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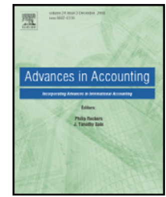

The influence of litigation risk and internal audit source on reliance decisions ☆

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ABSTRACT

External auditor reliance on the work of internal auditors in an integrated audit of the financial statements and internal control is an important audit planning procedure that can impact audit efficiency and effectiveness. The purpose of this study is to examine how perceived auditor litigation risk and internal audit source affect external auditors' reliance decisions in an integrated audit environment under varying levels of risk of material misstatement. In an experimental study using 89 practicing Big 4 auditors, this study finds that auditors who perceive low litigation risk from placing reliance on the work of internal auditors will rely more on outsourced internal auditors than in-house internal auditors. The results also show that auditors' reliance decisions are sensitive to the level of account risk consistent with the risk-based approach to the integrated audit encouraged by the PCAOB.

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1. Introduction

The Public Company Accounting Oversight Board (PCAOB) explicitly encourages external auditors in Auditing Standard 5 (AS 5)[1] to rely on the work of internal auditors especially in areas of low risk to increase the efficiency and effectiveness of an integrated audit (PCAOB, 2007). Despite this encouragement, external auditors have been reluctant to place reliance on the work of internal auditors perhaps due to their fear of litigation in the case of audit failure. The former chairman of the PCAOB, William McDonough, acknowledged the dilemma facing auditors, “Auditors have to use judgment. They have a great deal of leeway. But in a litigious society, there's no question that some auditors may be protecting themselves by doing work that all of us might think objectively is excessive” (Business Week Staff Writer, 2005). The current liability regime facing auditors concerned the U.S. Treasury Department enough to commission an Advisory Committee on the Auditing Profession to explore and make recommendations regarding the sustainability of the audit profession (Advisory Committee on the Auditing Profession, 2008). The concern over litigation costs may lead auditors to consider the need to be able to defend their actions in court which may lead them to choose to do the work themselves rather than rely on the work of others such as internal auditors.

The purpose of this study is to investigate how voluntary reliance on the work of internal auditors is influenced by concerns of perceived litigation risk. Despite unambiguous encouragement from the PCAOB, auditors have been hesitant to rely on the work of internal auditors and instead perform the work themselves resulting in increased audit fees (Leffall, 2007). While research has examined the influence of litigation risk on the voluntary decision to rely on the results of a decision aid (Boatsman, Moeckel, & Pei, 1997), the impact of litigation risk on the decision to rely on the work of internal auditors has not yet been examined. Identifying possible sources of auditors' reluctance to rely on the work of internal auditors will help inform the auditors' planning process and improve audit efficiency.

Perceived litigation risk may also influence other determinants of the reliance decision. Prior research has shown that the auditor reliance decision is influenced by characteristics of the internal auditor like competence, objectivity and quality of work[2] (Gramling, Maletta, Schneider, & Church, 2004). However, research has not yet examined whether perceived litigation risk is an important determinant of the reliance decision and if it influences any of the other determinants. One such determinant which has been identified in prior research is the internal audit sourcing arrangement (Glover, Prawitt, & Wood, 2008).

In the integrated audit environment, the internal audit department has an increased role in corporate governance matters and in

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[1] Auditing Standard 5 (*AS* 5) was adopted in May 2007, and approved by the Securities and Exchange Commission in July 2007. It replaces the earlier standard, *AS* 2. Because *AS* 5 did not change the requirements regarding external auditors placing reliance on the work of others, the new standard is referred to throughout this paper; the standard in place when the data was collected was *AS* 2. Both *AS 2* and *AS 5* indicate that external auditors can rely on the work of internal auditors, other company personnel, and third parties working under the direction of management (i.e., outsourced internal auditors) during an integrated audit.

[2] These characteristics are consistent with the profession's longstanding auditing standard [SAS 65-AU Section 322] on using the work of internal auditors in the financial statement audit.

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producing credible financial reporting especially related to internal control matters (PCAOB, 2007). In fact, the New York Stock Exchange standards require all listed companies to maintain an internal audit function (SEC, 2003). The internal audit function does not, however, have to be performed by an in-house internal audit department. In fact, many companies outsource the activity to Big 4 audit firms other than their external auditor in hopes of reducing costs while still receiving comparable or superior service (Deloitte & Touche, 2005; PWC, 2005).[3] Even the Institute of Internal Auditors (IIA) recognizes that companies may outsource the internal audit function when it states: "The IIA believes that a fully resourced and professionally competent staff that is an integral part of the organization, whether insourced or outsourced, best performs the internal audit activity" (IIA, 2005).[4]

Prior research suggests that internal audit source affects the reliance decision as auditors rely more on the work of outsourced internal auditors when inherent risk is high in a financial statement audit (Glover et al., 2008). The purpose of this study is to extend this research to determine if internal audit source affects the reliance decision in an integrated audit of financial statements and internal control and to determine the impact of perceived auditor litigation risk on the relationship. In addition, because the PCAOB encourages external auditors to take a risk-based approach to the integrated audit and rely more on the work of internal auditors in areas of low risk (PCAOB, 2007), the above relationships are examined under varying levels of risk of material misstatement.

To examine these questions, an experimental case was administered to 89 external auditors from one of the Big 4 public accounting firms. Participants were provided with information on a hypothetical audit client in which the internal audit source and account risk levels were manipulated while the participants' perceived auditor litigation risk was measured. The results indicate that auditors' perceived litigation risk and internal audit source interact to influence auditors' reliance decisions. Auditors who perceive lower litigation risk are more willing to rely on the work of outsourced internal auditors but there is no difference in reliance for those auditors that perceive higher litigation risk. In addition, the findings show that the external auditors' approach was consistent with the PCAOB's risk-based approach as they placed more reliance on the work of internal auditors (regardless of source or perceived litigation risk) for the low risk account than for the high-risk account, although the extent of reliance seems low.

The next section reviews relevant prior research and develops the hypotheses. Section 3 describes the research method and Section 4 explains the results. The final section summarizes and discusses the findings including potential limitations and avenues for future research.

2. Literature overview and hypotheses development

2.1. Perceived litigation risk

Auditors work in a high-risk environment in which there is a constant threat of litigation due to audit failure (Lowe, Reckers, & Whitecotton, 2002). Litigation costs can force audit firms to downsize or declare bankruptcy (Palmrose, 1988) threatening the sustainability of the auditing profession. The concern led the U.S. Treasury Department to commission an Advisory Committee on the Auditing Profession to explore and make recommendations (Advisory Committee on the Auditing Profession, 2008). Although the Commission failed to reach a consensus on auditor liability, it did note that the threat of litigation impacts the audit process "by causing overly cautious audits or "defensive" auditing" (Advisory Committee on the Auditing Profession, 2008, p. VII: 28).

Support for this conjecture can be found in research as increases in litigation exposure have been shown to cause auditors to be more conservative in the audit process (Venkataraman, Weber, & Willenborg, 2008). Using client characteristics such as financial condition, asset structure and sales growth as proxies for litigation risk, research has shown that auditors respond to increases in litigation risk by increasing audit hours (Stice, 1991) and audit fees (e.g., Pratt & Stice, 1994; Simunic, 1980). Increased planned audit investment (i.e., amount of audit evidence needed) in the face of increased litigation risk were found in situations involving potential overstatements of financial performance (Barron, Pratt, & Stice, 2002) and accounting irregularities (Houston, Peters, & Pratt, 1999). Some results suggest that the more conservative approach is appropriate as research shows that the approach leads to higher audit quality as measured by abnormal accruals (Venkataraman et al., 2008).

Litigation risk can influence the decision making process of auditors during the audit (Palmrose, 1988). The threat of litigation forces auditors to focus on making not only accurate decisions (Gomma, Hunton, & Rose, 2008; Palmrose, 1988) but also decisions that can be defended in court as providing due professional care (Lowe & Reckers, 2000). This is especially true when the audit process is not a required but a suggested procedure in the auditing standards like reliance on the work of internal auditors. Research has already examined the influence of litigation risk on another voluntary audit process, reliance on the results of a decision aid (Messier,1995). Research found that auditor reliance on the results of a reliable decision aid not only increase decision accuracy (Messier, 1995) but is also a defensible judgment in the eyes of jurors (Lowe et al., 2002). Thus, auditors rely more on decision aids when there is a higher cost of audit failure (Boatsman et al., 1997) or when litigation risk is high even if they lack confidence in the decision (Gomma et al., 2008). Research also suggests it was the auditors' awareness of the legal defensibility of reliance on a decision aid that led to increased reliance in a high litigation risk audit (Gomma et al., 2008). Thus, research suggests that auditors employ prospective rationality cognition in which decisions are made with the foresight knowledge that they may need to be defended in the future (Staw, 1980).

Like the choice to rely on a decision aid, auditor reliance on the work of internal auditors is an audit decision that may need to be defended in the case of audit failure. Prospective rationality cognition theory predicts that auditors will try to identify the most defensible decision during the audit planning process (Rose, 2007) and because reliance on the work of internal auditors is strongly suggested but not required by audit standards, the most "justified" decision for an external auditor may be to do the work themselves rather than rely on the work of internal auditors (Gramling & Vandervelde, 2006). Thus, auditors who perceive higher litigation risk from relying on the work of internal auditors will decrease their planned reliance on the work of internal auditors to increase the defensibility of their actions to jurors leading to the following hypothesis:

H1. Increases in auditor perceptions of litigation risk will lead to lower levels of planned reliance.

2.2. Internal audit source

For a public company, the choice to staff the internal audit department in-house or to outsource to a Big 4 accounting firm can have implications on not only the internal audit function (e.g. cost, control) but also the external audit. In evaluating whether to rely on the work of others, AS 5 stipulates that the external auditor must (1)

[3] Section 201 of the Sarbanes–Oxley Act prohibits external auditors from also providing internal audit services for their audit clients. Other external auditors are permitted to perform the internal audit service with the approval of the audit committee.

[4] As of 2001, the Big 5 (now Big 4) controlled at least 20% of the Fortune 500's internal audit functions (Aldhizer et al., 2003).

evaluate the nature of controls subjected to the work of others, (2) evaluate the competence and objectivity of the individuals who performed the work and (3) test some of the work performed by others to evaluate the quality and effectiveness of their work (PCAOB, 2007).[5] While a company's internal audit source does not change the nature of controls, it may affect external auditor evaluations of internal auditor work quality, competence and objectivity. Prior research implies that the quality and effectiveness of work is similar between outsourced and in-house internal auditors (Caplan & Emby, 2005; Gramling & Vandervelde, 2006) suggesting that the influence of internal audit source will be on perceived differences in competence and objectivity of the internal audit function.

Research has shown auditor evaluations of internal audit competence are influenced by measures of education and training (Margheim, 1986), professional certification and continuing education (Brown, 1983), internal audit experience (Messier & Schneider, 1988), and knowledge of company operations (Clark, Gibbs, & Schneider, 1980). However, research results are mixed on the impact of internal audit source on evaluations of competence. Desai, Gerard, and Tripathy (2007) found that auditors assessed higher competence for outsourced or co-sourced internal auditors compared to in-house internal auditors in a high inherent risk environment but both Glover et al. (2008) and Gramling and Vandervelde (2006) failed to find significant differences in competence evaluations for a financial statement audit. In an integrated audit, internal control knowledge may be an important measure of internal audit competence due to the Sarbanes–Oxley Act's emphasis on internal control reporting (Gramling et al., 2004). Because of their experience with a variety of different audit clients, an outsourced Big 4 internal audit team may be perceived as more knowledgeable of internal control matters than an in-house internal audit team leading to higher evaluations of competence.

For objectivity, research has shown that external parties are perceived to be more independent and objective than internal parties (e.g., Joyce & Biddle, 1981; Caster & Pincus, 1996). Indeed, an in-house internal audit department may face different incentives to impair their independence or objectivity than outsourced internal auditors. For example, an in-house internal audit department is employed by the client and may have incentives or other compensation dependent on the company's performance,[6] which may impact their ability to report internal audit results. Support for this idea was found by Ahlawat and Lowe (2004) who determined outsourced internal auditors advocated less for their client's position in a corporate acquisition scenario than in-house internal auditors. Internal audit source also influences the perceptions of external auditors. Both Glover et al. (2008) and Gramling and Vandervelde (2006) found that external auditors perceived outsourced internal auditors as more objective than in-house internal auditors in a financial statement audit. These perception results are expected to hold in an integrated audit.

The evaluations of competence and objectivity required by AS 5 correspond to the main dimensions of source credibility theory, perceived expertise and perceived trustworthiness (Hovland, Janis, & Kelley, 1953). According to the theory, the more expert and trustworthy a source is perceived to be, the more reliable the information from that source. Applied to the audit setting, the more objective and competent the internal audit function is perceived, the more an external auditor can rely on its work. As external auditors are expected to perceive outsourced internal auditors as more competent and more objective, source credibility theory suggests that external auditors will rely more on the work of outsourced internal auditors. In a financial statement audit context, Glover et al. (2008) found that external auditors placed more reliance on the work of outsourced than in-house internal auditors. This finding is expected to hold in an integrated audit in which external auditors must perform audits of the financial statements and internal control over financial reporting, leading to the following hypothesis:

H2. External auditors will plan greater reliance on work already performed by outsourced internal auditors than in-house internal auditors.

Auditors that perceive higher litigation risk from relying on the work of internal auditors will be concerned about justifying their decision regardless of the internal audit source. However, auditors that perceive lower litigation risk will not be as concerned about justification and their reliance decisions may be influenced by the internal audit source. One reason that auditors who perceive lower litigation risk may not be as concerned about justifying their reliance decision is that jurors may share their perception of outsourced internal auditors as more competent and more objective. While research has not examined the view of jurors, it has found that other parties (i.e., bank loan officers) also perceive outsourced internal auditors as more competent and more objective (James, 2003). According to source credibility theory, if jurors also perceive outsourced internal auditors as more competent and objective, they may view reliance on outsourced internal auditors as more credible. Therefore, auditors not as concerned about litigation (i.e., those that perceive lower litigation risk) will place more reliance on the work of seemingly more competent and more objective outsourced internal auditors than in-house internal auditors leading to the following predicted interaction:

H3. The difference in external auditors' planned reliance on work performed by outsourced internal auditors compared in-house internal auditors will be greater when auditor perceived litigation risk is low than high.

2.3. Nature of controls

As noted above, AS 5 requires external auditors to evaluate the nature of the controls subjected to the work of internal auditors and others as well as their competence, objectivity and work quality (PCAOB, 2007). The risk of material misstatement of the account, the pervasiveness of the control, and the level of judgment or estimation required in the account are factors that need to be considered by auditors when evaluating the nature of controls (PCAOB, 2007). As these factors increase in significance, the need for external auditors to perform their own work also increases, thereby reducing the opportunity to rely on the work of others such as internal auditors.

Research has found that external auditors' reliance decisions are sensitive to inherent risk (e.g., Glover et al., 2008; Maletta, 1993; Maletta & Kida, 1993). The risk conditions used in these studies apply to the client's overall situation. For example, Glover et al. (2008) operationalize inherent risk based on earnings management incentives for the company. The intent of the current study is to investigate the influence of risk of material misstatement at the account level. Because the influence of account risk may not be apparent unless the auditor is exposed to several accounts with varying levels of risk, as would be done in an actual audit situation, a within subject design is appropriate.[7] Consistent with the risk-based approach in AS 5, external auditors are expected to plan less reliance on the work of internal auditors for a high-risk account than a low risk account.

[5] PCAOB Auditing Standard No. 5 provides the auditor with flexibility to use the work of others consistent with the profession's longstanding auditing standard [SAS 65-AU Section 322] on using the work of internal auditors in the financial statement audit (PCAOB, 2007).

[6] A recent survey of IIA members revealed that nearly 90% of the internal auditors in the survey were eligible to receive cash bonuses and 70% were eligible to receive stock options (Kaplan & Schultz, 2007).

[7] Auditor judgments have been found to differ depending on the design of the experiment (Pany & Reckers, 1987).

H4. The external auditors' planned reliance decision on work already performed by the internal auditors will be lower for a high-risk account than for a low risk account.

3. Method

3.1. Participants

An experimental case was administered under the supervision of research proctors to 104 external auditors at a training session for one Big 4 accounting firm. Fifteen participants failed manipulation checks on the internal audit source or failed to answer the perceived litigation measure and were therefore excluded from further analysis, leaving 89 subjects.[8] Participants were experienced auditors with an average of 36 months of audit experience and 19 months of in-charge audit experience supervising fieldwork (Table 1). In addition, participants reported a reasonable amount of experience in evaluating internal auditors during audit engagements, with a reported average of 3.7 on a scale anchored by 0 (not experienced) and 10 (very experienced).[9] This level of experience is appropriate for the planning and evaluation tasks used in this study (Anderson, Kadous, & Koonce, 2004).[10]

3.2. Materials and procedures

The experimental instrument asked each participant to assume the role of an in-charge auditor for a hypothetical audit client and to make a planning decision related to the integrated audit. The first section of the instrument included background information about the company that was held constant between the groups (i.e., selected current and prior year financial statement amounts, industry information, a description of the board of directors, audit committee, and management's Section 404 assessment process). Both the board and audit committee were described as compliant with NYSE requirements and accepting of the corporate governance reforms from Sarbanes–Oxley. This section included the manipulation of internal audit source, in-house or outsourced as described in the section below. The description of management's Section 404 assessment process included information about the involvement of the internal audit team in monitoring and performing independent tests of control. At the end of this first section, participants were asked to evaluate statements concerning internal audit team perceived competence and objectivity.[11]

The second section provided detail on the audit planning process for this client including the description of two accounts, the allowance for doubtful accounts and raw material purchases, which varied in the manipulated levels of risk of material misstatement as described below. Following the description of each account and a discussion of procedures performed on the account during the Section 404 management assessment process, participants were asked to make audit planning decisions related to reliance on the work of internal audit. The final section contained manipulation checks, demographic questions and the questions used to measure perceived litigation risk.

Table 1
Descriptive statistics.

Variables	In-house mean (Std. dev) $n=48$	Outsourced mean (Std. dev) $n=41$	Overall mean (Std. dev) $n=89$
Months employed as an auditor	35.04 (16.10)	38.25 (14.86)	36.48 (15.55)
Months of in-charge audit experience	18.94 (14.57)	19.01 (12.78)	18.97 (13.71)
Self-assessed experience rating internal auditors[a]	3.43 (2.71)	4.08 (2.66)	3.72 (2.69)
CPA or passed exam	55.1%	60.9%	57.8%
Highest degree			
Bachelor's	61.2%	56.1%	58.9%
Masters	38.8%	43.9%	41.1%
Percentage female	53.1%	57.5%	55.1%

[a] Assessed on an 11-point scale from 0 "not experienced" to 10 "very experienced".

3.3. Independent variables

Internal audit source was manipulated between subjects at two levels, in-house and outsourced. Participants assigned to the in-house internal audit condition were told that the company employed 12 internal auditors, including one internal audit director that reports to the audit committee, one assistant director, one audit manager, three audit seniors and six staff auditors. Participants assigned to the outsourced internal audit condition were told that the company employs one internal audit director that reports to the audit committee and oversees the internal audit work outsourced to another Big 4 firm.[12] The outsourced employees from the Big 4 firm include an audit partner, audit manager, three audit seniors and six staff auditors.[13] In the instrument, care was taken to indicate that the in-house and outsourced internal auditors possessed equivalent education, experience in both public accounting and internal audit, certification, training levels and reporting structure (i.e., reports to the audit committee).[14]

The second independent variable, perceived auditor litigation risk, was measured following the experimental task using the participants' responses to the question: To what degree do you believe your firm is shielded from liability by relying on the work of internal auditors? The response scale ranged from 0 (no degree) to 5 (moderate degree) to 10 (very high degree). Therefore, lower responses indicated higher perceived litigation risk and responses toward the higher end of the scale indicated lower perceived litigation risk. Although the use of a measured rather than a manipulated variable limits the randomization advantage of the experiment as the subjects are not assigned to treatments (McDaniel & Simmons, 2007), the circumstances do support the use of a measured variable (Libby, Bloomfield, & Nelson, 2002). Perceived auditor litigation risk is an antecedent variable which is not easily manipulated and in this situation, it is more interesting to examine the natural auditor reaction based on their individual belief in the litigation risk resulting from reliance on the work of internal auditors rather than being told the overall litigation risk of the client as has been done in previous research (Libby et al., 2002).[15]

[8] The results including the participants that failed the manipulation checks do not differ significantly from the reported results. As such, only participants that replied accurately are included.

[9] The self-assessed experience rating internal auditors' average is comparable to the average rating of 4.6 reported by Glover et al. (2008).

[10] Using ANOVA, no statistically significant differences were found between experimental conditions on the demographic variables.

[11] All questions except knowledge of internal control were drawn from the source credibility scale used by Mercer (2005) to measure management's reporting credibility. The additional question of knowledge of internal control was added to test hypotheses specific to this study.

[12] Because the participants all came from one Big 4 audit firm (KPMG), Deloitte & Touche was named as the other Big 4 firm. As KPMG is the implied external auditor in this case, Deloitte & Touche is not the external auditor in accordance with PCAOB standards.

[13] Feedback from an actual internal audit outsource provider relationship (i.e. Big 4 partner and internal audit director) indicated that this arrangement is appropriate.

[14] A second manipulated variable, business risk, was also included in the experimental design. Analyses indicate that this variable did not have a significant main effect or a significant interaction effect with any of the other independent variables on the auditors' reliance decisions. Thus, the results do not change by including this variable in the analyses and are reported without this manipulated variable.

[15] Analyses indicated that the perceived litigation risk measure is not correlated to the manipulated variables in the study.

The final independent variable is account risk of material misstatement. This variable was manipulated within subjects; therefore, each participant was given one account with a high risk and one account with a low risk of material misstatement. The allowance for doubtful accounts was used as the account with a high risk of material misstatement. Participants were told that the factors contributing to the high-risk assessment for this account included the fact that the account is an estimate, there was a material adjustment during the prior year audit, and the composition of the company's customer base makes the estimate complex. For the low risk account, an account consisting of routine transactions, the raw material purchases account was used. Other factors contributing to the low risk assessment included no adjustments to the account in the prior audits and a consistent inventory turnover ratio compared to the prior year.

3.4. Dependent variables

The primary dependent variable is planned reliance on the work of internal auditors. Following the manipulations, participants were asked to indicate the extent their firm should rely on the work on the internal audit team for each level of account risk (i.e., high and low).[16] For each reliance question, an 11-point scale anchored by "no reliance" (0) and "extensive reliance" (10) was used.[17]

4. Results

The hypotheses were tested using an ordinary least-squares regression model that included variables for internal audit source (in-house = 0, outsourced = 1), perceived litigation risk, account risk of material misstatement and an interaction term between internal audit source and perceived litigation risk.[18] The dependent measure is participants' planned reliance on the work of internal auditors.

4.1. Hypotheses tests

Hypothesis 1 predicts that auditors who perceive higher risk of litigation will decrease their planned reliance on the work of internal auditors. The results, as shown in Table 2, are consistent with Hypothesis 2. The perceived litigation risk parameter assessment is significant in the expected direction for the high-risk account ($p = 0.000$, Table 2). Participants who perceive higher litigation risk as measured by the lower values on the perceived litigation risk scale indicated less reliance than participants who perceived lower litigation risk as measured by higher values on the scale. Interpretation of this simple effect is dependent on the interaction predicted in Hypothesis 3.

Hypothesis 2 predicts that auditors will rely more on the work of outsourced internal auditors than in-house. The results do not support Hypothesis 2 as internal audit source did not significantly influence the reliance decisions of auditors ($p = 0.914$, Table 2). Hypothesis 3 predicts an interaction effect of perceived litigation risk and internal audit source on reliance decisions. The findings support Hypothesis 3 as the influence of perceived litigation risk on reliance decisions depends on the internal audit source. When internal audit is outsourced (IA = 1), on average, the participants' reliance decisions are significantly higher ($p = 0.004$, Table 2) than when internal audit is performed in-house.

[16] Participants were also asked to indicate their planned reliance on the use of internal auditors as assistants. The results of this question are part of a different project and are not relevant to this study.

[17] The reliance question and scale used to measure the extent of reliance on work already performed by the internal audit team is consistent with the question used by Glover et al. (2008).

[18] Regression results with the other interaction terms (perceived litigation risk and high account risk, outsourced internal audit and high account risk, and the three way interaction) were not significant and the interactions were dropped from the model. Results do not change.

Table 2
Influence of perceived litigation risk and internal audit source on participants' reliance decisions.

Ordinary least-squares regression
Dependent variable = reliance
$R^2 = 0.35$; *f*-statistic = 23.17; *p*-value < 0.01

	Parameter estimate	Standard error	*t*-statistic	*p*-value*
Intercept	4.35	0.40	10.99	0.000
Perceived litigation risk (PLR)	0.33	0.08	4.10	0.000
Outsourced internal audit (IA)	0.06	0.52	0.11	0.914
High account risk (AR)	−2.73	0.37	−7.45	0.000
Interaction (IA × PLR)	0.23	0.08	2.94	0.004

Reliance = the amount of reliance the external auditor would place on the work of internal audit, ranging from 0 (no reliance) to 10 (extensive reliance).
PLR = measured as participants' response to question, "To what degree do you believe your firm is shielded from liability by relying on work of internal auditors?" Responses were made on 11-point scale ranging from 0 (no degree) to 5 (moderate degree) to 10 (very high degree).
IA = internal audit source coded 0 for in-house internal audit and 1 for outsourced to Big 4 firm.
AR = account risk of material misstatement coded 0 for low risk account (raw material purchases account) and 1 for high-risk account (allowance for doubtful accounts).
* Reported *p*-values are one-tailed except for interaction which is two-tailed.

To investigate the significant interaction further, additional analysis was performed by splitting the sample into two groups of low and high perceived litigation risk participants at the sample median of 2 on the response scale.[19] Further analysis compared the cell means for reliance decisions across the four groups (combination of internal audit source and perceived litigation risk) for each account risk of material misstatement, high and low (Fig. 1). For both the high-risk account and the low risk account, the significant interaction is apparent from the cell means in Fig. 1. While there is no significant difference between the mean reliance decisions of participants who perceive higher or lower litigation risk in the in-house internal audit condition, there are significant differences in the outsourced internal audit condition. Participants who perceived lower litigation risk indicated, on average, significantly more reliance on outsourced internal auditors than participants who perceived higher litigation risk for both the high risk (4.61 vs. 1.74, $t = 4.37$; $p = 0.00$) and low risk account (6.89 vs. 5.04, $t = 2.53$; $p = 0.02$).

Thus, the results suggest that participants view outsourced internal auditors differently than in-house internal auditors. Following source credibility theory, it appears that auditors perceive outsourced internal auditors as more expert (i.e. competent) and trustworthy (i.e. objective) than in-house internal auditors. In order to investigate this suggestion further, participant evaluations of internal auditor competence and objectivity were analyzed. As shown in Table 3, for all three measures of competence (overall competence, knowledge of factors involved in performing internal audit duties and knowledge of internal control), participants evaluated outsourced internal auditors significantly higher ($p < 0.05$) than in-house internal auditors. In addition, participants also evaluated outsourced internal auditors as significantly more objective ($p < 0.001$) and more independent ($p < 0.001$) than in-house internal auditors. These results support source credibility theory and partially replicate the findings of prior research which used a financial statement context. Glover et al. (2008) and Gramling and Vandervelde (2006) both found that external auditors in a financial statement audit consider outsourced internal auditors

[19] Results do not change when the mid-point of the scale (5) is used as a cutoff.

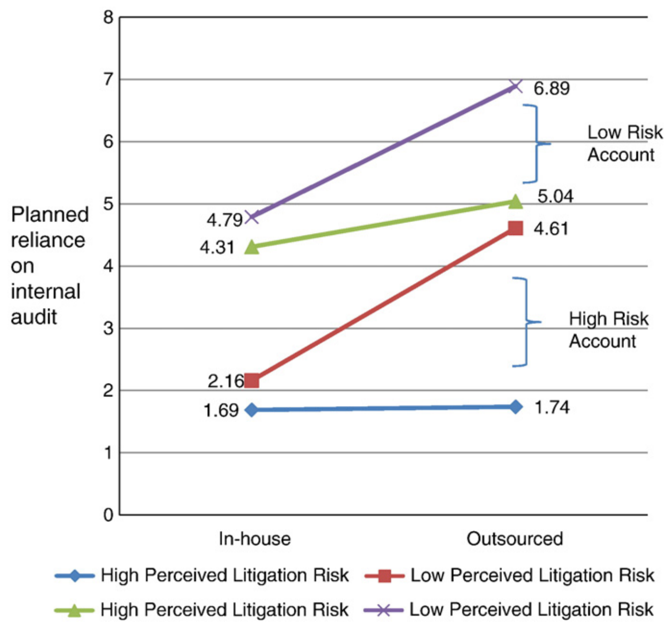

Fig. 1. Interaction of perceived litigation risk and internal audit source for low risk and high-risk account.

significantly more objective than in-house. However, Glover et al. (2008) did not find any differences in competence evaluations while Desai et al. (2007) did. As the current study used an integrated audit of financial statements and internal control setting, the increased importance of internal audit on the audit process could explain the differing results.

Hypothesis 4 predicts participants will place less reliance on the work of internal auditors in high-risk accounts than low risk. The results in Table 2 support the hypothesis as a significant simple effect for account risk is found ($p = 0.000$). Based on the parameter estimate, on average, participants' planned reliance decreased by 2.73 on the 11-point reliance scale.[20] These results indicate that auditors are responding appropriately to changes in account risk of material misstatement as suggested by the PCAOB.

5. Discussion

This study examines the effects of perceived auditor litigation risk and internal audit source (in-house vs. outsourced) on auditor reliance decisions in an integrated audit environment under various levels of account risk of material misstatement. The results suggest that external auditors exhibit prospective rationality cognition. Auditors who perceive lower litigation risk increased planned reliance on the work of internal auditors while auditors who perceive higher litigation risk decreased their planned reliance to increase the defensibility of their actions. However, those who perceive lower litigation risk were also influenced by the internal audit source. Lower litigation risk auditors indicated a significantly greater willingness to rely on outsourced internal auditors than in-house internal auditors. Further analyses indicated that the results are consistent with source credibility theory as outsourced internal auditors were perceived as significantly more competent and more objective than in-house internal auditors. The results also found that external auditor reliance decisions are sensitive to account risk as more reliance was placed on the work of internal auditors in an account with a low risk of material misstatement than in an account with a high risk.

Before discussing the implications of this study's results, several limitations should be noted. As with any experimental study, there were limits to the realism of the case. The participants were given limited information about the internal audit department and did not interact with the internal auditors described in any manner. In practice, personal reactions to the internal auditors may also impact the reliance decision. In addition, all participants were from one Big 4 public accounting firm. Participants from other Big 4 firms may evaluate internal auditors differently however the use of only firm allows the study to control for firm effects on auditors' perceived litigation risk. Finally, this study only examined two types of account risk and auditor evaluations may be different for other levels of account risk.

The findings of this study will be of interest to audit firms as they consider their current practices for internal auditor evaluations. Given the increased audit work associated with an integrated audit, opportunities to appropriately place reliance on the work already performed by competent and objective internal auditors can benefit the audit firm as reliance frees resources to perform other audit tasks. These results will also be of interest to management of public companies. If decreased audit fees can result from increased external auditor reliance on work of internal auditors and the results show auditors more willing to rely on outsourced internal auditors, then outsourcing the internal audit function to another Big 4 firm may be a cost effective decision for public companies.

The fact that external auditors react in the expected direction to account risk factors in an integrated audit is relevant to standards setters. External auditors placed more reliance on the work performed

Table 3
Perceived competence and objectivity.

Evaluation of internal auditor[a]	In-house mean (Std. dev)	Outsourced mean (Std. dev)	*T*-test (*p*-value)*
Competence: overall	7.34 (2.20)	8.44 (1.12)	3.08 (<0.001)
Competence: knowledge of factors involved	7.22 (1.89)	8.00 (1.72)	2.06 (0.02)
Competence: knowledge of internal control	7.26 (1.85)	7.90 (1.45)	1.86 (0.03)
Objectivity	6.22 (2.25)	7.61 (2.12)	3.03 (<0.001)
Independence	6.24 (2.07)	7.90 (1.93)	3.95 (<0.001)

The data were collected in response to the following questions:
Competence—overall: I believe that the internal audit department (outsourced internal audit team) is competent at performing the internal auditing duties including testing internal control effectiveness.
Competence—knowledge of factors involved: I believe that the internal audit department (outsourced internal audit team) has knowledge of the factors involved in performing the internal auditing duties including testing internal control effectiveness.
Competence—knowledge of internal control: I believe that the internal audit department (outsourced internal audit team) has the appropriate knowledge of internal control to perform the internal audit duties including testing internal control effectiveness.
Objectivity: I believe that the internal audit department (outsourced internal audit team) is objective in performing their internal auditing duties including internal control testing.
Independence: I believe that the internal audit department (outsourced internal audit team) is independent in performing their internal auditing duties including internal control testing.
[a] Scale used for evaluations of statements:

0…..1…..2…..3…..4…..5…..6…..7…..8…..9…..10
Strongly Disagree — Agree — Strongly Agree

* *p*-values reported are one-tailed.

[20] These results are consistent when two groups for litigation risk, high and low based on the median split are used in a repeated measures ANOVA allowing for the within subject variable, account risk. Planned reliance was significantly lower for the high risk account (2.39) than the low risk account (5.12, $F = 40.63$, $p = 0.00$).

in a low risk account compared to a high-risk account. The extent of reliance, however, is still an issue. For the high-risk account, the extent of reliance was appropriately low for all conditions but for the low risk account, the extent of reliance was moderate, at best. This result may support the suggestion of DeZoort, Houston, and Peters (2001) that there is some threshold to the extent of reliance external auditors will place on the work of internal auditors. However, it is not clear whether the mean response levels obtained are "appropriate" in that there is no measure of actual audit effectiveness for the work of the internal auditors.

The results of this study present opportunities for future research. An examination of the effect of other types of outsourced internal audit providers (e.g., Non Big-4 Firms, Protiviti) or other sourcing arrangements (e.g., partial outsourcing, only Section 404 testing) on the reliance decision could be performed. Because auditor perceived litigation risk has an influence on the reliance decision, future research is needed to determine if judicial decision makers increase auditor liability when reliance is placed on the work of internal auditors during an apparent audit failure.

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