.142	3	.047	.064	.979	.001
Error	125.913	171	.736			

**Panel B: Means (Standard Deviation)**

Tenure	Threat of Retaliation		Total
	Weak	Strong	
Less than 2 years	4.16 (.688) N = 31	3.74 (1.093) N = 39	3.93 (.953) N = 70
2 to 5 years	4.31 (.693) N = 32	3.90 (.803) N = 30	4.11 (.770) N = 62
6 to 10 years	4.19 (.750) N = 21	3.92 (1.115) N = 13	4.09 (.900) N = 34
11 years or more	4.57 (.787) N = 7	4.17 (.753) N = 6	4.38 (.768) N = 13
Total	4.25 (.709) N = 91	3.85 (.977) N = 88	4.06 (.872) N = 179

**Panel A: ANOVA**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Job level	2.869	3	.956	1.315	.271	.023
Threat of Retaliation	5.341	1	5.341	7.343	.007	.041
Job level * Threat of Retaliation	.332	3	.111	.152	.928	.003
Error	124.376	171	.727			

**Panel B: Means (Standard Deviation)**

Job level	Threat of Retaliation		Total
	Weak	Strong	
Junior	4.22 (.608) N = 32	3.69 (.788) N = 26	3.98 (.737) N = 58
Senior	4.24 (.872) N = 29	3.88 (.893) N = 33	4.05 (.895) N = 62
Manager	4.25 (.645) N = 28	3.78 (1.353) N = 18	4.07 (.998) N = 46
Senior Manager or higher	5.00 (.000) N = 2	4.27 (.905) N = 11	4.38 (.870) N = 13
Total	4.25 (.709) N = 91	3.85 (.977) N = 88	4.06 (.872) N = 179