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Intentions to Report Questionable Acts: An Examination of the Influence of Anonymous Reporting Channel, Internal Audit Quality, and Setting

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ABSTRACT. The Sarbanes–Oxley Act of 2002 requires audit committees of public companies' boards of directors to install an anonymous reporting channel to assist in deterring and detecting accounting fraud and control weaknesses. While it is generally accepted that the availability of such a reporting channel may reduce the reporting cost of the observer of a questionable act, there is concern that the addition of such a channel may decrease the overall effectiveness compared to a system employing only non-anonymous reporting options. The rationale underlying this concern involves the would-be reporter's likelihood of reporting, the seriousness with which the organization treats an anonymous report, and the organization's ability to thoroughly follow-up the report. Thus, we explore the extent to which the availability of an anonymous reporting channel influences intended use of non-anonymous reporting channels. Further, in response to Sarbanes–Oxley and the environment of financial scandals that led to its passage, many firms are strengthening their internal audit departments, and providing them with greater independence from upper management's direct control. Accordingly, our examination tests whether the intended use of the internal audit department as an internal reporting channel is greater when the internal audit department is of ''high'' versus ''low'' quality. Finally, the study investigates intended reporting behavior across three different cases (e.g., settings).

Results show that the existence of an anonymous channel does reduce the likelihood of reporting to non-anonymous channels, that generally the internal audit department quality does not affect reporting to non-anonymous channels, and that case-setting affects the type of channel to be used. Implications from the study are discussed.

KEY WORDS: internal audit department quality, questionable acts, reporting intentions

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Introduction

For well over 20 years researchers from various disciplines have examined issues related to whistle-blowing (see Near and Miceli, 1995 for a review). This research is important because whistleblowers have knowledge of wrongdoing and/or questionable acts in their organizations and can report that knowledge to parties in a position to correct the behavior (Callahan and Dworkin, 1992). Effective whistle-blowing processes serve as an important control mechanism to prevent and detect wrongdoing and questionable acts. Internal reporting is generally preferred to external reporting (e.g., a law enforcement agency) for various reasons. Near and Miceli (1995, p. 680) contend that managers prefer that whistle-blowers use internal channels rather than external channels "so that the firm's dirty linen is not aired in public." Bok (1989, as cited in note 80 by Callahan et al. (2002) adds to the call for internal whistle-blowing, when feasible, as she argues it is more ethical than external whistle-blowing. In her view, external reporting of wrongdoing is disloyal and can trigger destructive side-effects. Callahan et al. (2002) offer a comprehensive discussion of organizations' legal incentives to establish clear internal reporting channels. For example, the Federal Organizational Sentencing Guidelines adopted in 1991 offers the possibility of an organization convicted of a federal offence to have its fines or penalties lowered if it has an established ethics program that includes internal whistle-blowing channels, support for whistle-blowing, and safeguards protecting whistleblowers against retaliation (Dworkin and Near, 1997). Consistent with the Sarbanes–Oxley Act of 2002 requirement that audit committees of public companies establish a confidential, anonymous reporting channel for questionable accounting or auditing matters, the Guidelines have recently been updated to indicate that public companies should have a system with such a channel (PricewaterhouseCoopers, 2004b).

Organizations may create systems with a wide range of different internal communication features, each of which is likely to be perceived to have certain economic and psychological costs and benefits (Dozier and Miceli, 1985; Gundlach et al., 2003; Hooks et al., 1994). Near and Miceli (1995) explicitly identify reporting channel characteristics as a component of their model of effective whistle-blowing. Research about how various features of reporting channels (e.g., number, form) influence the reporting intentions of organizational members having knowledge of wrongdoing is limited. We believe that such research is needed because "whistle-blowing is a sensitive style of communication which requires the successful communicator to consider the audience" (King, 1999, p. 316). Hooks et al. (1994, p. 91) concur with this position and state, "In reaching a reporting decision, assessment of the costs and benefits of selecting a reporting recipient is very important." With regard to the role and importance of the reporting channel, Near et al. (2004) differentiate between "whistle-blowing" and "informing" (Bok, 1980). Specifically, whistle-blowing involves an "attempt to terminate the current wrongdoing or prevent future wrongdoing of a similar type" (Near and Miceli, 1996, p. 510). The use of internal channels is consistent with these views. Yet, as suggested above, it is likely that whistleblowers will not view all internal reporting channels equally. For example, the potential personal costs are likely lower when an anonymous reporting channel is available and used rather than a non-anonymous reporting channel (Ayers and Kaplan, 2005; Near and Miceli, 1995; Near et al., 2004). However Near and Miceli (1995) contend anonymous channels are not as effective as channels requiring reporter identification. To the extent that the Sarbanes–Oxley Act's requirement of an anonymous channel detracts from the attractiveness of other, non-anonymous internal channels and also that Near and Miceli's (1995) contention of reduced effectiveness of such channel hold, the goal of stopping current wrongdoing and preventing future wrongdoing may be jeopardized. That is, using the non-anonymous channel may result in "informing" rather than "whistle-blowing." Thus, it is important to understand the effect of an anonymous, confidential reporting system on reporting channels that require reporter identification.

In this paper we report the results of a study that examines three issues related to forming reporting intentions to specific internal reporting channels. First, we examine how the presence of an anonymous internal reporting channel influences one's intentions to report using either of two non-anonymous internal reporting channels (i.e., to management or to the internal audit department). Research examining perceptions of the costs and benefits of anonymous versus non-anonymous reporting channels is limited (Ayers and Kaplan, 2005) and to date has not explored whether the availability of an anonymous reporting channel systematically impacts one's reporting intentions for non-anonymous reporting channels. We believe that organizational members will be less likely to use non-anonymous reporting channels when anonymous reporting channels are available. As discussed above, this issue is important from the organization's perspective as internal, non-anonymous reporting offers the opportunity to enhance the integrity of reporting and to allow for a more effective reporting system to right any questionable act.

Second, we examine whether the quality of the internal audit department influences one's intentions to report to the internal audit department. Read and Rama (2003, p. 354) contend that "internal auditors are natural outlets for whistle-blowers." The internal audit department has a unique role within the organization "with either a dotted-line or direct-reporting relationship to both senior management and the audit committee" (PricewaterhouseCoopers, 2004a, p. 34). However, substantial variation exists across internal audit departments in terms of the number, quality, and staffing of the department, how it reports, and the orientation of the departments towards oversight or consulting (Prawitt, 2003). We believe that, when at least one other reporting channel is available, organizational members will be less likely to report to a low quality internal audit department than to a high quality audit department. Consistent with Schneider (2003), we believe that an internal audit department considered weak on various quality dimensions will not as likely be used as a reporting channel. This issue is important because little is known about the extent to which organizational members' reporting intentions to use a particular channel are sensitive to the underlying quality of the reporting channel.

Third, we consider the setting in which the observers of potential wrongdoing make the judgment to report or not and to which channel. A number of environmental dimensions are likely to affect this decision (for a summary see Near and Miceli, 1995) and evidence exists that reporting intentions are case sensitive (Near et al., 2004; Schultz et al., 1993). In our study, we focus primarily on the characteristics of the wrongdoing and the extent of evidence available to the would-be reporter. Due to the increased attention (burden) placed on whistle-blowing as a source for preventing and detecting fraudulent behavior, we include two incidents that involve fraud. The two incidents reflect differences in the potential beneficiary of the questionable act. Professional standards issued by the American Institute of Certified Public Accountants (AICPA) (2002) distinguish between financial statement fraud and theft. The former may arguably be perceived as benefiting both the perpetrator and the organization. For example, if the organization may otherwise go bankrupt, misreporting financial performance may result in the organization continuing to exist (at least temporarily) and the perpetrator's job and those of his colleagues preserved. On the other hand, theft harms the organization and benefits only the perpetrator. There is mixed evidence regarding the effects that these conditions have on the selection of reporting channel (e.g., Cochran and Nigh, 1986; Miceli et al., 1991).

We also include a third case that does not involve fraud. The third case represents an additional type of questionable act, allows for inclusion of a different observer position, and expands the extent of the evidence available to the observer (see Miceli and Near 1985). Given that the cases differ on several attributes and the current state of theory development we do not forward a hypothesis concerning how reporting intentions vary across settings.

An experimental approach, using evening MBA students as participants, was used to provide evidence on our proposed hypotheses and research question. To study the two hypotheses, a between-subjects design was employed with participants randomly assigned to a treatment with two non-anonymous reporting channels (i.e., to management and to the internal audit department) or to a treatment with two non-anonymous reporting and one anonymous reporting channel (e.g., anonymous outside hotline). Participants were also randomly assigned to either the high level or the low level of internal audit department quality. Each participant received the same three cases in a balanced order manipulation creating a within-subjects design for examining our research question. For each scenario, participants formed reporting intentions to each of either two or three different reporting channels.

While an experimental approach has certain shortcomings, such an approach allows for a high level of control and provides a stronger basis to evaluate cause–effect relationships than some alternatives (viz., field studies) (Maines et al., 2006; McDaniel and Hand, 1996). An experimental approach is especially appropriate for exploring how reporting intentions are systematically formed over multiple reporting channels. When a particular reporting channel is used by a whistle-blower it is not clear what reporting channels might have been available to him/her.

The following section provides background for the study. This section also contains our two hypotheses and our research question. Subsequent sections present the method, the results, and a discussion of the results.

Hypothesis development

Near and Miceli (1995) propose a model of effective whistle-blowing in which whistle-blowing represents an influence process. That is, the presumed intent of whistle-blowing is to change the behavior of those individuals engaging in wrongdoing or questionable acts. Near and Miceli (1995 p. 681) characterize whistle-blowing as effective ''when the wrongdoing or questionable act is terminated at least partly because of whistle-blowing and within a reasonable time frame.'' Further, Near and Miceli (1995) propose that whether the reporting channel is anonymous or not will influence whistle-blowing effectiveness. Two reasons are offered to support of this proposition. First, report recipients may discount the claims of whistle-blowers who are unwilling to ''face'' the alleged wrongdoer. That is, by reporting anonymously, report recipients may be expected to discount the whistle-blower's credibility. Under Near and Miceli's (1995) model, the whistle-blower's credibility is proposed to be positively associated with whistle-blowing effectiveness. Secondly, when an anonymous whistleblower does not provide complete information about the wrongdoing, recipients will be unable to seek additional information from an unknown source. This lack of complete information about wrongdoing may also limit whistle-blowing effectiveness. Consequently, use of an anonymous channel is likely to significantly reduce effectiveness.

Limited evidence indicates that both anonymous and non-anonymous reporting channels are used by whistle-blowers. For example, based on survey results from federal employees, Near et al. (2004) report that 77% of whistle-blowers used a non-anonymous reporting channel and that 23% whistle-blowers used an anonymous reporting channel. However, because this study primarily focused on how different kinds of wrongdoing influence whistle-blowing, no information was presented on what variables, if any, influence whistle-blowers' choice of an anonymous or non-anonymous reporting channel.

The availability of an anonymous reporting channel encourages whistle-blowing because the personal costs in terms of retaliation or other adverse outcome should be significantly lower when an employee uses an anonymous reporting channel. To the extent that individuals base their decisions, in part, on a cost–benefit evaluation (Dozier and Miceli, 1985; Gundlach et al., 2003), and personal costs are perceived as lower under an anonymous reporting channel, then (other considerations equal) employees would prefer to use an anonymous reporting channel versus a non-anonymous reporting channel. Results from Ayers and Kaplan (2005) support the notion that perceived personal costs are lower for an anonymous reporting channel than for a non-anonymous reporting channel. In the context of a computer consultant engaging in wrongdoing, the personal costs of using an anonymous hotline to report were perceived to be significantly lower than the personal costs of reporting to management. Further, the reporting intentions to the anonymous reporting channel were similar to the reporting intentions to management. However, in Ayers and Kaplan's (2005) study, both anonymous and non-anonymous reporting channels were always available. As noted, requirements by Sarbanes–Oxley and modifications to the Federal Sentencing Guidelines make anonymous channels quite common. Yet, research to date has not explored the extent to which, if any, the availability of such anonymous reporting channels influences one's intentions to use non-anonymous reporting channels.

We hypothesize that the availability of an anonymous reporting channel influences one's intentions to use a non-anonymous reporting channel. The personal costs are expected to be perceived to be lower for an anonymous reporting channel in comparison to a non-anonymous reporting channel (Ayers and Kaplan, 2005). Perceived personal costs influence one's intentions to whistle-blow (Dozier and Miceli, 1985; Miceli and Near, 1992; Ponemon, 1994; Schultz et al., 1993), thus, we expect intentions to use a non-anonymous reporting channel to be lower when an anonymous reporting channel is available. That is, the availability of a lower personal cost alternative (e.g., anonymous reporting through a hotline) is expected to make higher cost alternatives (e.g., reporting to management or to the internal audit department) less attractive. This discussion leads to our first hypothesis stated in the alternative form.

> *Hypothesis 1*: In relation to two reporting systems that contain the same non-anonymous reporting channels with one of the reporting systems also containing an anonymous reporting channel, intentions to report using non-anonymous channels will be lower for the reporting system that also contains an anonymous reporting channel.

Recent Institute of Internal Auditors (IIA) standards charge internal auditors to assist their organizations in identifying and evaluating significant exposures to risk and to strengthen their organizations' risk management and control systems. These new standards require internal auditors to take a much broader approach to promote their interaction with key internal stakeholders (PricewaterhouseCoopers, 2002) and to become an integral important component of corporate oversight (Vallario, 2003). These new standards symbolize the increasing recognition of internal auditors within their organization. Further support of their importance is the fact that the New York Stock Exchange now requires registrants to have an internal audit function. The activities of internal audit critically relate to, and influence, the quality of corporate governance (Grambling et al., 2004), as well as internal control effectiveness and financial reporting reliability (Antoine, 2004). In carrying out their responsibilities to strengthen risk management and control systems, internal auditors are typically involved with establishing a standard process for responding to allegations or suspicions of fraud or misconduct (PricewaterhouseCoopers, 2004a). Given the broad scope and reach of internal audit within an organization, the department has a significant advantage of being both highly knowledgeable about internal stakeholders and enjoying a close relationship with both senior management and the audit committee. In view of these features, Read and Rama (2003, p. 354) contend that "internal auditors are natural outlets for whistle-blowers." Read and Rama (2003) found that 69% of the chief internal auditors included in their survey received reports of wrongdoing or questionable acts. Approximately 40% of these reports alleged financial fraud and approximately 60% alleged other violations.

However, substantial variation exists across key features of internal audit departments that are expected to impact organizational members' intentions to use the internal audit department as a reporting channel. Broadly speaking, features that promote the quality and independence of the internal audit department are expected to foster one's intention to report to the internal audit department. For example, internal audit department best practices include reporting to the audit committee, placing oversight as the group's top priority, populating the department with highly trained and certified staff members (e.g., staff with the Certified Internal Auditor – CIA – designation), and providing adequate funding for group. It should be noted that CIAs must conform to the Institute of Internal Auditors Code of Ethics which details and limits conduct as it relates to integrity, objectivity, confidentiality, and competency. We contend that features promoting the quality and independence are likely to positively influence organizational members' intentions to use the internal audit department as a reporting channel. This discussion leads to the following hypothesis stated in the alternative form.

> *Hypothesis 2*: Intentions to report to the internal audit department will be stronger when the internal audit department is of high quality rather than of low quality.

Method

Overview and task

This study involved an experiment using evening MBA students as participants. Evening MBA students typically have substantial work experience, and consequently tend to be older than undergraduate students as well as day MBA students. Through their work experience, the students presumably, have directly or indirectly seen or confronted many opportunities for questionable acts to occur. Thus, we believe they represent a reasonable group of participants for this study. Participants were presented with materials containing general instructions and background information about a manufacturing company. As described below, the background information included information about the internal audit department, which was manipulated between subjects. Next, participants were presented with three different scenarios, each describing an organizational member engaging in a questionable act that was discovered by another organizational member. In response to each scenario, participants provided several reporting intentions. As described below, the reporting channels were manipulated between subjects. The same three scenarios were given to all participants, and therefore, represents a within-subjects manipulation. To complete the questionnaire, participants responded to manipulation checks and several background questions. Given the sensitive nature of the questions, participants responded anonymously.

Independent variables

The study contained three independent variables, as follows: anonymous reporting channel, internal audit department quality and scenario. Each independent variable is discussed in turn.

Anonymous reporting channel

As part of the general instructions, participants were told that the study involved forming reporting intentions when one employee discovers questionable behavior by another employee. The instructions identified the reporting channels available to employees to report suspected illegal practices or instances of questionable behavior. The availability of an anonymous reporting channel was manipulated between subjects. Participants were randomly assigned to either the two-channel or three-channel treatment. Under the two-channel condition, participants were given two reporting channels but neither was an anonymous reporting channel. Specifically, the case indicated that employees could report suspected illegal practices or instances of questionable behavior to either their supervisor (or, if the supervisor is suspected, to that person's supervisor) or to the internal audit department. We refer to reporting intentions to a supervisor as reporting to management. The case further indicated that both of these reporting channels were non-anonymous. That is, individuals identified themselves when using either of these two reporting channels. Under the three-channel condition, participants were given three reporting channels and one was an anonymous reporting channel. Two of the reporting channels were the reporting channels from the two-channel condition. The third channel was an anonymous and confidential whistle-blowing hotline. The case indicated that the hotline is administered by an independent company possessing a strong reputation for protecting the privacy of individuals filing a report.

Internal audit department quality

The background information about the company described, in part, the internal audit department participants. Internal audit department quality was manipulated between subjects. Participants were randomly assigned to either the high or low treatment of internal audit department quality. To construct features of high and low internal audit department quality we reviewed internal audit research. This research indicates that audit quality is based on multiple dimensions including who the internal audit department reports to (e.g., audit committee versus management), the orientation of the internal audit group (e.g., financial oversight versus business consulting), staffing (e.g., generally staffed with certified internal auditors versus generally staffed with few certified internal auditors), department funding (e.g., high versus adequate), and compensation of internal auditors (e.g., whether internal auditors share in performance based budgets). These multiple dimensions were varied across the two treatments of internal audit department quality. Under the strong internal audit department, the materials indicated, in part, that the internal audit department was under the direct supervision of the audit committee, had a primary orientation towards oversight activities staffed by accountants who were Certified Internal Auditors, had its budget recently increased by 30% to accommodate additional work triggered by the Sarbanes–Oxley Act of 2002, and had no opportunity to receive any bonuses. Under the weak internal audit department, the materials indicated, in part, that the internal audit department was under the direct supervision of the Chief Financial Officer with access to the audit committee on an ''as needed'' basis, had a primary orientation towards business consulting activities staffed with few Certified Internal Auditors, had not received a budget increase to accommodate additional work triggered by the Sarbanes–Oxley Act of 2002, and could receive performance based budgets.

Case

Following the general instructions and background information, participants read three brief cases, each describing a questionable act by a fellow employee or a consultant. Each scenario described the person engaging in a questionable act that was discovered by another organizational member. Because each participant evaluated all three situations, questionable act represents a within-subjects variable. The three questionable acts are intended to represent a range of questionable acts an organizational member may learn about. By design, and as discussed below, the three cases vary across the status of the observer, the apparent perpetrator's position, the nature of the questionable act, and the extent of certainty about the questionable act. One case involved a financial reporting fraud. One case involved theft (also considered a type of fraudulent activity by the AICPA (2002)). A third case involved poor quality work/false representations by consultants. Each scenario is briefly discussed and summarized in Table I.

Staff accountant case

The case describes the discovery by a divisional staff accountant of a questionable act by the Division Manager, the Staff accountant's superior. Specifically, the staff accountant determined that the Division Manager had included sales from the first week of the third quarter as part of sales from the second quarter. By including this extra week of sales, the division met its financial target for the first half of the year. The case further indicated that the staff accountant went to the Division Manager to discuss the situation. The Division Manager told the staff accountant that he had intentionally included the extra sales week as part of sales from the first half of the year but he had no plans to change anything because this allowed him to meet his financial targets. The issue for the staff accountant was whether to report the Division Manager's questionable act.

This case involves financial statement fraud in which the perpetrator is arguably acting for his benefit as well as for the organization's benefit (to

TABLE I

Descriptive information about each case

Case	Alleged perpetrator	Questionable act	Nature of act	Level of uncertainty
Staff accountant	Division Manager who is observer's supervisor	Overstating revenue and income to make financial targets	Financial reporting fraud	None; manager admits
Assistant Purchasing Manager	Purchasing Manager who is observer's supervisor	Manager apparently stealing from company by paying off fictitious purchases to suspicious vendors	Theft of assets fraud	Moderate; manager has no opportunity to explain.
Employee liaised by supervisor full-time to assist Outside Computer Consultant	Managing consultant for a systems installation engagement	Observer overhears tests characterized as "terrible" resulting in likely delay; when confronted later in day, lead consultant says tests were "great" and no delay.	Misrepresentation by important outside party	Low; difficult to reconcile directly polar opposites in same time frame.

make earnings targets, a sensitive issue in stock price behavior). The case also involves the superior-subordinate relationship. Finally, there is no uncertainty about the whether the Division Manager engaged in a questionable act as he admitted to holding the accounting records open too long to meet the targets.

Assistant Purchasing Manager case

The case describes the discovery by the Assistant Purchasing Manager of a questionable act by the Purchasing Manager, the Assistant Purchasing Manager's superior. The questionable act involves what appears to be a scheme by the Purchasing Manager to direct payments to himself. The Assistant Purchasing Manager is temporarily performing the duties of the Purchasing Manager while he is on a short leave of absence. Subsequently, the department received three invoices from suppliers for which there were no supplier files or other information. In each case the amount was just below the amount requiring the signature of the Purchasing Manager's supervisor, the chief financial officer. Upon investigation, the Assistant Purchasing Manager discovered that the Purchasing Manager had been paying these three suppliers outside the normal departmental procedures for the past 2 years. The payments were all sent to local P.O. box numbers, which was also odd, as no other supplier used a P. O. box number to receive payment. Lastly, the invoices indicated that the amounts were for computer cleaning kits. Given the amount of money involved for the last 2 years and the number of computers in the organization, the assistant purchasing agent could not rationalize the need for so many computer cleaning kits. The assistant purchasing agent was convinced that something was wrong and that it seemed that the Purchasing Manager had set up fictitious supply companies to enable him to steal thousands of dollars from the company. The issue for the Assistant Purchasing Manager was whether to report the Purchasing Manager's questionable act.

This case involves theft and benefits only the perpetrator. As in the first case, the superior–subordinate relationship is present, but the extent of evidence is not so compelling. That is, while it is clear that the transactions have been recorded outside normal procedures and other incriminating factors are discussed, the case did not include any explanation from the purchasing agent.

Computer support staff case

The case involves the apparent discovery by a company's computer support staff member of a questionable act by computer consultants engaged to install a new information system for the company. The computer consultants are employed by a consulting firm specializing in information technology implementations. The computer support staff member overhears two computer consultants discuss results from recent systems tests. The results are so bad that they will not allow the consultants to meet the implementation deadline. Upon discovering the proximity of the staff member, the consultants close the door separating them from the staff member before continuing their discussion. If the consulting firm misses the deadline, they will not receive an implementation bonus. The case further indicates that the computer support staffer confronts one of the two consultants, the managing consultant, to discuss the situation. The managing consultant flatly states that the recent test results are great, that the system will be installed on time, and that the staffer must have misunderstood something. The issue for the computer support staffer is whether to report the managing consultant's questionable act.

This case involves an employee specifically liaised by his superior to assist the computer consultant installing a new system. Thus, his responsibility lies clearly to the organization versus the consultant who is not his superior, yet possesses considerable power. The questionable act is the consultant's misrepresentation which may result in serious operational problems for the observer's division. The evidence of wrongdoing is based on direct observation (hearing) by the observer. However, the evidence consists only of oral comments for which no independent corroboration is presented.

Dependent variables

After each scenario participants were asked to provide first-person reporting intentions.[1] A separate reporting-intention item was used for each reporting channel. Using the staff accountant case as an example, the case stated, "If you were facing this situation, how likely is it that you would report this instance of questionable behavior to:" Participants in the two-channel treatment responded to: Your supervisor's supervisor and the internal auditing department. Participants in the three-channel treatment responded to an additional third item: anonymous whistleblower hotline. Thus, all participants provided reporting intentions to managers and internal auditors. Only those participants assigned to the three-channel treatment provided anonymous reporting intentions. The end points on the 7-point response scale were "extremely unlikely" (1) and "extremely likely" (7). The reporting-intention measures were slightly modified as needed for each of the other two scenarios. These scales are similar to ones used by Kaplan (1995), Kaplan and Whitecotton (2001), and Ayers and Kaplan (2005).

Participants

Evening MBA students at a major metropolitan state university participated in the study. Ninety students enrolled in a managerial accounting course completed the questionnaire. Background information about these participants is presented in Table II. As shown, the typical participant had over 8 years of work experience, was male, and had not ever discovered a person of greater authority engaging in wrongful behavior. Overall, we believe that this group is reasonably representative of employees who are likely to observe the kinds of questionable acts described in the cases.

TABLE II

Background information on participants (N = 90)

Panel A: Continuous variables		
Variable	Mean	Standard deviation
Age	30.0	4.6
Years of work experience	8.6	5.0
Panel B: Dichotomous variables		
Variable		
Gender	Percentage	Number
Males	73%	66
Females	27%	24
As part of your work experience, have you ever discovered a person of greater authority engaging in wrongful behavior?		
Yes	29%	26
No	71%	64
Does your company or organization have an anonymous reporting channel for reporting wrongdoing?		
Yes	51%	46
No	22%	20
Not sure	27%	24

Results

The results are presented in three sections. The first section presents the results of the manipulation check for internal audit department quality.[2] The second section contains the results related to testing hypothesis one and two. The third section reports the results from supplemental analysis.

Manipulation check

After responding to the three scenarios, participants answered a manipulation check question to determine if they attended to the information about the internal audit department. All participants responded to the following question: "In this case, the internal audit department is under the direct supervision of:" In responding, participants could select the audit committee, the CFO of the company, or someone else. Of the 44 participants receiving the high internal audit department treatment, 40 answered correctly (i.e., the audit committee) and 4 did not respond correctly (i.e., either the CFO or someone else). Of the 46 participants receiving the low internal audit department treatment, 33 answered correctly (i.e., the CFO) and 13 did not respond correctly (i.e., either the audit committee or someone else). Participants not answering this question correctly were dropped because of a lack of "inclusion importance" (Yates, 1990, p. 367). In this regard, Tan and Yates (1995, p. 315) contend that "if a decision maker never even acknowledges the existence of a particular dimension, then the decision maker cannot possibly respond to that dimension." The statistical analysis that follows is based upon the responses from the 73 participants who answered the manipulation check question correctly.

Hypothesis testing

Hypothesis 1 states that participants will be less likely to report using non-anonymous reporting channels when the reporting system also contains an anonymous reporting channel. All participants in the study provided non-anonymous reporting intentions to management and to the internal audit department. Because it is not clear that these two reporting channels will be viewed similarly, we separately examine reporting intentions to management and to the internal audit department to test hypothesis one. In each analysis, anonymous reporting channel, internal audit department quality, and questionable act are independent variables. Anonymous reporting channel and internal audit department quality are between subject variables at two levels each and questionable act is a within-subjects variable with three levels. Thus, reporting intentions to management and to the internal audit department were analyzed separately using a repeated measures analysis of variance (ANOVA). The analysis was conducted under the general linear models program of SAS, which accommodates unequal cell sizes.

Table III presents the statistical results from the two non-anonymous reporting-intention measures. Descriptive statistics related to these reporting intentions are presented in Table IV Panels A and B. As shown in Table III, anonymous reporting channel is highly significant for reporting intentions to management. As shown in Table IV Panel A, intentions to report to management are stronger under the two-channel condition than under the three-channel condition. These results are consistent with hypothesis one.

Table III shows the statistical results and Table IV Panel B presents descriptive statistics for the internal audit department reporting intentions. As discussed below, descriptive statistics are presented for each cell in Table IV Panel B to better interpret a

TABLE III

F-values from statistical analysis of reporting-intention measures

	Reporting-intention measures		
	Reporting to management[a]	Reporting to internal audit department[b]	Reporting to anonymous hotline[c]
Between-subjects effects			
Internal audit department (IAD) quality)	0.87	0.05	0.01
Reporting channels (RC)	8.17***	6.15**	–
IAD×RC	0.70	0.01	–
Within-subjects effects			
Questionable act (QA)	10.50***	30.18***	22.01***
QA×IAD	0.44	0.75	0.35
QA×RC	1.61	0.70	–
QA×IAD×RC	0.87	2.40*	–

*** Significant at 0.01.

** Significant at 0.05.

* Significant at 0.10.

[a]For the staff accounting and Assistant Purchasing Manager case, participants responded to the question: If you were facing this situation, how likely is it that you would report this instance of questionable behavior to your **supervisor's supervisor**. For the computer support staff case, the words in bold were replaced by ''computer department supervisor.'' Participants responded using a 7-point scale anchored by ''extremely unlikely'' (1) and ''extremely likely'' (7).

[b]Participants responded to the question: If you were facing this situation, how likely is it that you would report this instance of questionable behavior to the internal audit department. Participants responded using a 7-point scale anchored by ''extremely unlikely'' (1) and ''extremely likely'' (7).

[c]Participants responded to the question: If you were facing this situation, how likely is it that you would report this instance of questionable behavior to the anonymous whistleblower hotline. Participants responded using a 7-point scale anchored by ''extremely unlikely'' (1) and ''extremely likely'' (7).

marginally significant three-way interaction. As shown in Table III, anonymous reporting channel is highly significant for reporting intentions to the internal audit department. However, this result must be interpreted cautiously because of a marginally significant ($p < 0.10$) three-way interaction involving the anonymous reporting channel variable. To provide further evidence to test hypothesis one, we separately performed an ANOVA on each of the three questionable acts. The results for the staff accountant case and the Assistant Purchasing Manager case indicate a significant ($p < 0.05$) main effect for anonymous reporting channel and an insignificant two-way anonymous reporting channel by internal audit department quality interaction. For the computer support staff case neither anonymous reporting channel nor its interaction with internal audit department quality is significant. Thus, the results from the internal audit department reporting measure provide partial support for hypothesis one with respect to the staff accountant and Assistant Purchasing Manager cases.

Hypothesis two proposes that participants will be more likely to report questionable acts to the internal audit department when it is of high quality than of low quality. As shown in Table III, internal audit department quality is not significantly associated with internal audit department reporting intentions. Thus, hypothesis 2 is not supported.

Supplemental Analysis

Participants assigned to the three-channel condition also provided reporting intentions to an anonymous

TABLE IV

Descriptive Statistics on first person reporting intentions to management and to the internal audit department

	Questionable act			
	Staff Accountant	Assistant Purchasing Manager	Computer support staff	Overall
Panel A: Mean (and standard deviation) by treatment for first person reporting intentions to management[a]				
Reporting channel				
Two: (n = 40)	5.1 (1.7)	5.6 (1.7)	6.0 (1.4)	5.6
Three: (n = 33)	4.0 (2.2)	4.6 (2.3)	5.8 (1.7)	4.8
Internal audit department quality				
High: (n = 39)	4.6 (1.9)	5.3 (2.0)	6.1 (1.3)	5.3
Low: (n = 34)	4.7 (2.0)	5.0 (2.1)	5.7 (1.7)	5.1
Overall mean: (n = 73)	4.6	5.2	5.9	
Panel B: Mean (and standard deviation) by cell for first person reporting intentions to internal audit department[a]				
Reporting channel/internal audit department quality				
Two/High (n = 21)	5.3 (1.7)	5.6 (1.6)	3.7 (2.1)	4.8
Two/Low: (n = 19)	5.4 (1.5)	5.6 (1.6)	3.3 (2.2)	4.8
Three/High (n = 18)	4.6 (2.0)	5.0 (2.2)	2.6 (1.8)	4.1
Three/Low: (n = 15)	4.0 (2.0)	4.3 (1.8)	3.5 (2.1)	3.9
Overall mean: (n = 73)	4.9	5.2	3.3	
Panel C: Mean (and standard deviation) by treatment for first person reporting intentions to anonymous hotline[a]				
Internal Audit Department Quality				
High: (n = 18)	4.8 (1.7)	5.1 (2.1)	2.4 (2.1)	4.1
Low: (n = 15)	4.4 (2.0)	5.1 (2.1)	2.7 (2.1)	4.1
Overall mean: (n = 33)	4.6	5.1	2.6	

[a]See Table II for a description of each dependent variable.

hotline. While no hypothesis was tested using these reporting intentions we do report the results of two supplemental analyses related to this intention. First, a repeated-measures-ANOVA was performed using reporting intentions to the anonymous hotline as the dependent measure. Internal audit department quality was a between-subjects variable at two levels and questionable acts was a within-subjects variable at three levels. The ANOVA results are presented in Table III and descriptive statistics are presented in Table IV Panel C. The results show a significant main effect for questionable act. As shown in Table IV Panel C, anonymous hotline reporting intentions were significantly lower for the computer support staff case than for the other two cases.

In a second supplemental analysis, the dependent measure depended on the reporting channel treatment. Among participants assigned to the two reporting channel treatment, we used the reporting intention to management as the dependent measure. Descriptive statistics for these participants is shown in Table IV Panel A under the row for the reporting channel of two. However, among participants assigned to the three reporting channel treatment, we used the anonymous hotline reporting intention as the dependent measure. Descriptive statistics for these participants is shown in Table 4 Panel C under the row for overall means. Using this dependent measure, repeated measures ANOVA was conducted with anonymous reporting channel and internal audit department quality between-subjects independent variables at two levels and questionable act a within subjects independent variable at three levels. The interaction between questionable act and anonymous reporting channel is highly significant ($F = 19.80$, $p < 0.01$). As shown in Table IV Panels A and C, reporting intentions to management and to the anonymous hotline are similar for staff accounting case and for the Assistant Purchasing Manager case. However, for the computer support staff case, reporting intentions to management were significantly stronger than to the anonymous hotline.

We also performed a supplemental analysis to corroborate that the perceived personal costs of reporting to an anonymous reporting channel are lower than the perceived personal costs of reporting to a non-anonymous reporting channel. As part of the debriefing questions, participants were asked to indicate the perceived personal costs of reporting for each of the three cases. We examine the perceived personal costs of reporting of participants in the three reporting channel, who formed reporting intentions to both anonymous and non-anonymous reporting channels. To assess personal costs of reporting anonymously, participants were asked, "Please assess the personal cost (i.e., trouble, risk, discomfort) of an APEX Inc. employee anonymously (i.e., does not identify themselves) informs the Company of the questionable act described in each of the three cases:" The end points on a 9-point scale were "very low" (1) and "very high" (9). This scale is similar to ones used by Kaplan (1995), Kaplan and Whitecotton (2001), and Ayers and Kaplan (2005). Descriptive statistics for personal costs by case are presented in Table IV. As shown, and as expected, perceived personal costs are substantially greater under the non-anonymous reporting channel for each of the three questionable acts.

Discussion

The purpose of the current study was to provide initial evidence about the reporting intentions to specific reporting channels when multiple reporting channels are available. As part of our study, we provide evidence about the reporting intentions for specific reporting channels across three different kinds of wrongdoing. This allows us a basis to assess the generalizabilty of our results. Previous research has found that the type of wrongdoing influences both one's perceptions of the wrongdoing (Robinson and Bennett, 1995) as well as the whistleblowing process (Near et al., 2004). For example, the economic and non-economic consequences and the number of stakeholders affected can vary across different forms of wrongdoing. By examining three different wrongdoing scenarios our study provides evidence on the relative importance, if any, of the wrongdoing in shaping the formation of specific reporting intentions.

The availability of anonymous reporting channels is becoming increasingly common among public companies. Through regulations such as Sarbanes–Oxley and the Federal Sentencing Guidelines, companies have strong incentives to establish multiple reporting channels including an anonymous reporting channel. Research examining how individuals within organizations form reporting intentions for specific reporting intentions is scant (Ayers and Kaplan, 2005). Further, little is known specifically about whether the availability of an anonymous reporting channel influences one's intentions to use other non-anonymous reporting channels. Understanding reporting intentions to specific reporting channels and how individuals implicitly assess the trade-offs among reporting channels is important because it is unlikely that anonymous and non-anonymous reporting channels are equally effective (Near and Miceli, 1995). Implicitly, to the extent practicable, organizations and policy makers would have an interest in whistle-blowers selecting the report channel that is most likely to lead to an effective outcome.

Our study also makes a contribution by exploring whether one's intentions to report using a specific reporting channel, the internal audit department, is influenced by the quality of that department. We focused on the internal audit department because of its unique relationship with both top management and the audit committee and because substantial variation exists in the composition, orientation, and funding across internal audit departments. Prior research has demonstrated that the internal audit quality is associated with corporate governance quality, including reporting quality and firm performance (Grambling et al., 2004). However, research has not explored whether the quality of the internal audit department also influences intentions to report wrongdoing through this channel.

Before discussing the implications from the results of the study, several limitations should be noted. First, using an experimental approach, participants responded to three hypothetical incidents and not to the occurrence of actual wrongdoing. An experimental approach has shortcomings as an approach to examining wrongdoing. For example, the limited information included for each hypothetical scenario may result in reporting intentions that are primarily thought driven. Emotional factors such as fear and anger, that may play a part in actual settings, are likely to play a diminished role in an experimental setting. However, Miceli and Near (1984) advocate the use of experimental approaches to complement survey and archival approaches. Previous research by Schultz et al. (1993), Kaplan and Whitecotton (2001), and Ayers and Kaplan (2005) have used experimental methods to explore whistle-blowing intentions. An experimental approach is particularly well suited to the current study where the focus was on reporting intentions for multiple reporting channels. In addition, use of an experimental approach enhances internal validity.

Turning to a discussion of the results, consistent with hypothesis 1 the results show that participants' intentions to report to management were stronger in the absence of an anonymous reporting channel. The results for reporting to the internal audit department were consistent with hypothesis one for both the staff accountant and Assistant Purchasing Manager cases. Based on Near and Miceli's (1995) model of effective whistle-blowing, we believe these results are important. To the extent that use of a non-anonymous reporting channel is more effective in curtailing wrongdoing, the increased availability of anonymous reporting channels apparently comes at a cost in terms of a reduced likelihood of using non-anonymous reporting channels.[3] In order to place this concern in context it is helpful to reconsider the mean reporting intentions for each channel. For example, the overall mean reporting intention to the anonymous reporting intention for the staff accountant case was 4.6. The comparable mean reporting intention to management in the absence of an anonymous reporting channel (e.g., two reporting channels) was 5.1. The same pattern is observed for the Assistant Purchasing Manager case. That is, the overall mean reporting intention to the anonymous reporting intention for the Assistant Purchasing Manager case was 5.1, which is below the mean reporting intention to management in the absence of an anonymous reporting channel of 5.6. Thus, not only did the availability of an anonymous reporting channel lower reporting intentions to management, it also lowered reporting intentions across all reporting channels. This is an intriguing finding and merits further research.

The results generally indicate that reporting intentions to the internal audit department are not influenced by internal audit department quality. This finding, while somewhat unexpected, may reflect limited knowledge among participants of the role of key internal control department features in shaping the department's quality and independence. Alternatively, our findings may reflect the possibility that even a "low" quality internal audit department is

TABLE V

Descriptive Statistics on the perceived personal costs associated with using anonymous and non-anonymous reporting channels to report wrongdoing

	Questionable act			
	Staff Accountant	Assistant Purchasing Manager	Computer support staff	Overall
Reporting channel				
Anonymous[a]	4.8 (3.1)	3.4 (2.6)	3.0 (2.6)	3.7
Non-anonymous[b]	7.4 (2.2)	7.5 (1.7)	5.0 (2.6)	6.6

Mean (and standard deviation) of perceived personal costs of reporting wrongdoing.
[a]Participants responded to the question: Please assess the personal cost (i.e., trouble, risk, discomfort) of an APEX Inc. employee who anonymously (e.g., does not identify themselves) informs the company of the questionable act described in each of the three cases. For each of the three cases, participants responded using a 9-point scale anchored by ''very low'' (1) and ''very high'' (9).
[b]Participants responded to the question: Please assess the personal cost (i.e., trouble, risk, discomfort) of an APEX Inc. employee who identifies themselves when informing the company of the questionable act described in each of the three cases. For each of the three cases, participants responded using a 9-point scale anchored by ''very low'' (1) and ''very high'' (9).

viewed as an effective reporting channel. This interpretation is bolstered by the generally high reporting-intention means to the internal audit department for both the staff accountant and Assistant Purchasing Manager cases. As shown in Table III Panels A and B, the mean reporting intentions to management and to the internal audit department for the staff accountant and Assistant Purchasing Manager cases are generally similar.

Lastly, it is important to note key differences across the three cases in the formation of reporting intentions to a specific reporting channel. As shown in Table III Panel A, mean reporting intentions to management for each questionable act was above the mid-point and highest for the computer support staff case. The pattern of mean reporting intentions to the internal audit department and to an anonymous hotline are quite similar for the staff accountant and Assistant Purchasing Manager cases. However, in contrast to the results observed for reporting to management, mean reporting intentions to both the internal audit department and to the anonymous hotline are substantially lower for the computer support staff case. This finding while consistent with previous research on the importance of the wrongdoing incident (Near et al., 2004) also extends this finding by illustrating that the trade-offs related to a specific reporting channel vary across questionable acts. Further research is needed to investigate the explicit links and trade-offs between the questionable act and reporting channels.

Notes

1 For each measure that was asked in the first-person, a parallel question was also asked from the perspective of the employee in the case discovering the questionable act. The results using the employee perspective measure are qualitatively similar to the first person measures, so are not presented.

2 No manipulation check measures were included for whether the case included two or three reporting channels as we believed this knowledge was implicitly reflected their responses.

3 Arguably, some features of an anonymous reporting channel not included in our manipulation may move its effectiveness closer to that present in a non-anonymous, internal channel requiring identification. For example, a well-trained report recipient may elicit information approaching that of a non-anonymous channel or a follow-up code for the report may be given the anonymous reporter to allow him or her to determine if any action to stop the wrongdoing is occurring. However, given the existing wide differences in perceived cost to the reporter between using an anonymous versus a non-anonymous channel (see Table V) this is not clear. Given our findings and Near and Miceli's (1995) arguments, the effect of such features in the anonymous channels represent areas for future research.

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