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# Examining the Impact of Offshoring and Level of Preparer Judgment on the Audit Review Process

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EXAMINING THE IMPACT OF OFFSHORING AND LEVEL OF PREPARER JUDGMENT  
ON THE AUDIT REVIEW PROCESS

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## DEDICATION

I dedicate this to my family – in particular, my grandfather, Lawrence David Saunders, who exemplified kindness, hard work, humor, and diligence throughout his life. I am tremendously blessed to feel his influence still.

Also, to my parents, David and Laura Saunders, and my siblings, siblings-in-law, and nieces and nephews – thank you for your support throughout this process. I never would have made it through the past five years without your love and prayers.

Finally to my Gamecock family: Jean Searle, Necie Cooper, Lueen Homewood, Bryan and Keri Stewart, Carolyn Westfall, Anna Bennion, Aimee Phipps, and Nikki Ward – thank you for helping me be at home in South Carolina. I am grateful to call you my friends.

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## ABSTRACT

Offshoring audit tasks is becoming common among international accounting firms. Although tasks currently performed offshore require preparers to exercise little or no professional judgment, firms are poised to expand the volume and scope of procedures performed offshore. While critics argue that offshoring results in reduced audit quality, advocates maintain that offshored procedures are reviewed and supervised by U.S. auditors, and that offshoring may actually improve audit quality. However, little is known about how offshoring impacts reviewers and the review process. This study explores how offshoring interacts with varying levels of preparer judgment to influence reviewers' judgments. Because firms plan to expand the scope of procedures performed offshore, investigating how reviewers respond when offshore preparers exercise higher levels of professional judgment allows practitioners and regulators to understand both current and future implications of offshoring. Results indicate that U.S. based reviewers are equally likely to identify deficiencies in audit test work, regardless of whether the test work was performed in an offshore location or in the local office. However, increasing the level of judgment required by the preparer has differential impact on reviewer effectiveness. Specifically, auditors reviewing high-judgment procedures prepared offshore perceive preparers to be more competent, and subsequently detect fewer errors during workpaper review. The same is not true for auditors reviewing low-judgment procedures prepared offshore or for auditors reviewing procedures performed by U.S.-based preparers. These findings suggest that while offshoring low-judgment procedures does not significantly

impact audit quality, firms should consider the potential implications of expanding the complexity of procedures performed offshore.

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# CHAPTER 1

## INTRODUCTION

Auditors operate in an environment in which achieving a balance between audit efficiency and audit effectiveness has long been a challenge (e.g., McDaniel 1990; Brown, Peecher, and Solomon 1999; Knechel, Krishnan, Pevzner, and Shefchik 2013). In recent years the large international accounting firms (the firms) began offshoring certain routine audit tasks related to U.S.-based engagements, a move that critics claim places too much emphasis on efficiency at the expense of audit quality (Daugherty and Dickins 2009; Aubin and Chatterjee 2012; Daugherty, Dickins, and Fennema 2012).<sup>1</sup> The firms, on the other hand, maintain that offshoring does not reduce audit quality, and may actually *improve* audit quality, and does help control costs (Orlik 2011; Aubin and Chatterjee 2012). The actual impact of the practice of offshoring on audit quality remains an empirical question.

Criticism of offshoring has focused on concerns regarding the training, skills, and experience of offshore personnel (Daugherty and Dickins 2009; Whitehouse 2009; Aubin and Chatterjee 2012). The firms counter these concerns by pointing out that audit

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<sup>1</sup> The practice of audit offshoring by the international accounting firms has not been limited to U.S. engagements. During 2011, the U.K. arm of one firm expressed a desire to send 20% of its audit hours [offshore] by 2014, prompting U.K. regulators to question how the firm planned to maintain quality and control, and denounce “arbitrary” offshore target setting (Orlik 2011). Articles published in practitioner journals and by the business press also indicate that employees located at this firm’s offshore delivery center perform procedures related to engagements of clients in the U.S., the U.K., Australia, and Canada (Jones 2011; McKirdy 2011). For ease of presentation, I limit my discussion to U.S. engagements for the purposes of the current study.

procedures performed offshore are subject to the same level of U.S.-based supervision and review as those performed in-house (Daugherty and Dickins 2009; Aubin and Chatterjee 2012). However, neither critics nor advocates appear to have considered the impact that offshoring may have on U.S.-based personnel responsible for reviewing audit procedures performed offshore. Given the prevalence of offshoring, it is important to understand how offshoring may impact the effectiveness of the workpaper review process, a quality control mechanism critical to ensuring consistently high audit quality across all engagements (Tan 1995; Gibbins and Trotman 2002; Brazel, Agoglia, and Hatfield 2004; Lambert and Agoglia 2011).

The current study experimentally examines how the practice of offshoring audit tasks, and the level of preparer judgment exercised in performing assigned tasks, influence the scrutiny applied by audit workpaper reviewers. If reviewers scrutinize workpapers prepared offshore more heavily than they do workpapers prepared by U.S.-based personnel, as suggested by research in workgroup diversity, the likelihood of detecting errors during review will increase, thus supporting the firms' claim that audit quality may actually improve.<sup>2</sup>

The procedures currently being performed offshore are limited to those requiring offshore workpaper preparers to exercise little or no professional judgment (Daugherty and Dickins 2009; Daugherty et al. 2012). However, the firms have indicated plans to increase both the volume and the scope of procedures performed offshore, and may

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<sup>2</sup> The firms suggest that potential improvements in audit quality may result from offshore personnel developing specialization in performing certain types of procedures and freeing up U.S. personnel to focus on high-risk audit areas. The proposed study on the other hand, examines potential improvements in audit quality due to a latent psychological mechanism exhibited by reviewers, resulting in an *unintentional* benefit of offshoring.

eventually offshore more complex tasks involving higher levels of preparer judgment (Aubin and Chatterjee 2012). Consequently it is important to understand how offshoring may interact with varying levels of preparer judgment to impact reviewers' judgments and decisions. Doing so will allow auditors, their clients, regulators, and financial statement users to understand the implications of offshoring both now and in *future periods* when offshore preparers may be called upon to exercise increasing levels of professional judgment.

Existing research examining audit offshoring establishes a preliminary understanding of the mechanics of offshoring and provides insight into perceptions of offshoring and legal implications for auditors (Arel 2012, Daugherty et al. 2012; Lyubimov, Arnold, and Sutton 2012; Chan and Moser 2013, Daugherty, Dickins, and Fennema 2013). However, the existing literature provides little understanding of how the offshoring phenomenon actually impacts auditor judgments and decisions, which are important determinants of audit quality.

Existing research demonstrates that membership in an audit team is a psychological force that influences auditor behavior (King 2002). However, offshoring significantly alters the structure of the traditional audit team. Traditionally audit teams have been comprised of auditors of varying ranks working in close geographic proximity, which often allows for frequent interaction, often face-to-face, between engagement team members (Brazel et al. 2004). The advent of offshoring fundamentally changes the structure of the traditional audit team, such that members of the engagement team must work across geographical boundaries, which alters how engagement team members interact and communicate (Hanes 2013). Therefore it is important to understand how

these changes in audit team structure may influence team members' perceptions of one another and the level of trust exhibited between engagement team members when some tasks are performed offshore.

Research in workgroup diversity indicates that geographic dispersion and differences in nationality among engagement teams that include offshore auditors may result in limited group cohesion and decreased trust between subgroups, thereby creating in-group/out-group dynamics within the engagement team (Turner 1975; Lau and Murningham 1998; Polzer et al. 2006). Research in accounting and psychology demonstrates that individuals tend to ascribe more positive characteristics to others perceived as members of an in-group than to others perceived as members of an out-group (e.g., Turner 1975; King 2002; Joe and Vandervelde 2007). Taken together, these findings indicate that U.S.-based (in-house) members of the engagement team may view participating offshore auditors as out-group members, and if so, may ascribe less positive characteristics to offshore preparers. In addition, existing research examining workpaper review has documented that reviewer judgments are influenced by characteristics of the preparer (e.g., Rich, Solomon, and Trotman 1997; Gibbins and Trotman 2002). If U.S.-based reviewers ascribe less positive characteristics to offshore preparers than they do to in-house preparers, they should similarly exhibit less trust in procedures performed by offshore preparers. Lower levels of trust may lead to higher levels of scrutiny during audit workpaper review, which may also increase the likelihood of detecting errors during review, ultimately resulting in improved audit quality.

Drawing upon research in workgroup diversity, I conduct a three by two between-participants experiment, manipulating location of the workpaper preparer (in-house,

offshore, other U.S. office) and level of preparer judgment required to complete the assigned task (high, low). Practicing senior auditors perform a workpaper review task, and are asked to identify errors and deficiencies in the work performed.

I hypothesize that auditors reviewing procedures performed offshore will detect more errors than will auditors reviewing procedures performed either in-house or at another domestic office of the firm. Based on analysis of 78 responses from participants at eight international accounting firms, statistical results do not support a main effect for offshoring. However, analysis of post-experimental measures demonstrates that reviewers do view offshore auditors as out-group members who are generally deemed less trustworthy than their U.S. counterparts. Further, I find that the level of judgment exercised by the preparer has a differential impact on reviewer judgments. In particular, preparer location and level of preparer judgment interact to influence perceptions of preparer competence, and these perceptions in turn differentially impact the number of errors detected during workpaper review. Specifically, I find that auditors reviewing high-judgment procedures performed offshore perceive preparers to be more competent, and therefore identify fewer errors during review. The same is not true for auditors reviewing low-judgment procedures performed offshore or for auditors reviewing procedures performed either in-house or at another U.S. office of the firm. Though these results should be interpreted with caution, these findings suggest that firms should ascertain and carefully consider the potential implications of expanding the scope of procedures performed offshore.

The current study offers contributions to both audit practice and the accounting literature. The study contributes to practice by exploring whether differences in the audit

team structure as a result of geographic dispersion may influence the extent and effectiveness of workpaper review. Because workpaper review is critical to ensuring audit quality, it is important to identify and understand factors that may influence the conduct of workpaper review (Tan 1995; Gibbins and Trotman 2002; Brazel et al. 2004; Agoglia, Hatfield, and Lambert 2011). As firms consider expanding the nature and extent of procedures performed offshore, it will be important to ascertain whether offshoring has a negative impact on reviewer judgments, and consequently the effectiveness of the review process. In fact, exploring the potential impact of offshoring on auditor judgments and decisions is a topic that has received little attention in either practitioner or academic literature (Chan and Moser 2013; Hanes 2013). Although critics of offshoring have expressed concerns that the practice may negatively impact audit quality, existing research has focused primarily on how offshoring impacts *perceptions* of audit quality (e.g. Arel 2012; Lyubimov et al. 2012; Chan and Moser 2013; Daugherty et al. 2013).

By exploring whether offshoring and the complexity of tasks performed offshore influence the effectiveness of the review process, the current study provides evidence regarding how offshoring may influence the conduct of the audit. Hence, the current study examines the validity of concerns expressed by critics of the practice. As such, the current study contributes not only to the broader emerging literature examining the topic of offshoring, but also to the significant body of research investigating the audit review process. Since the review process is an integral part of an effective audit, the results of this study may also inform regulators seeking to pinpoint factors that influence audit outcomes.<sup>3</sup>

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<sup>3</sup> In November 2012, the PCAOB initiated a project to identify audit quality indicators (AQIs). In a memorandum summarizing public discussions between the PCAOB and its Standing Advisory Group and



The remainder of this paper is organized as follows: the next section presents a review of existing literature and hypothesis development followed by a description of the proposed research design and methodology. In the final two sections, results are presented and conclusions are outlined.

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Investor Advisory Group, audit work outsourced to service centers is identified as a potential AQI, due to the fact that work performed by affiliates in service centers domestically and abroad broadens supervisory and review responsibilities (PCAOB 2014).

## CHAPTER 2

### LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This study draws upon three streams of literature to develop predictions: research examining the phenomenon of offshoring in accounting; research on group affiliation; and research examining audit workpaper review. Relevant studies from each of these streams of research are discussed below.

#### **Offshoring Audit Tasks**

The large international accounting firms began offshoring tax preparation work in the early 2000s, but offshoring of audit procedures is a more recent phenomenon (Daugherty et al. 2012). Chan and Moser (2013) and Hanes (2013) acknowledge that academic research exploring audit offshoring has been limited. Hanes (2013) provides an extensive review of the literature related to geographically distributed work. Hanes (2013) also identifies implications for audit practice, including both offshoring and audits of companies with significant operations in more than one geographic area, which are typically performed by auditors in multiple geographic locations.<sup>4</sup> Other existing literature focuses on the impact of offshoring on auditor legal liability (Arel 2012;

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<sup>4</sup> Such arrangements are known as group audits, defined as those involving the audit of financial statements that include more than one component (i.e., group financial statements) (AICPA 2013). Though not all group audits involve multi-national companies, it is common for audits of multi-national companies to be conducted by dividing the work among affiliated offices of a single globally networked firm (Doty 2011). While such arrangements involve geographically distributed audit work, group audits are distinct from offshoring. Auditors engaged to perform a portion of a group audit typically perform procedures related to a client's significant operations close in proximity to the auditors' offices, and the procedures performed are typically significantly more complex and broader in scope than those performed in offshoring arrangements (Hanes 2013).

Lyubimov et al. 2012; Daugherty et al. 2013), audit clients' perspectives (Chan and Moser 2013), and implications for accounting education (Daugherty et al. 2012).<sup>5</sup>

The results of studies considering the impact of offshoring on auditors' legal liability suggest that the practice may result in greater litigation exposure for firms that experience an audit failure. Daugherty et al. (2013) use potential jurors as participants and demonstrate greater litigation exposure under conditions of offshoring regardless of the amount of auditor judgment required to perform the task that led to the audit failure. Arel (2012) uses judges and Lyubimov et al. (2012) use potential jurors as participants to demonstrate that the practice of offshoring may negatively impact perceptions of audit quality. Experimental findings of Chan and Moser (2013) suggest that clients are similarly concerned that offshoring could negatively impact audit quality, but also indicate that client managers may be willing to trade a reduction in quality for a reduction in audit fees. However, nearly half of the manager participants in this study indicated a willingness to consider switching to an audit firm that does not practice offshoring, and participants indicated a belief that firms should be required to disclose offshoring practices to their clients.<sup>6</sup>

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<sup>5</sup> Academic research exploring the offshoring of tax return preparation is similarly scarce. Articles discussing the implications of offshoring for tax professionals and their clients have appeared in practitioner journals and in the press (e.g., Konrad 2004; Robertson, Stone, Niederwanger, Grocki, Martin, and Smith 2005; Rediff 2006). Existing academic literature addressing this topic focuses on disclosure rules and educational differences between U.S. and overseas tax professionals (Arora 2012; Desai and Roberts 2013). One additional study compares the client advocacy attitudes of U.S. and offshore tax professionals (Spilker, Stewart, Wilde, and Wood 2013).

<sup>6</sup> The findings related to required disclosure of offshoring practices are noteworthy from a regulatory standpoint. In October 2011, the PCAOB issued Concept Release No. 2011-007 "Improving the Transparency of Audits: Proposed Amendments to PCAOB Auditing Standards and Form 2" which proposed requiring accounting firms signing the audit report to disclose the names, locations, and the percentage of total audit hours performed by other accounting firms participating in the audit (PCAOB 2011). While the Concept Release acknowledges the practice of offshoring, the PCAOB stopped short of proposing a requirement for firms to disclose work performed offshore by another office of the same accounting firm. However, the PCAOB invited comments regarding whether such disclosures would be

Daugherty et al. (2012) draw upon discussions with representatives from the firms to document an understanding of the practice of offshoring. The authors document the types of audit tasks typically performed offshore, and consider the implications of offshoring for accounting education (Daugherty et al. 2012). Representatives from the firms maintain that tasks performed offshore are limited to those requiring little or no judgment, are not client-facing, tend to be repetitive in nature, and have traditionally been performed by lower-level staff auditors (Daugherty et al. 2012).<sup>7</sup>

While existing research establishes a preliminary understanding of the mechanics of audit offshoring and provides insight into perceptions of offshoring and legal implications for auditors, little is known about how offshoring impacts auditor judgment. The current study provides insight as to whether offshoring has a negative impact on auditors' judgments and decisions, which are important determinants of audit quality.

### **Group Affiliation**

Research in accounting and psychology suggests that group affiliation influences judgment and decision making, resulting in the tendency for individuals to attribute more positive traits to members in the same group (in-group) than to members of another group (out-group) (Turner 1975; Tajfel and Turner 1986; King 2002). In an auditing context, Joe and Vandervelde (2007) documented that auditors identified more fraud risk factors when reviewing non-audit services performed by another accounting firm than did auditors reviewing non-audit services performed by another auditor at their own firm.

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useful to investors and other users of the audit report, indicating that the practice of audit offshoring is not below the proverbial regulatory radar.

<sup>7</sup> Specific examples of audit tasks commonly performed offshore include: coordination and distribution of audit confirmations, financial statement tie-outs, price testing of investment securities, and certain analytical procedures; see Daugherty et al. (2012) for a comprehensive list.

This suggests that feelings of distrust engendered by weak group affiliation may lead auditors to exercise an increased level of professional skepticism when reviewing work performed by an auditor from a competing firm than when reviewing work performed by an auditor from their own firm.

Although existing research in accounting would suggest that engagement teams should feel a strong group affiliation because they are employed by the same global accounting firm, research in workgroup diversity would suggest those feelings might not include offshore personnel. Geographic dispersion and differences in nationality and status among engagement teams that include offshore personnel may impact the ability of these engagement teams to function as cohesive units (e.g., Lau and Murningham 1998; Earley and Mosakowski 2000; Metiu 2006; Polzer et al. 2006; Levina and Vaast 2008). For example, Lau and Murningham (1998) document that upon formation of a new workgroup, members may use demographic characteristics such as age, race, sex, or job tenure to implicitly categorize themselves into subgroups (Lau and Murningham 1998). Research has also shown that perceived status differences due to cultural and economic divergence between members of distributed workgroups may result in additional social boundaries, and that geographic division and status differences reinforce each other to negatively impact group collaboration (Metiu 2006; Levina and Vaast 2008). Research has further demonstrated that members of such workgroups view members of their own subgroup as in-group while viewing members of other subgroups as out-groups (Lau and Murningham 1998; Polzer et al. 2006). Such in-group/out-group dynamics have been shown to result in limited cross-demographic communication and lower levels of trust between subgroups (Earley and Mosakowski 2000; Metiu 2006, Polzer et al. 2006; Levina and Vaast 2008).

Based on discussions with firm representatives, Daugherty et al. (2012) document that the firms consider personnel assigned to an audit engagement for which components are performed offshore as one “integrated” engagement team. All members from all locations within the “integrated” engagement team participate in all phases of the audit process (Daugherty et al. 2012). However, research in workgroup diversity suggests that in-group/out-group dynamics based on geographic location may exist within engagement teams that include offshore personnel. As such, it is important to understand how such team dynamics may impact how U.S.-based reviewers view offshore preparers and how such views may impact the review process.

### **Workpaper Review**

Appropriate review of work performed by junior members of the audit engagement team is an essential mechanism for ensuring audit quality, and is required in accordance with auditing standards. In recent years, both the AICPA and the PCAOB issued auditing standards clarifying the requirements for supervision and review of audit procedures performed (AICPA 2006; PCAOB 2010). According to these standards, the primary purposes of workpaper review are to determine whether work was adequately performed and documented; to determine whether procedures achieve established objectives; and to evaluate whether the results of procedures performed support conclusions in the audit report (AICPA 2006; PCAOB 2010).

While the primary purpose of workpaper review is to assess the quality of the workpaper, (Tan 1995; Rich et al. 1997; Tan and Jamal 2001; Gibbins and Trotman 2002), existing research suggests reviewers might consider preparer attributes in forming judgments about workpaper quality. Although workpapers may provide cues as to the

ability and competence of the preparer (Rich et al, 1997), when evaluating the quality of a workpaper, reviewers should focus on determining whether procedures were adequately performed and documented rather than focusing on preparer attributes.

Existing research provides some insight as to why reviewers may be tempted to reflect on preparer attributes in forming judgments about workpaper quality (e.g., Tan and Jamal 2001;, Gibbins and Trotman 2002; Bhattacharjee, Moreno, and Riley 2012). In their model of workpaper review, Gibbins and Trotman (2002) identify the reviewer's expectations about the preparer as an important component that influences the conduct of review. Tan and Jamal (2001) assert that reviewers should be objective when evaluating the quality of subordinates' work, but document that reviewer judgments of workpaper quality may be influenced by preparer attributes (which give rise to reviewers' expectations of the preparer) unrelated to workpaper quality.<sup>8</sup> This is consistent with research documenting that auditors' assessments of source reliability may be influenced by irrelevant source factors (Bhattacharjee et al. 2012).

Research has also demonstrated that auditors may rely on a trust heuristic when assessing and weighing advice received from another auditor with whom they share a social bond (Kadous, Leiby, and Peecher 2013). Specifically, rather than objectively evaluating the quality of advice received, auditors assigned greater weight to advice received from a trusted colleague than they did advice received from a colleague with

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<sup>8</sup> This is not to say that all preparer attributes are unrelated to workpaper quality. For example, some preparers may develop a reputation for engaging in audit quality reducing behaviors. However, relying on preparer reputation in the conduct of workpaper review introduces risks that threaten both audit efficiency and audit effectiveness (Tan and Jamal 2001). In order to minimize these risks, reviewers should strive to approach workpaper review objectively, evaluating the quality of the workpaper rather than the reputation of the preparer. However, given that the proposed study focuses on offshore preparers, whose reputations are more likely to be unknown to reviewers, I would not expect preparer reputation to have a significant impact in the context of audit offshoring.

whom they shared a weaker social bond, regardless of the justifiability of the advice (Kadous et al. 2013). On the other hand, auditors receiving advice from another auditor with whom they did not share a strong social bond placed less weight on advice that was not sufficiently justifiable (i.e., absence of trust in the advisor allowed these auditors to objectively evaluate the quality of the advice received). The findings of this study suggest that if reviewers view offshore preparers as out-group members, they may be better able to objectively evaluate the quality of workpapers prepared offshore than they would workpapers prepared by auditors in their local office. That is, U.S.-based reviewers likely share a strong social bond with auditors from their own offices, and may rely on a trust heuristic when evaluating procedures performed. Likewise, these reviewers likely share a weaker social bond with offshore auditors, which may result in more objective evaluations of procedures performed offshore.

Researchers have documented other factors that have been shown to influence the effectiveness of the review process, including review format (e.g., Baltes, Dickson, Sherman, Bauer, and LaGanke 2002; Agoglia, Hatfield, and Brazel 2009; Hanes 2013). Agoglia et al. (2009) find that when reviews are conducted electronically (versus face-to-face), documentation quality issues may be less likely to be detected, which could be detrimental to reviewer judgments regarding the sufficiency of evidence gathered, and ultimately audit quality. These findings may be explained in part by research on computer-mediated communication, which has similarly been shown to decrease the performance effectiveness of work groups (e.g., Baltes et al. 2002). Hanes (2013) identifies significant challenges to collaboration and communication of geographically distributed teams, and cites research demonstrating that such challenges may be



exacerbated by the use of asynchronous communication media. Review notes generated during electronic workpaper review would be an example of an asynchronous communication medium. That is, review notes are created by the reviewer at one point in time and then viewed by the preparer at a later point in time. Given the significant physical distance separating offshore preparers and U.S.-based reviewers, it seems likely that workpaper review of procedures performed offshore would be conducted almost exclusively electronically.

Agoglia, Brazel, Hatfield, and Jackson (2010) document that reviewers perceive electronic review to be less effective than face-to-face review. However, despite these perceptions, Agoglia et al. (2009) found that reviewers conducting electronic reviews (e-reviewers) did not spend more time reviewing, provide more review notes, or place less reliance on preparer documentation than did reviewers conducting face-to-face reviews (face-to-face reviewers). That is, e-reviewers applied no more scrutiny in reviewing workpapers than did face-to-face reviewers in the conduct of workpaper review. However, these studies were conducted assuming a traditional audit team structure. Research in workgroup diversity suggests that reviewers may view offshore preparers as out-group members, and consequently exhibit less trust in documentation prepared offshore (Lau and Murningham 1998; Earley and Mosakowski 2000; Polzer et al. 2006). If this is true, electronic review of workpapers prepared offshore may be more effective than existing literature would suggest.

### **Hypotheses Development**

Research in workgroup diversity has documented that geographical dispersion and differences in nationality among members of a workgroup may result in division of the group into subgroups defined by nationality (Earley and Mosakowski 2000). These

findings would suggest that engagement teams that include offshore personnel may experience similar psychological division. The findings of this research would also suggest that such engagement teams may have less trust between subgroups, creating in-group/out-group dynamics within the engagement team. Although management researchers typically attempt to identify methods to mitigate such dysfunctional team behaviors (e.g., Cramton and Hinds 2005; Hinds and Mortensen 2005; Metiu 2006; van Knippenberg, Dawson, West, and Homan 2011), paradoxically, such behavior might actually prove beneficial in an auditing context. Psychological division between members of engagement teams that include offshore preparers may cause U.S.-based members of the engagement team to view participating offshore auditors as out-group members, even though they are employees of the same global firm. If in-house members of the engagement team exhibit decreased trust in offshore affiliates, the U.S.-based auditors could review procedures performed offshore more skeptically than they would procedures performed in-house (Joe and Vandervelde 2007). If reviewers are more skeptical of procedures performed offshore, they may scrutinize workpapers they are reviewing more carefully. Applying additional scrutiny in reviewing individual workpapers prepared offshore should result in reviewers spending more time in review and ultimately detecting more errors.

One might expect reviewers to increase scrutiny of workpapers whenever engagement teams are geographically dispersed, because physical distance between team members may result in communication and collaboration difficulties between members of the engagement team. However, in an audit setting, geographic dispersion alone is likely not sufficient to induce in-group/out-group dynamics within an engagement team. It is not uncommon for U.S.-based auditors to interact with auditors from other domestic offices of

the same global accounting firm. The firms often conduct training on a regional or national basis, domestic offices often “borrow” auditors from other domestic offices to meet staffing needs, and transferring employment between offices is often a matter of routine. Further, domestic offices utilize the same audit methodology, consult the same national office subject matter experts, and may recruit from the same universities. As such, it does not seem unreasonable to expect that U.S.-based auditors may share a strong social bond with auditors from other domestic offices of the same firm, regardless of the physical distance between offices. If this is the case, I expect reviewers to apply similar levels of scrutiny to workpapers prepared in-house and workpapers prepared by auditors at another domestic office of the same firm. As such, I do not expect reviewers to spend more time or detect more errors in review of workpapers prepared by an auditor at another domestic office of the same firm that they would workpapers prepared in-house.

However, I expect that both geographic dispersion and differences in nationality among members of engagement teams that include offshore auditors will result in weaker social bonds leading to in-group/out-group dynamics within the engagement team. If this is the case, I anticipate that reviewers might apply higher levels of scrutiny to workpapers prepared offshore than they would to workpapers prepared either in-house or at another domestic office of the same firm. If reviewers do apply higher levels of scrutiny, I anticipate that reviewers will spend more time reviewing and detect more deficiencies in workpapers prepared offshore than they would workpapers prepared in-house or at another domestic office of the same firm.

Though I expect that psychological division in engagement teams that include offshore preparers will lead reviewers to apply higher levels of scrutiny to workpapers

prepared offshore, there are valid reasons why this might not be the case. First, given that the review process is a critical quality control mechanism, reviewers may be conditioned to apply similarly high levels of scrutiny to *all* workpapers. Second, workpapers are typically subjected to multiple levels of review. That is, a single workpaper may be reviewed by not only the senior/in-charge, but also may be reviewed by the manager, partner, and engagement quality reviewer. Therefore, reviewers may apply similar levels of scrutiny to workpapers prepared offshore and workpapers prepared in-house, because they are likely to be held accountable for failing to detect deficiencies in testing during their initial review. If either of these conditions is true, review effectiveness should be similar for workpapers prepared offshore and workpapers prepared in-house.

Although there is some uncertainty regarding whether reviewers will subject workpapers prepared offshore to higher levels of scrutiny, overall, I posit that decreased trust in offshore preparers will lead to increased scrutiny during review. In order to demonstrate that any observed differences in reviewer scrutiny of procedures prepared offshore are due to in-group/out-group dynamics among engagement team members, it is necessary to compare reviewer scrutiny of procedures prepared by three groups of auditors: auditors located offshore, auditors located at the firm's local office, and auditors located at another domestic office of the firm. Stated formally, I predict the following:

**Hypothesis 1a:** Auditors reviewing procedures performed offshore will detect more errors than will auditors reviewing procedures performed either in-house or at another domestic office of the firm.

**Hypothesis 1b:** Auditors reviewing procedures performed offshore will spend more time in workpaper review than will auditors reviewing procedures performed either in-house or at another domestic office of the firm.

## **Level of Preparer Judgment**

Existing research examining the impact of task complexity on the review process considers task complexity as originating at the preparer level and being inherited by the reviewer. Further, task complexity increases with the level of professional judgment required for successful completion of the task (Asare and McDaniel 1996). Auditing standards dictate that reviewers should take into account the nature of procedures performed in determining the necessary extent of supervisory activities (AICPA 2006; PCAOB 2010), suggesting that reviewers should increase effort as procedures performed become more complex in nature. Accordingly, I expect that as the level of preparer judgment required to perform procedures increases (and the task has therefore become more complex in nature), reviewers will spend more time in review. However, spending more time in review of high-judgment tasks performed offshore may not lead reviewers to identify significantly more errors than they would when reviewing low-judgment tasks performed offshore, if there is a ceiling effect for offshoring. That is, reviewers may apply similarly high levels of scrutiny to procedures performed offshore regardless of the level of preparer judgment required, due to weak social bonds between offshore auditors and U.S.-based reviewers. Conversely, when procedures are performed domestically, I expect reviewers to apply less scrutiny to procedures requiring low levels of preparer judgment than they would in reviewing procedures requiring high levels of preparer judgment. Therefore I expect preparer judgment to moderate the effect of offshoring on reviewer scrutiny, resulting in a divergent interaction between level of preparer judgment and preparer location. Stated formally, I predict the following:

**Hypothesis 2a:** Auditors reviewing low-judgment procedures performed in-house or at another domestic office of the firm will detect the fewest errors during workpaper review.

**Hypothesis 2b:** Auditors reviewing low-judgment procedures performed in-house or at another domestic office of the firm will spend the least amount of time in workpaper review.

Figure 2.1 presents a graphical depiction of Hypotheses 2a and 2b.

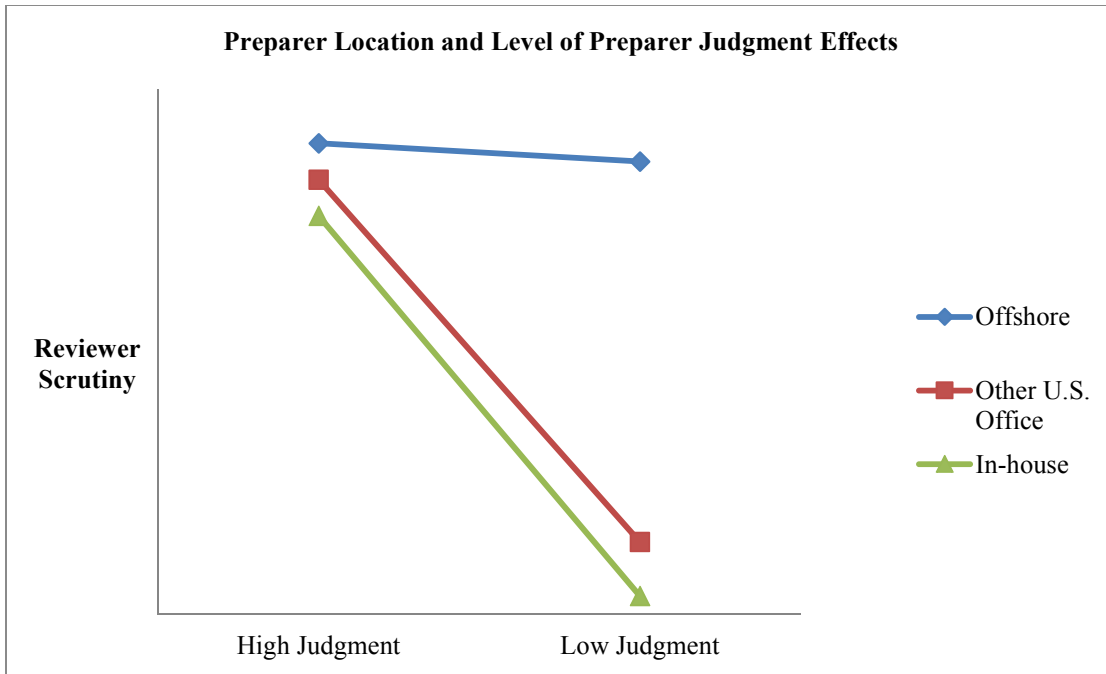


FIGURE 2.1 – HYPOTHESES 2A AND 2B PREDICTIONS

## CHAPTER 3

### EXPERIMENTAL METHODOLOGY

#### **Experimental Design and Task**

In order to examine the impact of offshoring on the effectiveness of audit workpaper review, I conduct a 3 x 2 experiment varying preparer location and the level of preparer judgment (low or high) required to perform assigned procedures. The experimental task was administered through an electronic link provided to participants via email. Experimental materials were reviewed by representatives of the participating firms. Participants were informed that responses would be kept anonymous.

#### **Independent Variables**

##### ***Preparer Location***

Preparer location was manipulated at three levels by indicating that the preparer is a staff auditor: at the local office of the reviewer's firm, at another U.S. office of the reviewers' firm, or at the offshore delivery center of the reviewer's firm. The in-house condition read as follows:

The investment testing procedures you are about to review were performed by a staff auditor currently completing their second busy season **at your firm's local office**. Though you have not personally worked with this staff auditor before, you can assume that the staff auditor is as conscientious and cooperative as other staff auditors **at your firm's local office**.

Participants in the other U.S. office condition received the following description:

The investment testing procedures you are about to review were performed by a staff auditor currently completing their second busy season



**at another U.S. office of your firm.** Though you have not personally worked with this staff auditor before, you can assume that the staff auditor is as conscientious and cooperative as other staff auditors **at that U.S. office of your firm.**

The offshore condition read as follows:

The investment testing procedures you are about to review were performed by a staff auditor currently completing their second busy season **at your firm's offshore delivery center.** Though you have not personally worked with this staff auditor before, you can assume that the staff auditor is as conscientious and cooperative as other staff auditors **at your firm's offshore delivery center.**

The reviewer's familiarity with the workpaper preparer was held constant across conditions by informing participants that procedures were performed by a staff auditor with whom they have not previously worked. Holding familiarity with the preparer constant mitigates the potential impact of preparer reputation on reviewer evaluations of procedures performed.

### ***Level of Preparer Judgment***

I manipulated the level of judgment the staff auditor must exercise to complete assigned procedures at two levels. In the low-judgment condition, I indicated that the preparer was instructed by the lead senior on the engagement (i.e., the participant) in consultation with the engagement manager to perform specific predetermined procedures. In the high-judgment condition, I indicated that the preparer was instructed by the lead senior on the engagement (i.e., the participant) in consultation with the engagement manager to identify and perform procedures that in the preparer's professional judgment addressed the assertions relevant to investments. The specific procedures performed were held constant across conditions, so participants in both the high-judgment and low-judgment conditions saw the same completed audit program steps. Therefore the only difference between conditions is whether the preparer was provided instructions to

perform specific procedures, or whether the preparer was instructed to exercise professional judgment to select procedures to be performed. This is similar to the methodology employed in Asare and McDaniel (1996), wherein task complexity was manipulated by indicating to reviewers that preparers had been provided either a structured (low-complexity) or unstructured (high-complexity) audit program.

Participants in the low-judgment condition received the following information:

After reviewing the relevant assertions with the engagement team, in consultation with the engagement manager, **you identified** specific audit procedures, which in **your** professional judgment would appropriately address the risk of material misstatement for each of the relevant assertions. In **your** professional judgment, the procedures identified will allow the engagement team to examine the level of evidence necessary to conclude whether investments are fairly stated in all material respects. You also forwarded all client-prepared schedules related to investments to the staff auditor. The staff auditor signed off as having completed the specific procedures listed on the next screen, which **you** selected based on **your** professional judgment.

The high-judgment condition read as follows:

After reviewing the relevant assertions with the engagement team, in consultation with the engagement manager, **you instructed the staff auditor to identify** specific audit procedures, which in **the staff auditor's** professional judgment would appropriately address the risk of material misstatement for each of the relevant assertions. In **the staff auditor's** professional judgment, the procedures identified will allow the engagement team to examine the level of evidence necessary to conclude whether investments are fairly stated in all material respects. You also forwarded all client-prepared schedules related to investments to the staff auditor. The staff auditor signed off as having completed the specific procedures listed in the next screen, which **the staff auditor** selected based on **the staff auditor's** professional judgment.

### **Dependent Measures**

Once participants finished reading through the case materials, they were asked to identify any errors or deficiencies noted during their audit workpaper review and provide

related review notes to the preparer. The number of errors or deficiencies identified and the amount of time spent reviewing the workpapers and providing review notes serve as the primary dependent variables for testing the hypotheses.<sup>9</sup>

## **Participants**

One hundred twelve auditors completed the experimental materials. Results are based on 78 participants who correctly answered both manipulation checks.<sup>10, 11</sup> Participants include 70 practicing senior auditors, 2 staff auditors, and 6 managers from eight large international accounting firms. Participants ranged in experience from 14 months to 120 months, with an average of 49.2 months. Auditors with this level of experience are appropriate participants as they routinely perform initial review of workpapers prepared by staff auditors.<sup>12</sup> Over 66% of participants had worked on at least one engagement where procedures were performed offshore, and over 55% of participants indicated that at least 30% of the engagements to which they are assigned utilize offshore employees to perform audit procedures.<sup>13</sup>

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<sup>9</sup> Firms have different policies and practices related to audit documentation. Due to the number of firms participating in the current study, the workpapers utilized in the experimental materials needed to be sufficiently generic to apply across firms. Nonetheless, because auditors are trained to prepare documentation in accordance with firm practices, participants often provided review notes related to compliance with firm documentation practices (i.e., review notes related to the form of audit documentation rather than the substance). Only those review notes related to deficiencies in audit test work were captured in the dependent measure. For example, a review note stating “use the appropriate template for investment testing” is related to firm documentation practices, and would not be included in the dependent measure, whereas “the analytical procedure related to unrealized gains/losses is not sufficiently robust to provide audit evidence” identifies a deficiency in testing and would be captured.

<sup>10</sup> The manipulation check questions asked participants to correctly identify whether the procedures reviewed were performed by a staff auditor at their firm’s local office, at another U.S. office of their firm, or at their firm’s offshore delivery center. The second manipulation check question asked participants to correctly identify whether the specific audit procedures were identified based on the participant’s professional judgment or the staff auditor’s professional judgment.

<sup>11</sup> Results are qualitatively similar when responses from those participants who failed at least one manipulation check are included in the analysis. Cell means are similar, and results are directionally consistent with results reported.

<sup>12</sup> Although one of the staff auditors included in the sample did not have any experience performing workpaper review, results are qualitatively similar when this participant is excluded from the sample.

<sup>13</sup> Experience with offshoring is not significantly different across experimental conditions.

## **Task**

Participants were provided with case materials related to a hypothetical year-end audit engagement and were asked to review workpapers related to testing investments. The workpapers provided to participants contained seeded errors, allowing review effectiveness to be evaluated. Because materials were administered electronically, time that participants spent reviewing the workpapers was captured automatically. After reviewing experimental materials, participants were instructed to document review notes as they would in practice, and to list any specific errors identified in their review. Participants then responded to manipulation checks, demographic questions, and post-experimental questions capturing general perceptions of both the practice of offshoring and offshore auditors.

## CHAPTER 4

### RESULTS

#### **Hypotheses Tests**

Hypothesis 1a predicts that auditors reviewing procedures performed offshore will detect more errors than will auditors reviewing procedures performed either in-house or at another domestic office of the firm. Hypothesis 1b predicts that auditors reviewing procedures performed offshore will spend more time in workpaper review than will auditors reviewing procedures performed either in-house or at another domestic office of the firm. Because these predictions suggest a specific pattern of cell means, I use contrasts as the primary tests of these hypotheses (Buckless and Ravenscroft 1990). To test whether auditors in the offshore conditions detect more errors or spend more time in review than do auditors in the in-house or other U.S. office conditions (H1a and H1b, respectively), I use a contrast code of 2, 2, -1, -1, -1, -1. Table 4.1 Panel A shows the pattern of cell means using number of errors detected as the dependent variable. The contrast is not significant ( $t$ -statistic = .783,  $p$ -value = .22, one-tailed), therefore H1a is not supported. When considering time spent in workpaper review (analysis untabulated), there are no significant differences across experimental conditions ( $p$ -value > .40, one-tailed), and H1b is similarly not supported. Taken together, these results suggest there is not a main effect for offshoring.

Because hypotheses 2a and 2b predict a significant difference in errors detected and time spent in review only in the in-house/low-judgment and other U.S. office/low-

judgment conditions, I also use contrast coding to test the significance of the hypothesized interaction between the independent variables, with coefficients 1, 1, -2, 1, -2, 1. Again, there is no significant difference in time spent in review across conditions ( $p$ -value  $> .40$ , one-tailed), so H2b is not supported. Turning to number of errors detected, the contrast of cell means also does not reach statistical significance ( $t$ -statistic = 0.684,  $p$ -value = .25, one-tailed). These results suggest that preparer location and level of preparer judgment do not interact to directly impact the review process, and consequently audit quality in a significant fashion. Refer to Figure 4.1, Panels A and B, for a graphical depiction of results of testing Hypothesis 2a and 2b, respectively.

### **Supplemental Analyses**

The analyses described above examine the direct effects of offshoring and level of preparer judgment on the review process. However, determining whether these variables may *indirectly* influence the audit review process provides additional insight into the potential impact of offshoring on reviewer judgments. In order to provide such insight, I capture auditors' perceptions of variables related to offshoring, and then determine whether these perceptions mediate the relationship between the independent variables (preparer location and level of preparer judgment) and the number of errors detected during review. First, participants' perceptions of staff auditor competence and litigation risk are measured. Participants were asked to indicate their confidence on a scale of 0 (not at all confident) to 10 (very confident) that in comparison to staff auditors with whom they normally worked, the staff auditor who completed the procedures reviewed demonstrated an acceptable level of competence. In order to measure perceptions of litigation risk, participants were asked to provide their opinion on a scale of 0 (not very

likely) to 10 (very likely) the likelihood of litigation against their firm related to the hypothetical engagement in question. Given findings of research in workgroup diversity, I expect that preparer location and level of preparer judgment could give rise to concerns regarding the competence of offshore preparers, which could then influence reviewer scrutiny. Similarly, because existing research demonstrates that litigation exposure is greater when procedures are performed offshore (Arel 2012; Lyubimov et al. 2012; Daugherty et al. 2013), I examine the potential mediating effect of perceptions of litigation risk. If reviewers perceive greater potential for litigation, they might appropriately increase scrutiny of procedures performed.

Traditional mediation analysis outlined by Baron and Kenny (1986) delineates three criteria to establish mediation. Before performing mediation analysis under this method, one must first demonstrate a significant effect of the independent variable(s) on the dependent variable, effectively establishing an effect to be mediated. Second, the independent variable(s) must have a significant effect on the proposed mediator, and finally, the proposed mediator must have a significant effect on the dependent variable, controlling for the independent variable(s). However, researchers have recently argued that the first criteria need not be satisfied in order to establish mediation, rather one need only demonstrate that the independent variable(s) significantly affect the mediator, which in turn has a significant effect on the dependent variable (Zhao, Lynch, and Chen 2010; Kenny 2014). Demonstrating these relationships effectively establishes “indirect-only mediation” (Zhao et al. 2010).

Because I do not observe a significant direct effect of preparer location and level of preparer judgment on errors detected, I perform mediation analysis designed to detect

indirect effects. Analysis of variance (ANOVA) is used to examine the relationship between the independent variables and the proposed mediators, perceptions of preparer competence and litigation risk.<sup>14</sup> Results reported in Panel A of Table 4.2 indicate that the impact of preparer location and level of preparer judgment on perceptions of preparer competence is marginally significant (F-statistic = 1.70, p-value = .07, two-tailed). Results similarly suggest that preparer location and level of preparer judgment have a marginally significant effect on perceptions of litigation risk (F-statistic = 1.54, p-value = .09, two-tailed). Regression is used to examine the relationship between perceptions of both competence and litigation risk (the proposed mediators) and the number of errors identified during review (the dependent variable). The coefficient on perceptions of competence is negative and significant (p-value <.01, two-tailed), however, perceptions of litigation risk is not found to be a significant predictor of the number of errors identified during review. These relationships indicate the presence of an indirect-only effect of at least marginal significance wherein preparer location and level of preparer judgment influence the number of errors identified during review through perceptions of preparer competence. Panel B of Table 4.2 shows the pattern of cell means for perceptions of preparer competence by experimental condition. Figure 4.2 represents the model of mediation.

In order to examine the size of this effect, I use PROCESS (Hayes 2013), a computational tool that uses OLS regression to produce coefficient estimates and

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<sup>14</sup> Because participant's experience working on engagements where procedures were performed by employees at another U.S. office of their firm varied across experimental conditions, this variable was initially included as a covariate in the model. However, this variable was found to be insignificant and was therefore removed from the final model. Firm, industry specialty, engagement planning experience, investment testing experience, and general audit experience are not significantly different across experimental conditions.



generate estimates of direct and indirect effects on moderators and mediators, and also controls for the effects of covariates.<sup>15</sup> ANOVA results indicate that preparer location and level of preparer judgment appear to impact perceptions of competence similarly for participants in the in-house and other U.S. conditions, but differently than they do participants in the offshore conditions, which is consistent with my expectations.

ANOVA results shown in Table 4.3 Panel A demonstrate that there is no significant difference in perceptions of competence between the in-house and other U.S. office conditions for the overall model ( $F = .93$ ,  $p\text{-value} = .22$ , two-tailed). Panels B and C of Table 4.3 demonstrate that there are differences of at least marginal significance between the in-house and offshore conditions ( $F = 2.00$ ,  $p\text{-value} = .06$ , two-tailed), and the other U.S. office and offshore conditions ( $F = 2.32$ ,  $p\text{-value} = .04$ , two-tailed), respectively.

Accordingly, I collapse the in-house and the other U.S. office conditions for purposes of the mediation analysis, effectively comparing offshore locations to U.S. locations.

Table 4.4 presents the conditional direct and indirect effects of the model generated by PROCESS (Hayes 2013). Panel A examines the direct (unmediated) effect of location on number of errors detected in review; as expected the direct effect is not significant ( $t\text{-statistic} = 1.20$ ,  $p\text{-value} = .24$ , two-tailed). Panel B displays the indirect effects of the model. PROCESS utilizes a bootstrapping technique to create standard errors of effect sizes, as well as upper and lower confidence intervals of effect sizes. The current analysis used 1000 bootstrap samples to create 95 percent bias-corrected

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<sup>15</sup> PROCESS is documented in Appendix A of Hayes (2013). In addition, the PROCESS v2.13 macro used in the mediation analysis is available for download at: <http://www.processmacro.org/download.html>.

bootstrap confidence intervals. Confidence intervals that do not contain zero indicate a significant effect.

Panel B of Table 4.4 shows the indirect effect of preparer location (independent variable) on number of errors detected during review (dependent variable) at each level of preparer judgment (independent variable) through perceptions of preparer competence (mediating variable). Results indicate a significant negative effect for high judgment, as the confidence interval does not contain zero (p-value <.05, two-tailed). The effect for low judgment is positive, although not significant, as the confidence interval contains zero. This suggests that the indirect effect of preparer location on number of errors detected during review through perceptions of preparer competence depends on the level of preparer judgment required to complete the assigned procedures. The presence of a significant conditional indirect effect is evidence of moderated mediation (Hayes 2013). A contrast of the indirect effect for the high and low judgment conditions obtained by estimating the index of indirect effect of moderated mediation indicates that the effect differs significantly between the two conditions (index of moderated mediation = -1.66, p-value <.05, two-tailed).

Specifically, these results demonstrate that auditors reviewing high-judgment procedures prepared offshore perceived preparers to be more competent, and therefore identified fewer errors during workpaper review. This seems contradictory to auditing standards, which dictate that reviewers should increase effort as procedures performed become more complex in nature. Interestingly, this trend was not observed for participants reviewing procedures performed by U.S.-based preparers.<sup>16</sup> While these

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<sup>16</sup> These results may be due to violation of reviewers' expectations. Specifically, reviewers in the offshore conditions may have had a baseline expectation of incompetence on the part of the preparer (results

results should be interpreted with caution, overall, the findings suggest that while offshoring low-judgment tasks does not significantly impact reviewer judgments, offshoring high-judgment tasks may negatively influence review effectiveness. Consequently, firms should seek to ascertain and carefully consider the potential impact of expanding the complexity of procedures performed offshore.

### **Additional Analyses**

In addition to capturing the proposed mediating variables, my study also included general questions related to participants' experience with offshoring and perceptions related to the education, training, experience, trustworthiness, competence, and ethicality of offshore personnel, as well as the quality of work performed offshore. Although regulators and others have expressed concerns regarding the training, skills, and experience of offshore personnel (Daugherty and Dickins 2009; Whitehouse 2009; Aubin and Chatterjee 2012), extant research provides little insight into how auditors perceive the skills and abilities of offshore personnel.<sup>17</sup> Capturing participants' perceptions of offshoring and offshore personnel not only provides evidence as to whether the theory underlying my predictions is operating, but also documents auditors' perceptions of this emerging practice and the personnel involved.

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outlined in additional analyses are consistent with such an expectation). However, participants in the offshore/high judgment condition may have interpreted the fact that offshore personnel were given the opportunity to exercise judgment in selecting audit procedures as a signal of competence. The experimental materials indicated that offshore preparers were as conscientious and cooperative as other offshore preparers of the firm, and in reality, offshore preparers do not normally select procedures to be performed. Therefore it does not seem unreasonable that a participant might perceive an offshore preparer who selected procedures to be more competent than the average offshore preparer. This may have resulted in less scrutiny of procedures performed than would normally be observed with procedures performed offshore, whereas the opposite was true of participants reviewing procedures performed by U.S.-based preparers. However, as the current study does not provide specific evidence to support this possibility, this is a question best explored by future research.

<sup>17</sup> Though practitioner and academic literature is relatively silent on this subject, comments found on blog posts tend to be overwhelmingly negative (e.g. <http://goingconcern.com/2011/7/what-if-20-percent-of-an-audit-was-performed-offshore>).

In order to capture perceptions of offshoring, participants were asked to indicate the extent of their agreement with certain statements about audit engagements that include an offshoring component on a scale of 1 (strongly disagree) to 7 (strongly agree). Panel A of Table 4.5 reports perceptions about the practice of offshoring. Participants believed that getting team members to cooperate becomes more difficult as physical distance between team members increases (p-value <.01, two-tailed). Participants also agreed that opportunities for effective supervision by engagement executives decreases as physical distance between team members increases (p-value <.01, two-tailed). However, participants did not believe that litigation risk was higher for engagements that include offshoring, which is somewhat surprising given the findings of existing literature. Specifically, studies examining the impact of offshoring on auditors' legal liability suggest that the practice may result in greater litigation exposure for firms that experience an audit failure (Arel 2012; Lyubimov et al. 2012; Daugherty et al. 2013). However, the results of the current study suggest that auditors "in the trenches" do not perceive increased litigation risk for engagements that include offshoring. These results suggest that if firms are aware of increased litigation exposure associated with offshoring, this knowledge is not being disseminated to auditors of lower rank. Accordingly, firms should consider whether appropriate responses to increased exposure include increasing awareness of litigation risk associated with offshoring among audit seniors and staff.

Panel B of Table 4.5 provides a test of differences in perceptions of offshore auditors and in-house auditors. Participants were asked to indicate whether several statements better described auditors at their local office or offshore auditors. Responses were measured on a scale of 1 (better describes offshore auditors) to 7 (better describes

local office auditors), with a midpoint of 4 (describes both equally well). In general, participants believed that auditors at their local offices are considered members of the engagement team, perform important work, have the skills necessary to successfully interact and communicate with clients, and are technically competent and trustworthy (all p-values <.01, two-tailed). In addition, participants believed that auditors at their local offices have sufficient experience to perform audit procedures, and are well educated, well-trained, and well-compensated (all p-values <.01, two-tailed). Conversely, participants believed that offshore auditors provide lower quality work, and may be less engaged or motivated to perform assigned procedures (p-values <.01, two-tailed). Participants believed that either group may engage in unethical behavior.<sup>18</sup>

These results provide evidence that U.S.-based reviewers view offshore auditors as out-group members. In fact, participants were far less likely to describe offshore auditors as being considered members of the engagement team. This is contrary to existing research documenting that firms deem offshore personnel and U.S.-based personnel assigned to the same engagements as members of a single engagement team (Daugherty et al. 2012). In addition, participants were less likely to consider offshore auditors as qualified, competent, or trustworthy as their U.S. counterparts, and were more likely to consider offshore auditors less motivated than their U.S. counterparts. In short, positive attributes included in the list were more likely to be attributed to auditors at the local office, while negative attributes included in the list were more likely to be attributed to offshore auditors, which is generally consistent with findings of research in workgroup diversity. I captured differences in perceptions related to compensation, work product

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<sup>18</sup> The order in which participants viewed these statements was randomized.

quality, importance of assigned work, and motivation between the two groups of auditors because these elements have been associated with status differentials (Metiu 2006). Results suggest that participants may view offshore auditors as lower-status, which may contribute to in-group/out-group dynamics in engagement teams that include offshore personnel.

TABLE 4.1 – TESTS OF HYPOTHESES 1A AND 2A

**Panel A: Mean Errors Identified**

Location Conditions	Level of Preparer Judgment				Row Means	
	Low		High			
Offshore	Mean =	7.08	Mean =	7.46	Mean =	7.26
	Std. dev. =	3.70	Std. dev. =	5.87	Std. dev. =	4.75
	n =	12	n =	11	n =	23
Other U.S.	Mean =	5.27	Mean =	5.79	Mean =	5.56
	Std. dev. =	2.53	Std. dev. =	3.33	Std. dev. =	2.96
	n =	11	n =	14	n =	25
In-house	Mean =	7.29	Mean =	7.19	Mean =	7.23
	Std. dev. =	3.63	Std. dev. =	4.15	Std. dev. =	3.85
	n =	14	n =	16	n =	30
<b>Column Means</b>	Mean =	6.62	Mean =	6.78		
	Std. dev. =	3.39	Std. dev. =	4.38		
	n =	37	n =	41		

**Panel B: Test of Hypothesis 1a**

Planned Contrast	t-statistic	df	p-value
Auditors reviewing procedures performed offshore will detect more errors than will auditors reviewing procedures performed either in-house or at another domestic office of the firm.	0.78	24 <sup>a</sup>	0.22 *

**Panel C: Test of Hypothesis 2a**

Planned Contrast	t-statistic	df	p-value
Auditors reviewing low-judgment procedures performed in-house or at another U.S. office of the firm will detect the fewest errors during workpaper review.	0.68	52 <sup>a</sup>	0.25 *

<sup>a</sup> The test is adjusted for unequal variances.

\* One-tailed

TABLE 4.2 – TESTS OF PERCEPTIONS OF PREPARER COMPETENCE OVERALL

**Panel A: ANOVA Results - Overall**

Perceptions of Preparer Competence					
	df	MS	F-statistic	p-value	
Location	2	3.00	0.71	0.25	**
Judgment	1	2.55	0.60	0.22	**
Location*Judgment	2	14.53	3.43	0.02	**
Error	72	4.24			
<b>Total</b>	<b>77</b>				

**Panel B: Mean Perceptions of Preparer Competence**

Level of Preparer Judgment						
Location Conditions	Low		High		Row Means	
	Offshore	Mean =	2.92	Mean =	4.91	Mean =
	Std. dev. =	2.31	Std. dev. =	2.47	Std. dev. =	2.55
	n =	12	n =	11	n =	23
Other U.S.	Mean =	4.27	Mean =	3.14	Mean =	3.64
	Std. dev. =	1.56	Std. dev. =	2.03	Std. dev. =	1.89
	n =	11	n =	14	n =	25
In-house	Mean =	3.14	Mean =	3.38	Mean =	3.27
	Std. dev. =	2.11	Std. dev. =	1.82	Std. dev. =	1.93
	n =	14	n =	16	n =	30
<b>Column Means</b>	Mean =	3.41	Mean =	3.71		
	Std. dev. =	2.06	Std. dev. =	2.16		
	n =	37	n =	41		

\*\* Two-tailed



TABLE 4.3 – TESTS OF PERCEPTIONS OF PREPARER COMPETENCE BETWEEN CONDITIONS

*Panel A: ANOVA Results - In-house vs. Other U.S. Office Conditions*

Perceptions of Preparer Competence					
	df	MS	F-statistic	p-value	
Location	1	2.72	0.75	0.20	**
Judgment	1	2.72	0.75	0.20	**
Location*Judgment	1	6.26	1.72	0.10	**
Error	51	3.99			
<b>Total</b>	<b>54</b>				

*Panel B: ANOVA Results – In-house vs. Offshore Conditions*

Perceptions of Preparer Competence					
	df	MS	F-statistic	p-value	
Location	1	5.55	1.20	0.14	**
Judgment	1	16.06	3.46	0.03	**
Location*Judgment	1	10.06	2.17	0.07	**
Error	49	4.64			
<b>Total</b>	<b>52</b>				

*Panel C: ANOVA Results – Other U.S. Office vs. Offshore Conditions*

Perceptions of Preparer Competence					
	df	MS	F-statistic	p-value	
Location	1	0.50	0.11	0.37	**
Judgment	1	2.21	0.49	0.24	**
Location*Judgment	1	28.96	6.45	0.01	**
Error	44	4.49			
<b>Total</b>	<b>47</b>				

\*\* Two-tailed

TABLE 4.4 – MEDIATION ANALYSIS: CONDITIONAL DIRECT AND INDIRECT EFFECTS

*Panel A: Conditional Direct Effect of Preparer Location on Number of Errors Detected*

Effect	SE	t-statistic	p-value
1.0925	0.9141	1.1952	.2358 **

*Panel B: Conditional Indirect Effect of Preparer Location on Number of Errors Detected at Level of Preparer Judgment as Mediated by Perceptions of Preparer Competence*

Level of Preparer Judgment	Effect	SE(Boot)	BootLLCI	BootULCI
Low	0.5082	0.5666	-0.6374	1.6498
High	-1.1539 <sup>a</sup>	0.6654	-2.6830	-0.0331

<sup>a</sup> Indicates significance at  $p < .05$ , two-tailed

\*\* Two-tailed

TABLE 4.5 – PERCEPTIONS OF OFFSHORING AND OFFSHORE AUDITORS

**Panel A: Perceptions of Offshoring**

Statement	Mean (StD)	T-test: Mean = 4
Getting team members to cooperate becomes more difficult as physical distance between team members increases.	5.17 (1.29)	t = 7.97 <sup>a</sup>
As physical distance between engagement team members increases, the opportunities for effective supervision by the lead senior, manager, and partner decrease.	5.39 (1.21)	t = 10.12 <sup>a</sup>
Litigation risk is likely to be higher for engagements that include offshoring.	3.886 (1.33)	t = -0.94

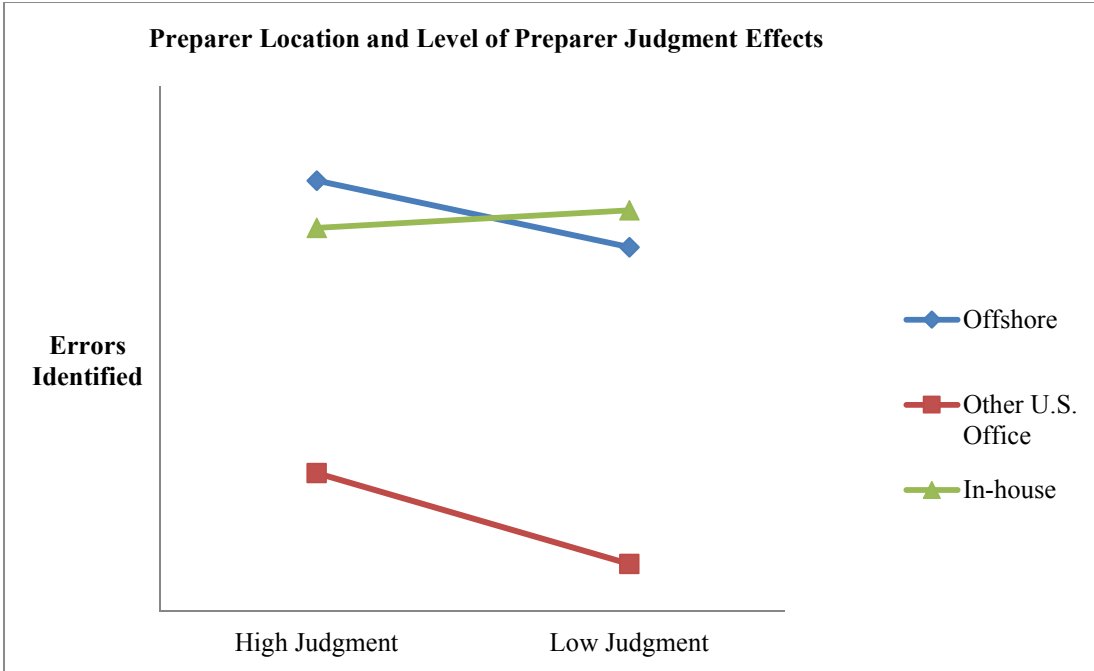
Questions were measured on a 7 point scale with 1 labeled “Strongly Disagree,” 4 labeled “Neither Agree nor Disagree,” and 7 labeled “Strongly Agree.”

**Panel B: Perceptions of Offshore Auditors**

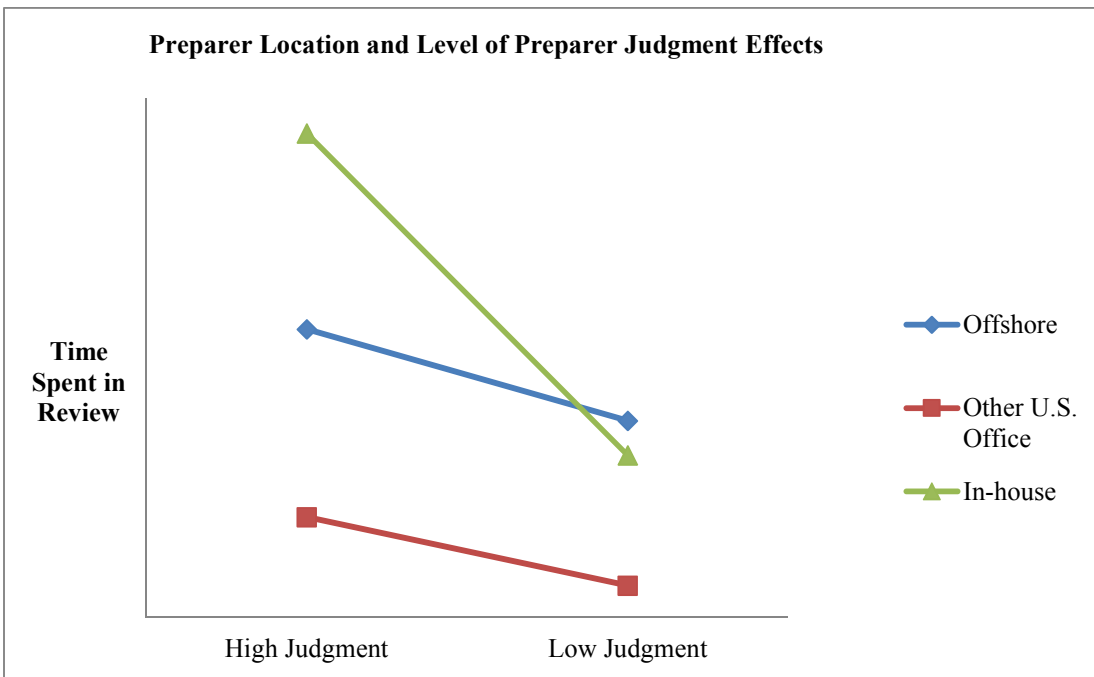
Statement	Mean (StD)	T-test: Mean = 4
Are considered members of the engagement team	5.55 (1.26)	t = 10.74 <sup>a</sup>
Perform important work	5.55 (1.29)	t = 10.49 <sup>a</sup>
Provide lower quality work	2.91 (1.17)	t = -8.17 <sup>a</sup>
May engage in unethical behavior	3.86 (0.88)	t = -1.42
May be less engaged or motivated to perform assigned procedures	3.39 (1.28)	t = -4.19 <sup>a</sup>
Have the skills necessary to successfully interact and communicate with clients	5.62 (1.30)	t = 10.97 <sup>a</sup>
Are technically competent	5.04 (1.13)	t = 8.08 <sup>a</sup>
Are trustworthy	4.49 (0.97)	t = 4.47 <sup>a</sup>
Have sufficient experience to perform audit procedures	4.96 (1.21)	t = 6.98 <sup>a</sup>
Are well educated	4.84 (1.11)	t = 6.66 <sup>a</sup>
Are well trained	4.88 (1.22)	t = 6.32 <sup>a</sup>
Are well compensated	5.07 (1.28)	t = 7.30 <sup>a</sup>

Questions were measured on a 7 point scale with 1 labeled “Better Describes Offshore Auditors,” 4 labeled “Describes Both Equally Well,” and 7 labeled “Better Describes Auditors at Local Office.”

<sup>a</sup> Indicates significance at p < .05, two-tailed

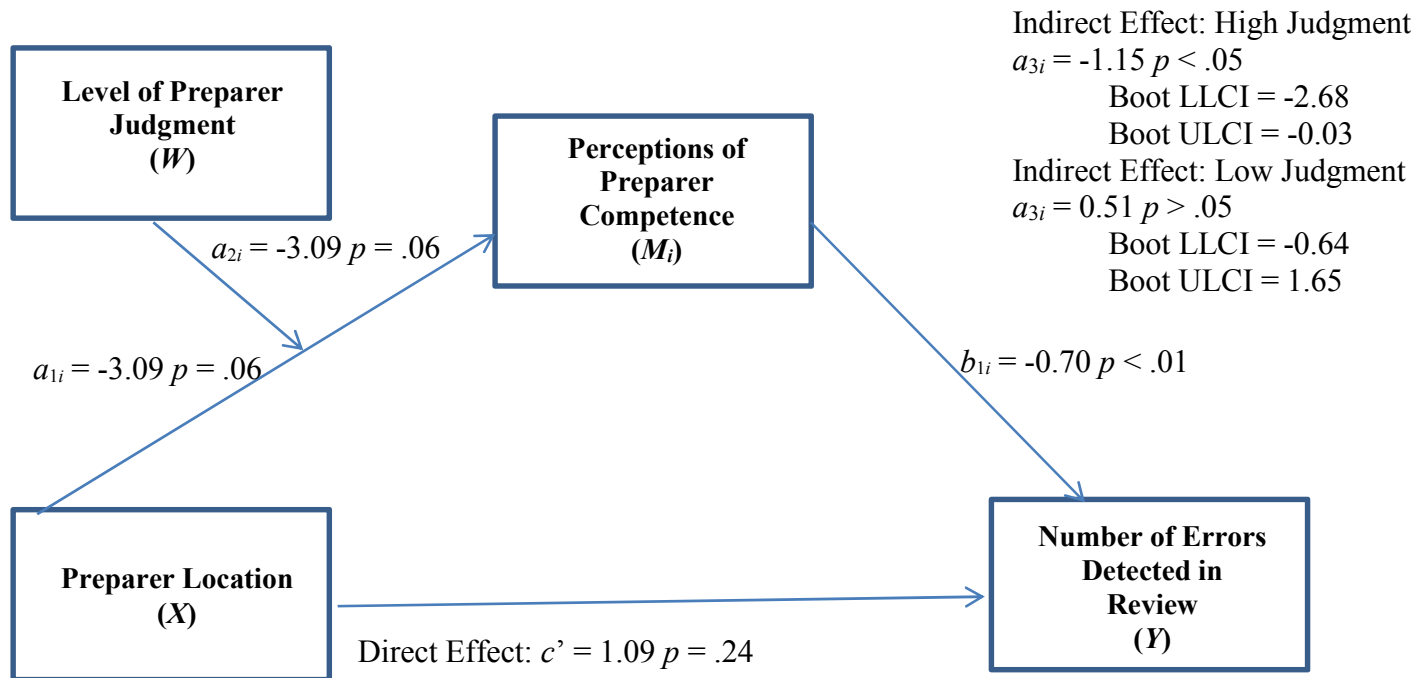


Panel A – Hypothesis 2a Results



Panel B – Hypothesis 2b Results

FIGURE 4.1 – RESULTS



Conditional indirect effect of  $X$  on  $Y$  through  $M_i = (a_{1i} + a_{3i} W)b_i$   
 Direct effect of  $X$  on  $Y = c'$

FIGURE 4.2 – MODEL OF MEDIATION<sup>19,20</sup>

<sup>19</sup> Adapted from Hayes (2013, Model 7)

<sup>20</sup> PROCESS is documented in Appendix A of Hayes (2013). In addition, the PROCESS v2.13 macro used in the mediation analysis is available for download at: <http://www.processmacro.org/download.html>.

## CHAPTER 5

### CONCLUSION

In recent years the move by the large international accounting firms to offshore certain routine audit tasks related to U.S.-based engagements has led to critics claiming too much emphasis is placed on efficiency at the expense of audit quality (e.g., Daugherty and Dickins 2009; Aubin and Chatterjee 2012; Daugherty et al. 2012). While critics have been vocal in their opposition, the practice of offshoring appears to be increasing in prevalence, and research has only begun to explore the implications of offshoring for auditors, clients, regulators, and users of audited financial statements. The existing literature has focused primarily on how offshoring impacts perceptions of audit quality (e.g. Arel 2012; Lyubimov et al. 2012; Chan and Moser 2013; Daugherty et al. 2013). However, because research exploring offshoring has been relatively sparse (Chan and Moser 2013; Hanes 2013), questions regarding the potential implications of offshoring on audit effectiveness remain largely unaddressed. By investigating whether offshoring and level of preparer judgment combine to negatively influence the audit review process, an important quality control mechanism, the current study shares insight on the potential impact of offshoring on overall audit quality.

Overall the results of this study suggest that offshoring low-judgment tasks does not negatively influence the review process, but that further exploration of how expanding the complexity of procedures performed offshore may impact the review process is warranted. Further insight into the impact of offshoring and level of preparer

judgment on the effectiveness of review is provided by mediation analysis. Evidence suggests that preparer location and level of preparer judgment interact to impact perceptions of preparer competence, which in turn has a significant impact on the number of errors identified during workpaper review. Specifically, auditors reviewing high-judgment procedures performed offshore perceived preparers to be more competent and subsequently identified fewer errors during workpaper review than did auditors reviewing either low-judgment procedures performed offshore or procedures performed by U.S.-based reviewers. Consequently, firms will want to carefully consider the potential consequences of increasing the complexity of tasks performed offshore.

There are limitations inherent in the present study. First, participants in this study do not have all the information they would normally have when reviewing workpapers in practice. If reviewers incorporate other information present in the audit environment into evaluations of procedures performed, the scrutiny applied to procedures performed offshore may change. In addition, though the level of judgment exercised by preparers is manipulated in the present study, the experimental task requires preparers to make objective judgments. To the extent that offshore preparers are required to complete audit tasks that require more subjective judgments (i.e., tasks involving complex accounting issues or significant estimates, etc.), reviewer judgments may change. Finally, this study considers only a single level of review, at the senior level. In practice, review is conducted at multiple levels; a single workpaper may actually undergo up to five levels of review during the course of an audit. If audit seniors are expecting more or less scrutiny by managers or partners, judgments made during this first level of review may change. Accordingly, caution should be used when generalizing the results. However, the

findings of the proposed study should be useful to establish an understanding of how offshoring and level of preparer judgment impacts reviewer judgments. Future research may investigate how other factors present in the audit environment, and how varying the nature of tasks performed offshore, and how expectations regarding manager and partner review might impact the review process and shed further insight into the impact of offshoring on overall audit quality.



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