Facilitating Configural Processing Within the Audit Team:
An Additional Benefit of the SAS 99 Fraud Brainstorming Session

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ABSTRACT

This study considers the ability of the audit team to configurally process information, that is, to piece together information cues held by individual team members and recognize the underlying pattern in the information. It examines how the hierarchical structure of the audit team impacts the team's ability to process information and affects the quality of decisions made by the team. The study also considers the ability of a specific audit procedure, the fraud brainstorming session required by Statement on Auditing Standards No. 99, to overcome barriers to communication and improve team judgments in subsequent tasks. I recruited 57 dyads (114 professional auditors) from public accounting firms to complete an experimental instrument, and employed a 2x2 between-groups ANOVA, manipulating team structure (peer versus hierarchical teams) and the level of the counterfactual prime (team brainstorming session versus individual strategic prompting).

I find evidence of a relationship between team structure and judgment quality, but interestingly it is in the opposite direction predicted. Research from other domains suggests differences in status within the hierarchical team may hinder communication and lead to process losses. However, I find the opposite to be true in the accounting domain. When auditors are paired in hierarchical dyads, the senior auditor assumes a leadership role, taking greater interest in the content of his/her teammate's workpapers, asking more questions, and motivating the staff auditor to volunteer a greater amount of information, which results in a higher quality judgment. Thus, this study provides initial evidence that the hierarchical nature of the audit team does not

lead to the process losses documented in other domains as the assumption of a leadership role by the senior auditor allows the team to overcome any challenges inherent in the hierarchical structure.

This study also considers the ability of the SAS 99 fraud brainstorming session, serving as a counterfactual prime, to lead to improved decisions later in the audit process. As predicted, the brainstorming session conducted during the planning stage of the audit increases the amount and quality of communication during the testing phase and leads to better judgments. These results are of importance for accounting firms as they determine which audit team members should be required to participate in the brainstorming session. While a novice auditor may not make significant contributions to the planning decisions made during the brainstorming session, my study finds there are benefits from staff auditors participating in the brainstorming session, over and above what they are able to contribute to the session itself. Participation of staff auditors in the brainstorming session strengthens communication and enhances team-level cognition in subsequent tasks, improving the ability of the audit team to detect fraud throughout the course of the audit. These findings may be relevant for other forms of teamwork, including management teams, audit committees, and interdepartmental taskforces.

DEDICATION

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CHAPTER ONE
INTRODUCTION

This study considers the ability of the audit team to process patterns of information when interrelated cues are distributed among team members. Two decades of research have shown configural processing is essential for numerous audit judgments including planning decisions (Brown and Solomon, 1990; Maletta and Kida, 1993; Kerr and Ward, 1994), hypothesis development (Bedard and Biggs, 1991), assessment of misstatement (Brown and Solomon, 1991; Hammersley, 2006), and reporting decisions (Johnson, Jamal, and Berryman, 1991), but these studies have focused on the ability of auditors to configurally process information as individuals. In contrast, audits are typically conducted by multi-member hierarchical teams in which each individual auditor is tasked with completing one or more specific audit procedures under an appropriate level of supervision. This study furthers extant literature by considering the judgment of an audit team when interdependent cues are dispersed throughout the team such that members must pool their individual cues to recognize the underlying configuration and make the optimal decision. Findings from psychology suggest that, in such a scenario, the hierarchical structure of the audit team may result in suboptimal judgments when staff auditors hold unique information critical to the decision (Hollingshead, 1996). This study manipulates team structure to determine if the judgments of hierarchical teams differ from those of teams comprised of equal-status members ("peer teams").

The study also examines whether a brainstorming session mitigates such process losses, thus facilitating configural processing within the audit team. My prediction that the brainstorming session can impact judgments made during the testing phase of the audit is based on two concepts. First, certain tasks have a cascade effect that impacts performance in later tasks. Secondly, the nature of the brainstorming session serves as a counterfactual prime which is likely

to affect subsequent judgments. Rau and Moser (1999) provide evidence that performance of audit tasks can affect judgments made in successive audit tasks. Literature from psychology (e.g., Liljenquist, Galinsky, and Kray, 2004) suggests the brainstorming session required by Statement on Auditing Standards No. 99 (AIPCA 2002) *Consideration of Fraud in a Financial Statement Audit* ("SAS 99") is another procedure likely to affect judgment in successive tasks. The brainstorming session requires auditors to engage in counterfactual thinking, in that it asks auditors to consider alternatives to reality or to ask themselves "What if fraud were present…?". Kahneman and Tversky (1982) suggest individuals answer such complex questions by running a simulation model in their mind. Research has found this simulation mindset, once activated, persists to affect judgments on subsequent tasks (Galinsky and Moskowitz 2000). Yet the level of activation is critical. Liljenquist et al. (2004) found activating the counterfactual mindset at the individual level led to deficiencies in the group judgment, whereas activating the mindset at the group level led to improvements in judgment quality. By activating the simulation mindset at the group level, the brainstorming session is expected to enhance communication, facilitate configural processing by the audit team, and ultimately result in a higher quality judgment. Thus the brainstorming session is expected to increase the quality of judgments made by a hierarchical team to approach that of a peer team.

This study considers three research questions:

RQ1: How does the hierarchical structure of the audit team affect the pooling of information and development of an accurate problem representation?

RQ2: How does the SAS 99 fraud brainstorming session influence judgments of the audit team made during the testing phase of the audit?

RQ3: Does the effect of the SAS 99 fraud brainstorming session differ in strength based on the structure of the audit team?

To address these questions, I recruited 57 pairs (114 auditors) from public accounting firms and asked them to complete substantive testing of accounts receivable. I examined the ability of these dyads to integrate interrelated cues as they formed a judgment regarding whether accounts receivable is fairly stated. The task, a modified version of Asare, Haynes, and Jenkins (2007), required team members to pool their individual cues to make the optimal decision. Using a 2x2 design, I manipulated the structure of the dyad (hierarchical teams, such as one senior and one staff, versus peers teams with members of equal status) and the level of counterfactual priming (individual strategic prompting versus team brainstorming session) to determine the effect of these elements on the team judgment.

Findings from this study indicate that, contrary to prediction, hierarchical teams outperform peer teams. When assigned to a hierarchical dyad, the senior auditor takes on the responsibility of leadership, expressing interest in the subordinate's workpapers, seeking out cues included in the subordinate's workpapers by asking additional questions, and motivating the staff auditor to volunteer more information. The enhanced communication of the hierarchical team leads to superior judgment quality. This study provides initial evidence that communication within audit teams is not hindered by the differences in status inherent in hierarchical teams, since the assumption of leadership by the highest-ranking auditor enables the team to overcome any barriers to communication.

The study finds support for the hypothesis that the impact of the fraud brainstorming session cascades over to affect behavior and judgments of the audit team in subsequent tasks. It enhances the quality of team communication on subsequent tasks and leads to higher quality

judgments. This study identifies benefits of the fraud brainstorming session previously overlooked in academic literature that are of great importance for practitioners.

This study makes several contributions to the accounting literature. Extant literature has shown the SAS 99 brainstorming session enhances the quality of the audit by prompting higher quality judgments during the planning session. This is the first paper, of which I am aware, to identify benefits from the SAS 99 brainstorming session cascading over to affect judgments made during the testing phase of the audit. This paper extends the stream of literature on configural processing by being the first audit study to examine the cognitive process at the group level. It further extends literature on audit teams as one of the first to consider whether process losses are generated by specific elements of the audit environment (i.e., hierarchical structure). The results of this paper are informative for audit practice since identifying additional benefits generated by the SAS 99 brainstorming session may shift the scales as firms weigh the cost and benefits of requiring all members of the engagement team to participate in a high quality brainstorming session at the onset of every audit.

The remainder of this paper is organized as follows. Chapter Two provides a summary of extant literature from accounting, psychology, communication and other relevant domains, then develops the specific hypotheses for examination. Chapter Three describes the research methodology including the research design, the experimental instrument, and the variables of interest. Chapter Four details the data analysis from preliminary descriptive statistics to tests of hypotheses and supplemental analysis. Chapter Five concludes the paper with a discussion of the findings and contributions, identification of limitations, and suggestions for future research.

CHAPTER TWO
BACKGROUND AND RELATED LITERATURE

This chapter provides a summary of the literature relevant to the research questions addressed in this study. It then develops the formal hypotheses tested in this paper.

2.1 Literature Review

This paper draws on numerous topics from accounting and psychology literature to cultivate hypotheses regarding the ability of an audit team to configurally process information. First, I summarize literature on configural processing, including measures of processing quality developed in accounting literature. Next, I develop the concept of process gains and losses, explaining why judgments of an audit team may differ from those of individual auditors and how the hierarchical structure of a team may hinder its ability to fully process information. Finally, I encapsulate research on both cascade effects and counterfactual priming which together serve as the foundation for the brainstorming intervention applied in this study.

2.1.1 Configural Processing

My proposed study seeks to facilitate configural processing within the audit team. "Configural information processing is cognition in which the pattern (or configuration) of stimuli is important to the subsequent judgment/decision" (Brown and Solomon, 1990, p. 19). Thus, individual cues are not confined to a linear additive effect, rather a specific combination of interrelated cues may significantly affect the final judgment. Brown & Solomon (1990) were the first to find evidence of configural processing within the accounting domain. Using an experimental design, they found the presence of compensating controls (i.e., secondary controls designed to prevent or detect the occurrence of fraud) had greater weight on auditors' evaluations of control risk when primary segregation-of-duties controls were absent.

Since that time, research has found configural processing is critical to a wide variety of audit judgments related to planning (Maletta and Kida, 1993; Kerr and Ward, 1994), hypothesis development (Bedard and Biggs, 1991), assessment of misstatement (Brown and Solomon, 1991; Hammersley, 2006), and reporting (Johnson et al., 1991). Using verbal protocol analysis in a hypothesis generation task, Bedard and Biggs (1991) learned auditors have difficulty processing configurations of financial data. Participants were provided with a set of financial statements and told only one error generated all discrepancies between the projected and actual year-end amounts. The seeded error, a misallocation of costs to overhead, could only be identified by considering the four critical discrepancies as a pattern. Alternative explanations (e.g., a large year-end purchase) could explain only a subset of the fluctuations. Bedard and Biggs found that while some auditors simply failed to identify the key fluctuations, others acquired all four cues but failed to recognize linkages between the data.

Bierstaker, Bedard, and Biggs (1999) extended the Bedard and Biggs (1991) study by examining an auditor's ability to shift problem representations. Problem representations are the knowledge structures developed by an individual for completion of a particular task. They incorporate external cues, knowledge previously stored in memory, and abstractions (i.e., information not specifically provided, such as evaluations or explanations of information provided in the case) (Christ, 1993; Hammersley, 2006). By design, all fourteen senior auditors participating in Bierstaker et al.'s study initially formed an incorrect problem representation based on distractor information provided in the task. Only one auditor was able to reinterpret the data and shift to the optimal problem representation without intervention, but eleven more were able to make corrective adjustments with prompting. Bierstaker et al. (1999) concluded the key to ultimately developing an accurate problem representation was a full understanding of

relationships between the data. Together, Bierstaker et al. (1999) and Bedard and Biggs (1991) create a foundation for the measure of problem representation developed by Christ (1993) and implemented in the current study.

Christ (1993) established a measure of problem representation to assess an individual's level of understanding of a given situation. Christ hypothesized that novice auditors focus on surface details while experienced auditors develop a deeper understanding of the problem. Comparing the free recall of novices and experts after reading 20 pages of client data and completing related planning procedures, Christ found support for her hypothesis as managers and partners included a greater number of abstractions than staff and seniors. In this study I use the measure of problem representation developed by Christ to assess teams' cognitive processes while completing the experimental task.

In their 2006 study, Lehman & Norman found the opposite is true; experienced auditors listed fewer relationships than novice auditors, reflecting a more concise problem representation. These findings suggest expected differences in knowledge structures or problem representations may be task-specific. Importantly, Lehman and Norman (2006) found certain task-specific concepts (e.g., cash flow and line of credit) were critical to the resulting judgment regardless of a participant's level of experience. The precedence of problem representation over experience level is a key consideration in the design of my study since my manipulation of team structure introduces not only the desired differences in rank, but also differences in experience.

Hammersley (2006) implemented Christ's (1993) measure of problem representation when she studied the ability of auditors to detect partial cue patterns. As motivation for her study, she noted the multi-person environment in which auditors work "makes it likely that individual audit-team members receive partial-cue patterns. While the team collectively may

receive all of the cues, no single team member may possess the full pattern. The team member receiving each cue must recognize its potential importance or communicate it to other team members in order to detect the misstatement" (p. 312). My study is based on similar motivation, but considers the problem from a different angle. While Hammersley (2006) offers evidence that industry specialists are able to detect partial cue patterns, my study considers the ability of non-specialist audit staff members to recognize and communicate important cues to a supervising auditor, enabling the team to develop an appropriate problem representation and make an accurate judgment.

2.1.2 Process Gains and Losses

Accounting literature provides persuasive evidence that group judgments are superior to those of individuals for numerous decisions including disclosure of contingent liabilities (Schultz and Reckers, 1981; Reckers and Schultz, 1982), probability assessments of potential misstatement in inventory and accounts receivable (Solomon, 1982; Trotman, 1985), and internal control evaluations (Trotman and Yetton, 1985). While most group studies in the accounting domain focus on process gains, Bedard et al. (1998) provide the notable exception. They use verbal think-aloud protocols to study both gains and losses generated by groups of three seniors as they complete analytical review procedures and seek to identify the likely cause of fluctuations.

Thus, extant literature provides strong evidence of process gains generated by groups making audit judgments, but it is important to note that research has focused primarily on audit groups rather than teams. Rich, Solomon and Trotman define audit groups as a "collection of auditors who are assigned to solve some problem or perform some task together." Each member is provided with the same set of information and the group is asked to come to consensus on a

decision. An audit team, however, describes "the set of auditors who are assigned collectively to plan and execute the audit" (1997, p. 90). This concept encompasses the hierarchical structure of the audit team, the practice of delegating tasks to individual auditors, and the need to incorporate appropriate levels of supervision and review.

In general, studies considering the decision of more than one auditor have focused on audit groups (see literature reviews by Solomon, 1987 and Rich et al., 1997) in which each participant has access to all available information. While there are certainly instances in which a group collectively makes an audit decision based on one set of information (e.g., brainstorming sessions), the majority of audit procedures are delegated to individual members of the team and completed under supervision (AICPA, 2006). Extant research on audit teams has focused on the hierarchical review process rather than decisions made by auditors with differing subsets of information. As this study considers the effect of the hierarchical structure on decisions made by the audit team, I also referenced research from other domains for guidance.

Studies on organizational psychology and communication suggest the audit team may have difficulty integrating relevant information obtained by its individual members. A stream of research spawned by Stasser and Titus (1985), often referred to as "hidden profile" research, has found teams frequently fail to recognize the overall pattern in distributed information due to biased information sampling within group discussions. This type of process loss occurs in a variety of settings including political evaluations (Stasser and Titus, 1985), investment allocation (Hollingshead 1996), hiring decisions (Wittenbaum, 1998), and medical diagnoses (Larson, Christensen, Abbot, and Franz, 1996).

This line of research has examined how elements of both the group and the task itself affect decision quality (see review by Wittenbaum, Hollingshead, and Botero, 2004), and several

findings are particularly relevant in the accounting domain. Individuals have greater difficulty detecting the optimal solution when the task is judgmental (i.e., make your best judgment) versus intellective (i.e., identify the correct answer) (Stasser and Stewart, 1992). The challenge is further increased when interrelated cues are distributed to different team members (Fraidin 2004). In general, the exchange of unique information (i.e., held by only one member of the team) increases with the length of discussion (Parks and Cowlin, 1995). Additionally, members high in expertise and/or status contribute more unique information than those low in these dimensions (Stewart and Stasser, 1992; Wittenbaum, 1998).

The impact of expertise and status is of particular interest in this study as differences in status are inherent in the hierarchical structure of the audit team. Status is a broad construct in psychology research, encompassing any "characteristic around which differences in cognitions and evaluations of individuals or social types of them come to be organized" (Berger and Zelditch, 1977, p. 5). Differences in status are expected to impact the behavior of individuals based on the expectation states theory, which suggests that people use status characteristics as a means of estimating the usefulness of each individual's potential contribution to the group (Berger, Cohen, and Zelditch, 1966). These expectations lead to an informal allocation of speaking time with greater time reserved for members with the highest status and therefore the greatest expected contribution (Berger and Conner, 1969). Literature on status has found its effect on group communication and decision-making is robust to various methods of operationalization including characteristics both relevant (e.g., cognitive ability, task-specific experience) and irrelevant (e.g., race, gender, age, socioeconomics) to the experimental task.[1] High status members consistently exhibit greater levels of participation in discussions and

[1] See the review in this area by Bonito and Hollingshead (1997).

stronger influence over group decisions across a broad spectrum of groups including medical advisory boards (Skvoretz, 1981), nursing teams (Bloom, 1980), university research councils (Pauchet, 1982), and classroom workgroups (Tammivaara, 1982).

When expertise and status are correlated, as they are in audit firms, high-status members (e.g., partners, fraud specialists) can guide the team toward the optimal decision because they exert more influence over the final decision (Berger, Cohen, and Zelditch, 1972; Bonito and Hollingshead, 1997). However, Hollingshead (1996) raises a concern that serves as a partial basis for this study. She designed a hidden profile task in which low-status members have unique information critical to the decision task. Using undergraduate students, Hollingshead (1996) manipulated group structure at two levels – equal status groups, comprised of all freshman, and mixed status groups consisting of two seniors and one freshman. As hypothesized, mixed status groups made lower quality decisions than groups with members of equal status. The results of her study raise the question addressed in my dissertation – whether the hierarchical structure of the audit team may hinder staff auditors from fully sharing information that only they possess.

Two studies extend this line of research by considering the repetition of information within a team of physicians during a medical diagnosis task. Larson et al. (1996) studied a three-member hierarchical team consisting of one resident (medical doctor with two years of clinical experience), one intern (medical doctor with one year of clinical experience), and one medical student (in the third year of medical school). Similar to prior studies, they found the best predictor of judgment quality was the number of unique cues shared. They further found that status also predicts the level of participation in continuing discussions (i.e., repetition of information). The resident made the greatest contribution to team discussion, followed by the intern, and finally the medical student.

A later study by Larson, Christensen, Abbot, and Franz (1998) attempted to disentangle the effects of experience and status. The researchers once again studied the decision-making process of a three member hierarchical team, but for this study the team included two interns with equal levels of training and experience, and one medical student. At the onset of the study, leadership of the team was randomly assigned to one of the two interns via a coin toss. With this design, Larson et al. found status has a significant effect on the team's communication pattern even after controlling for experience. The leader with the greatest status also has the highest level of group participation (again measured by the repetition of information), followed by the second intern, and finally the medical student.

Thus, research from other domains suggests the nature and/or level of interaction between two auditors of equal status (e.g., two seniors) likely differs from that of a hierarchical dyad (e.g., one staff and one senior). My study considers whether findings from psychology hold in the auditing domain and the hierarchical nature of the audit team prevents complete integration of unique information possessed by staff auditors. My study further examines the ability of the SAS 99 fraud brainstorming to mitigate process losses generated by the audit team. The anticipated effect of the priming task is grounded in both the ability of tasks to impact subsequent performance (i.e., cascade effects) and the psychological nature of the brainstorming session (i.e., counterfactual prime).

2.1.3 Cascade Effects

My use of the brainstorming session as an intervention to enhance team judgments relies on its ability to affect subsequent tasks. Extant literature has found audit tasks are interrelated such that completion of one audit procedure may have effects that cascade over to affect judgments made by the auditor in successive tasks. Rau and Mosure (1999) found audit

procedures conducted prior to a going concern evaluation affected auditors' judgments on the second task. Senior auditors were provided with background information and two years of financial statements for a client. Participants were randomly assigned to one of three conditions – positive, negative, or control – but all participants received the exact same set of materials, regardless of the assigned condition. Auditors in the positive condition were asked to explain an increase in inventory, which required them to process information affirming the client's financial health (e.g., a new customer has signed a significant long-term contract with the first installment to be shipped after the end of the fiscal year). Auditors in the negative condition were asked to explain the increase in the notes payable account, which caused them to attend to the client's negative cash flow and ongoing litigation issues. Auditors in the control condition were merely asked to read through the information. A few hours later, the seniors were asked to recall information from the case and assess the likelihood that the company would continue as a going concern. Rau and Moser found completion of the initial audit task affected both the auditors' recall (i.e., more positive/negative items were recalled in the positive/negative condition than in the control condition) and going concern assessments (i.e., participants in the positive/negative condition assessed a higher/lower probability of the company's continued operation than those in the control group) in the successive task.

These findings are not isolated to the specific task selected by Rau and Moser (1999). O'Donnell and Schultz (2005) found the act of developing an overall strategic risk assessment for a client reduced auditors' sensitivity to unexpected fluctuations in subsequent analytical procedures. Auditors who developed, or were provided with, lower strategic risk assessment had a higher tolerance for fluctuations than those with a higher strategic risk assessment. Bhattacharjee, Maletta, and Moreno (2007) documented auditors tendency to use contrast effects

(e.g., compare performance of one client to another firm in the same industry) when comparable information is available for multiple companies. They also found the contrast effect generated in an initial task (i.e., internal control evaluation) carried forward to affect judgments in a second task (i.e., assessing inventory obsolescence), even after controlling for differences in the preliminary internal control assessment. Together, these studies provide numerous examples of specific accounting tasks affecting judgments made in subsequent procedures. In addition to the procedures identified in extant literature, psychology research suggests the brainstorming session required by SAS 99, and utilized as an intervention in this study, is another audit procedure likely to affect subsequent judgments made by the audit team due to its psychological nature as a counterfactual prime (Galinsky and Moskowitz 2000; Liljenquist et al., 2004).

2.1.4 Counterfactual Priming

Accounting literature has shown counter-explanation, in which participants are asked to explain why their initial judgment may be incorrect, enhances auditor judgments (Koonce, 1992), analyst forecasts (Kadous, Krische, and Sedor, 2006), and evaluation of auditors' legal liability by both judges (Anderson, Jennings, Lowe, and Reckers, 1997) and jurors (Lowe and Reckers, 1994). Literature from the psychology domain suggests the benefits of counter-explanation are derived from triggering the "simulation mindset" (Kahneman and Tvserky, 1982) in which individuals answer complex questions or estimate probabilities by "running a simulation" in their minds. The simulation heuristic is a more specific form of the availability heuristic because individuals use the ease with which they can generate a given scenario in their simulation to assess the likelihood of the event occurring in the real world. While the simulation mindset is not as automatic as many heuristics, once activated it enhances consideration of alternate possibilities. Thus it is not the number of alternatives considered that enhances

judgment, but rather the mental flexibility that enables participants to generate and evaluate alternatives and ultimately make an informed decision. This is suggested by Bhattacharjee et al.'s (2007) study of hypothesis generation and has been explicitly tested in other domains (Hirt and Markman, 1995). Bhattacharjee et al. (2007) found auditors asked to identify three potential causes for ratio fluctuations performed as well as, or better than, those asked to identify one, six, or an unspecified amount.

Of particular interest in this study is the fraud brainstorming session required by SAS 99 which triggers the simulation mindset by prompting auditors to hypothesize which areas of the financial statements are susceptible to fraud and how management may have concealed fraudulent activity (Trotman, Simnett and Khalifa, 2010). In this study the brainstorming session is used as a counterfactual prime with the expectation that it will affect the level and nature of communication within the audit team. Research in other domains has found the simulation mindset, once activated, continues to affect performance in subsequent tasks (Galinsky and Moskowitz, 2000). A critical consideration is the level at which the counterfactual prime is activated. Liljenquist et al. (2004) found "activating a counterfactual mind-set at the individual level had a debilitating effect on the group judgment task, whereas activating a counterfactual mind-set at the group level had a facilitative effect, increasing information sharing, synergistic coordination and judgment accuracy," (2004, p. 263).

In the auditing domain, research has found that the SAS 99 fraud brainstorming session enhances the quality of an audit by improving fraud risk assessments (Carpenter, 2007; Trotman et al., 2010; Hunton and Gold, 2010) and the design of fraud-related testing procedures (Hoffman and Zimbelman, 2009; Brazel, Carpenter, and Jenkins, 2010). Trotman et al. (2010) note the brainstorming session activates the simulation mind-set at the onset of an audit

engagement. Yet, to my knowledge, no study has considered potential effects from the SAS 99 brainstorming session extending beyond the planning stage of the audit to affect judgments made during the testing phase of the audit. This is an important consideration because Hoffman and Zimbelman (2009) found managers provided with strategic prompting at the individual level were able to make planning decisions of equal quality to those of the full brainstorming team. The possibility of benefits cascading from the brainstorming session to enhance the audit team's performance on subsequent tasks is therefore an essential consideration as firms decide how many auditors should participate in, and therefore how many firm resources should be allocated to, the brainstorming session.

2.2 Hypothesis Development

This section of the paper utilizes the preceding literature review to advance formal hypotheses. I begin by developing my first hypothesis regarding the impact of status differences on judgments made by a hierarchical audit team. Next I build the second hypothesis predicting the effect of the brainstorming session on audit judgments. Finally I consider a possible interaction, in which the impact of the brainstorming session differs for teams with varying structures.

2.2.1 Status

This study begins by considering whether the differences in status inherent in the hierarchical structure of the audit team hinder communication. Group research suggests that team members low in status, such as staff auditors in a public accounting firm, are less likely to contribute to group discussions, to mention unique items when they do participate, and to influence group decisions (Wittenbaum, 1998; Stewart and Stasser, 1995). For situations in which low-status members possess information essential to the group decision, this may lead to a

lower quality decision (Hollingshead, 1996) as critical pieces of information remain unshared. Applied to the audit domain, these findings suggest that when staff members possess unique information interrelated with cues available to other group members, barriers to communication based on status differences may prevent the team from pooling all relevant information. Failure to share critical cues will likely hinder recognition of a configural pattern, and lead to a suboptimal decision. This leads to my first hypothesis:

H1a: Teams of peers will have higher quality judgments in subsequent tasks than hierarchical teams.

In her comprehensive review of 61 years of research on group decision-making across multiple domains, Hill (1982) identified two behaviors critical to team judgments regarding complex problems: pooling of pieces of information and integrating these pieces to form a solution. As noted by Bedard and Biggs (1991), to form an accurate problem representation, auditors must acquire the relevant cues and recognize the relationships within the data. Failure at either stage results in a lower quality judgment. I expect barriers to communication inherent in the hierarchical team structure will prevent communication of all relevant cues. This deficiency in communication will likely prevent the team from recognizing the interrelated nature of the cues, and forming an accurate problem representation. Thus, I expect the difference in judgment quality predicted in Hypothesis 1a is mediated by the quality of problem representation developed by the team. Formally stated in alternative form, my hypothesis is as follows:

H1b: The higher quality judgments of peer teams in subsequent tasks is mediated by enhanced problem representations.

2.2.2 Counterfactual Mindset

Rau and Moser (1999) found audit tasks are interrelated such that completion of one procedure can affect the auditor's judgment in successive tasks. Psychology research suggests effects of the simulation mindset activated during the SAS 99 brainstorming session are likely to cascade to subsequent procedures. However, Liljenquist et al. (2004) found the level of activation is critical. Priming subjects at the group level facilitated synergistic interaction between the individual members, while priming at the individual level reinforced the natural tendency to fixate on an individual judgment. This leads to my next hypothesis:

H2a: Participation in a SAS 99 brainstorming session will enhance team communication in subsequent tasks.

Improving communication within the audit team is expected to result in discussion of a greater number of relevant cues, which will enhance the team's ability to identify relationships between interrelated cues. The recognition of critical relationships between data will facilitate development of an appropriate problem representation, and ultimately result in higher quality judgments. My next two hypotheses are stated as follows:

H2b: Teams primed with a counterfactual mindset at the team level will have higher quality judgments in subsequent tasks than those primed at the individual level.

H2c: The higher quality judgments of equal-status teams are mediated by enhanced problem representations.

2.2.3 Predicted Interaction

Since audit teams with a hierarchical structure, or particularly members of low comparative rank, are expected to have a greater disinclination to fully exchange unique information, cascading benefits from participation in the SAS 99 brainstorming session (e.g.,

enhanced communication and team interaction) are expected to significantly improve performance for this group. While the priming is also expected to improve performance for the teams of peers, the impact is expected to be minimal as the team design naturally facilitates information pooling. This leads to my final hypothesis regarding the predicted interaction between team structure and the level of priming, with the expected relationship depicted in Figure 1:

H3: The difference in judgment quality between peer and hierarchical teams will be smaller when the teams participate in a SAS 99 fraud brainstorming session.

CHAPTER THREE
RESEARCH METHODOLOGY

This chapter documents the methodology used to test the hypotheses in this study. I begin by introducing the research design and the operationalization of the independent variables. In the second section, I detail the measures used for the dependent variables of interest. I then describe the participants included in my sample. The final section of this chapter describes the three segments of the experimental instrument and the method of administration.

3.1 Research Design and Independent Variables

The study utilizes a 2x2 between group experimental design to compare the judgments of teams regarding the appropriate reporting of accounts receivable. The instrument for the experimental tasks, modified from Asare et al.'s (2007) study, includes two tasks typically assigned to staff accountants—performing analytical review procedures and substantive testing of accounts receivable. In designing the study, care was given to select a task for which experience would have a minimal effect. Abdolmohammadi's (1999) taxonomy of audit tasks indicates that, in general, the specific procedures included in this study are typically conducted by an entry-level staff accountant with less than one year of experience[2]. For two experimental tasks—analytical review and review of the aging schedule—a staff auditor with one year of experience was considered appropriate[3]. In this study, the two procedures requiring a year of experience are always assigned to a senior auditor. Furthermore, a prior study utilizing a

[2] These tasks were referenced by Abdolmohammadi as ST (substantive tests) 30, 31, 32, 35, 40, 41, and 44.
[3] Identified by Abdolmohammadi as ST 6 (analytical review) and ST 28 (review of aging).

variation on the experimental instrument found no relationship between experience, as measured in months, and judgment quality (Reed, 2010)[4].

Independent measures are comprised of two manipulated variables (team structure and level of the counterfactual prime). Structure of the team is manipulated at two levels (hierarchical team – typically consisting of one staff and one senior, versus peer team – comprised of two seniors). The level of counterfactual priming is manipulated at two levels (individual level via a strategic reasoning prompt, versus group level using a brainstorming session). Targeted observations for each cell were approximately 15 dyads, with actual observations shown in the table below.

Counterfactual priming	**Team Structure**	
	Hierarchy (Senior/Staff)	Peers (Seniors)
Individual level (Strategic prompting)	15	15
Team level (Brainstorming session)	13	14

3.2 Dependent Variables

Dependent variables of interest in this study are the completeness of problem representation, judgment quality, and the amount of team communication. Problem representation, tested as a mediating variable in H1b and H2c, was coded from each dyad's explanation of the relevant factors considered in their assessment of accounts receivable. Following the methodology of Hammersley (2006), participant responses were coded for character (i.e., number of relationships identified) in addition to content (i.e., the number of unique items).

[4] Relationship was not significant (t = 0.294 and p-value = 0.770) when considering the effect of client risk and auditor experience on errors identified, or after accountability is added to the regression (t = 0.403 and p-value = 0.689).

Auditors with better problem representations "are expected to make connections among facts presented and include more relationships and inferences related to the misstatement area in their recalls" (p. 323).

Coding of the dependent variables problem representation and judgment quality was completed by the author, blind to the assigned condition, and an independent coder blind to the experiment. The coders reviewed each team's response to identify which of the eight seeded cues from Table 1 (i.e., content) and three relevant patterns from Table 2 (i.e., character) were identified by each team. Preliminary inter-rater reliability was 88.89% after the two coders individually completed the first round of coding. All disputed codes were resolved through discussion until mutual agreement was reached. The measure of problem representation used in this study is a count of the number of patterns (e.g., the number of relationships) identified by each team.

Quality of judgment is the construct of interest in H1a, H1b, H2b, H2c, and H3. The planned operationalization of this variable is the difference between the dollar amount of the dyad's proposed journal entries and the normative response, as detailed in Section 3.4.2 and calculated in

Table 3 with planned sensitivity analysis conducted by comparing each team's likelihood assessments for material misstatement and fraudulent financial reporting to the highest (i.e., correct) value. An additional measure of quality, Cutoff Identification, was developed after observing the task completion by several of the early teams. This measure is a binary variable indicating whether or not the team identified the underlying issue in the case – improper cutoff of revenue recognition.

The planned measurement of team communication, the dependent variable for H2a, is the self-reported amount of time spent in discussion. As they complete each task, participants report the amount of time spent on the task, as well as the amount of task time spent in discussion. Supplemental measures of communication quality are collected in the post-experimental questionnaire to assess four key aspects of communication identified by the International Communication Association for use in its Communication Audit Survey (Goldhaber and Rogers, 1979) – receiving information, sending information, the use of communication channels, and working relationships. The full instrument, consisting of 112 items on 13 dimensions, has been validated over three decades of research (Greenbaum, Clampitt, and Willihnganz, 1988). The post-experiment questionnaire includes seven questions regarding communication for each task, modified from a streamlined instrument developed by Hargie and Tourish (2000) and Hogard, Ellis, Ellis, and Barker (2005). Testing of Hargie and Tourish's instrument found high internal reliability within sections, and an overall Cronbach alpha value of 0.84.

3.3 Sample

Participants were recruited from public accounting firms ranging in size from the Big 4 to smaller local firms. Tabulated results presented in Chapter Four include data from 114 practicing auditors completing the experiment as 57 dyads[5]. Auditors were recruited from the firms in pairs, such that 29 dyads are composed of equal status peers (i.e., two seniors) and 28 teams have a hierarchical structure (e.g., one senior and one staff).

[5] Data was collected from an additional thirteen teams which have been excluded from the analysis. One team was eliminated for failure to fully complete the instrument. A second team was excluded when they failed the manipulation check, described in Section 4.1. Twelve teams were dropped as they incorrectly interpreted case information due to a typographical error on an early draft of the instrument. Statistical analysis completed with inclusion of these cases yields substantially similar results to those presented in the primary analysis.

For each participating firm or office, a partner or manager was identified as the primary contact. The primary contact was instructed to consider experience levels when recruiting potential participants. The post-experiment questionnaire completed by each participant collected self-reported measures of general auditing experience (in years and months), two measures of task-specific experience (number of engagements completed and familiarity with the task using a Likert scale), and additional information such as prior experience with fraud and familiarity with the assigned teammate for the experimental task. Table 4 and Table 5 summarize the demographic information of the participants. As expected, experience variables (i.e., general audit experience, and task specific experience) for the second auditor were higher for teams assigned to the hierarchical condition. Four additional variables were found to differ based on team structure, while no variables differed across the brainstorming intervention. Each of the demographic variables tabulated was considered as a covariate in the statistical analyses reported in Chapter Four. Inclusion of the demographic variables as covariates does not alter the interpretation of any of the analyses presented in Chapter Four. In the few instances covariates are found to be significant their effect on the dependent variable is noted in the discussion.

The author (or a designated proxy) administered the instrument to 84% of the participating dyads in person, at either a firm training session or the firm's office. The remaining instruments were mailed to the designated firm contact and completed instruments were returned by mail or email. As described in the following section, detailed instructions were provided to the participants at the onset of the experimental session, and at the beginning of each task. When researchers administered the instrument, a script containing these instructions was read to maintain consistency across sessions and conditions. The method of collection (in person versus

via mail) and the setting (training session versus firm office) were included as covariates in the following analyses, but were not found to be significant.

3.4 Experimental Instrument

Participants were asked to complete two tasks as depicted in the flowchart of experimental procedures from Figure 2. The first task served as a counterfactual prime. The quality of responses from this task are not of interest, rather the level at which the prime is activated (team versus individual) is tested to determine an effect on the performance of Task 2, the procedure of interest[6]. One distractor cue for Task 2 was seeded into the priming task as a shared cue, presented to both members of the team. That cue was repeated in information provided to one of the auditors during Task 2.

3.4.1 Task 1 - Counterfactual Prime

For the first task, participants spent approximately 12 minutes to answer three questions posed for consideration by SAS No. 99. They were provided with a client description, engagement history, and brief financial statements (balance sheet, income statement, and statement of cash flows) with approximately six minutes budgeted to read the material and six minutes to answer the questions. The actual wording of the task was modified from Hoffman and Zimbelman (2009). Based on the assigned condition, subjects were asked to answer the following questions individually (i.e., strategic reasoning prompt) or as a team (i.e., brainstorming session):

[6] While the quality of the brainstorming session is not of interest in this study, participant responses were reviewed to identify teams whose suggested fraud corresponded with the fraud cues seeded into the subsequent task. A binary variable indicating this targeted suspicion was added as a covariate to the statistical analysis.

1) Identify 2-3 areas of the financial statement that are most susceptible to fraud. [7]
2) If management anticipated your traditional audit procedures, how could these fraudulent acts be concealed?
3) What audit procedures could help you detect these frauds?

3.4.2 Task 2 - Audit of Accounts Receivable

In Task 2, participants had 27 minutes budgeted to complete a designated workpaper from the audit of accounts receivable, using a modified version of the instrument from Asare et al. (2007). The original instrument was modified to distribute interrelated information between the two auditors and reduce the salience of any one cue, thus requiring participants to integrate their information to obtain the optimal solution.[8]

Both participants were provided with a copy of the audit program and a set of workpapers for completion or review for a complete listing of workpapers. The senior (hereafter referred to as Auditor 1) was asked to complete ratio analysis (AR-3) for analytical review procedures (AR-4) and review a series of work papers including cut-off testing (AR-5), and aging of accounts receivable (AR-2 and Appendix 1)[9].

The staff (or second senior, hereafter referred to as Auditor 2) was tasked with summarizing results of confirmation procedures (AR-6). He/she was provided with

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[7] The first question was modified from Hoffman and Zimbelman (2009) to request two to three areas of fraud since at least two responses are necessary to activate the simulation mind-set (Hirt and Markman, 1995), but a difficult task (e.g., too many options are requested) is ineffective at stimulating the desired mental model (Hirt, Kardes, and Markman, 2004).

[8] Specifically, the conceptual error from the original Asare et al. (2007) instrument was omitted as well as most of the 10 mechanical errors. The one error retained was the error with the highest detection rate from the original study, and additional cues were seeded to form a series of patterns.

[9] In the hierarchical teams, the senior auditor received workpapers designated for Auditor 1. For the peer teams, Auditor 1 was haphazardly assigned through the distribution of workpapers.

confirmations received (Appendix 2), a client-prepared reconciliation of exceptions (Appendix 3), and an aged trial balance of accounts receivable (Appendix 4).

The tasks were assigned such that interrelated cues were distributed between the two auditors. A complete listing of cues seeded into each workpaper is provided in Table 1. Auditor 2 has access to several cues indicating potential misstatement, but not necessarily indicative of fraud. For instance, one of the ten confirmations was returned with an exception. The client has reconciled the exception as two invoices generated on December 28th but received by the customer subsequent to year-end. Interpreted alone, this exception may represent a valid timing difference.

The first auditor was provided with several cues that must be pooled with data from the second auditor's workpaper to be appropriately processed. For example, Auditor 1 had a cut-off workpaper (AR-5) listing invoice and shipping dates for year-end sales. Interpreted alone, this workpaper indicates successful completion of cut-off testing. To identify the first pattern of interrelated information, the audit team must realize it has enough information to refute the client's explanation of the confirmation exception since there was no shipment to that specific customer within the final days of the year.

If the audit team combines information, they find material misstatements and indications of fraud rather than accidental errors and timing differences. Identification of the first pattern may raise additional skepticism regarding the high volume of sales recorded in November and December, a cue provided to Auditor 1. To obtain additional assurance, the audit team could examine shipment dates for confirmed invoices dated in the last week of December (AR-6 provided to Auditor 2) and find an additional sale without a supporting shipment (AR-5 available to Auditor 1). Furthermore, if the additional cut-off problem is identified, the audit team may

note the confirmation was signed by Donna Ross (Appendix 2 in Auditor 2's workpapers), which is the name of the client's accounts receivable clerk (from Auditor 1's Appendix 1). A summary of patterns detailing interrelated cues and the combined pattern interpretation is summarized in Table 2.

Configural processing of all available cues indicates sales and accounts receivable are overstated by fictitious transactions recorded near year-end, but failure to integrate all relevant cues may cause auditors to waive variances or record inadequate adjusting journal entries. As shown in Table 3, Auditor 2 alone has sufficient data to identify a $36,243 error in accounts receivable (the variance between confirmed value and the aged accounts receivable for a specific customer account), but the extrapolated error of $193,514 is still below tolerable misstatement. While Auditor 2 learns of a confirmation exception, the explanation provided by the client indicates a timing difference between the date of the invoice and the date it was received by the customer. To identify a material misstatement, the team must realize it possesses enough information to classify the $29,128 confirmation exception as an error since Auditor 1's workpapers indicate there was no related shipment at year-end. Extrapolation of the two errors, based on percentage of error noted in each aging category of the sample, totals $456,427, an amount over tolerable misstatement for the account[10].

If the team optimally integrates all available cues, they will recognize the exception identified in the sample is suggestive of a larger problem due to the high volume of sales recorded at the end of the year. Review of the sample selected for confirmation identifies one additional invoice recorded in the final week of the year. Further investigation of this year-end

[10] Extrapolation based on the percentage error of the sample in total (rather than by aging category) results in a high estimated misstatement, but still requires integration of the cues to reach the threshold of tolerable misstatement.

invoice reveals the sale is with a related party and has no supporting shipment. Extrapolation of this error, in combination with the previously identified errors, results in an estimated error exceeding planning materiality.

3.4.3 Post-Experiment Questionnaire

Demographic and other information was collected from participants in a post-experiment questionnaire that includes firm, sex, years of auditing experience, experience with accounts receivable tasks, experience with fraudulent financial reporting, a measure of sociability, preferences for working in groups versus independently, familiarity with the assigned teammate, as well as measures of group communication and performance. Six minutes were budgeted for completion of the questionnaire.

3.4.4 Administration of the Experiment

The primary contact for each firm or office was responsible for recruiting participants. The author or another researcher was present to administer the instrument for 84% of the experimental sessions. For the remaining 16%, the primary firm contact distributed the experimental materials and set general expectations (i.e., allot 45 minutes of uninterrupted time for the experiment and have each pair work together in the same office space). Upon opening the packet, subjects found an introductory page and a series of three numbered task envelopes.

The introduction, included in Appendix A, provided participants with the estimated time for completion and instructions to work in the same location as their teammate. Based on their assigned condition, participants were then asked to open the next envelope and respond to the SAS 99 questions from Task 1 (Appendices B and C) as individuals or as a team. After sealing the completed documents for the first task into an envelope, all participants read the introduction for task two as a team (Appendix D). Each individual was then provided with his or her assigned

workpapers. Auditor 1 received the materials from Appendix E and Auditor 2 was given the workpapers included in Appendix F. Before making their judgments regarding the appropriate reporting of accounts receivable, participants were reminded to respond as a team. After they answered all questions and sealed their responses, subjects were prompted to open the final envelope and individually respond to the post-experiment questionnaire (Appendix 2). Upon completion of the final questionnaire, participants sealed all task envelopes into a large outer envelope and returned it to the researcher or the designated firm contact to be mailed to the researcher.

CHAPTER FOUR
DATA ANALYSIS

This chapter provides an account of the data analysis conducted for this study. In the first section I confirm the successful manipulation of the two independent variables. In the second section I describe the preliminary analysis used to assess the assumptions underlying the various statistical tests. The next three sections detail the tests of my hypotheses. The final section provides supplemental analysis conducted to further explore the nature of my results.

4.1 Manipulation checks

The study involves manipulation of two independent variables – team structure and the level of the counterfactual prime. To test the validity of the team structure manipulation, the researcher reviewed the employment rank self-reported by each team member to ensure the hierarchical teams included members of differing rank while the peer teams did not. One team from the hierarchical condition failed the manipulation check as it was comprised of two staff auditors (one first year, and one second year staff auditor). This observation was eliminated from primary data analysis, although inclusion does not affect the overall results. Additionally, four hierarchical teams consisted of managers working with staff auditors. These teams were retained for the primary data analysis, but exclusion of these records does not alter the conclusions summarized in the following section.

The author and other researchers were able to administer the instrument to 84% of the participants and verify the manipulation of the counterfactual prime. Researchers observed discussion of the priming task by teams assigned to the brainstorming condition while participants assigned to complete the task as individuals did so without conversation. For the remaining 16% of the data, the researcher relied on self-reported discussion times. Of the nine unobserved teams, three were assigned to the brainstorming condition and six were primed at the

individual level. Teams assigned to the brainstorming condition reported discussion time at the completion of the priming task. The three unobserved brainstorming teams reported an average discussion time of 7.5 minutes. For teams assigned to the individual level prime, a question was included in the post-experiment questionnaire regarding the amount of time spent in discussion on the priming task. This question appears to have confused participants who were instructed not to converse during the priming task and led them to report the amount of time spent in discussion on the second task. Responses from the six unobserved teams primed at the individual level indicate discussion time equal to that of the second task and exceeding the total completion time reported for the priming task. This trend is also reflected in the amounts disclosed by teams for which the researcher observed team members working independently without conversation. In combination, these facts lead me to believe the manipulation was successful.

4.2 Preliminary analysis

I planned to utilize an analysis of variance (ANOVA) model to test the hypotheses regarding the effects of the categorical variables on each of my dependent variables. My preliminary analysis considers whether the data meets the three basic assumptions of the ANOVA model – independent observations, normal distribution of the dependent variables, and homogeneity of variance. The first assumption, independent observations, is addressed in the experimental design through the random assignment of participants to conditions. The second assumption, normal distribution of the dependent variables, was initially investigated visually using boxplots and normal probability plots of the data. This investigation raised concerns regarding the normality of the data. The Shapiro-Wilk test, a statistical analysis of normality,

indicated 16 of the 25 groups fail to meet the second assumption.[11] While ANOVA is robust to modest violations of this assumption (Ferguson, 1981, p. 245), the number of violations led me to supplement my analysis with the Mann-Whitney two-sample rank-sum test, a nonparametric test that makes no assumptions regarding the distribution of the data (Mann and Whitney, 1947; Wilcoxon, 1945).

To address the third assumption, homogeneity of variance, I considered Levene's statistic for each of the eight dependent variables. This analysis found evidence of equal variance in the data set and provided support for the third assumption.

4.3 Hypothesis 1

Hypothesis 1 examines the impact of team structure on judgment quality and considers problem representation as a possible mediator of the relationship. Tables 7 through 11 reflect the results of testing for the first set of hypotheses. To test Hypothesis 1a, regarding the effect of team structure on judgment quality, I conducted an ANOVA using Difference in Adjusting Journal Entry, the difference between the normative adjusting journal entry and the amount proposed by each team as the measure of judgment quality, with team hierarchy and level of counterfactual prime as the independent variables. Due to the violation of the normality assumption, I augmented this primary analysis with a Mann-Whitney U test. I also supplemented my analysis by using a binary variable indicating identification of the primary issue (problems with revenue cut-off) as an alternate measure of judgment quality. To test Hypothesis 1b, I use the Baron and Kenny (1986) four-step test of mediation to consider problem representation as a potential mediator for the relationship between team structure and judgment quality.

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[11] I completed 25 Shapiro-Wilk tests on the seven dependent variables across four groups. The test could not be calculated in three instances because of the constant nature of the responses.

4.3.1 Hypothesis 1a

Table 7 presents results from the tests of Hypothesis 1a. Contrary to my prediction, the descriptive statistics reported in Panel A show that hierarchical teams have a smaller mean value for Difference in Adjusting Journal Entry than peer teams ($1,377,750 for hierarchical teams versus $1,424,225 for peers) although the means are not statistically different (t = 1.49, p = 0.147 two-tailed). Panel C presents the results of the ANOVA which indicate no statistically significant relationship between team structure and judgment quality (F = 2.23; p = 0.142 two-tailed). The test was conducted two-tailed since the results run contrary to the predicted direction of the relationship[12].

Due to the violation of the normality assumption regarding the distribution of the dependent variable Difference in Adjusting Journal Entry, I supplemented my analysis with the non-parametric Mann-Whitney U Test. As shown in Panel B, results of the non-parametric test are similar to the ANOVA, indicating no significant relationship between team structure and judgment quality (Z = -1.390, p = 0.165 two-tailed).

4.3.2 Hypothesis 1a using Alternative Measures

I conducted additional analysis of Hypothesis 1a using alternative measures of judgment quality. Two measures (differences in likelihood of fraud and likelihood of misstatement from the correct responses) were planned to test the robustness of the results. These supplemental measures provide mixed results. Untabulated analyses using Mann-Whitney U-tests found the structure of the team had a marginal effect on the difference in the likelihood of fraud assessment

[12] Supplemental analysis was conducted to consider all demographic variables as covariates. Several variables related to Auditor 1 were marginally significant (audit experience, belief that he/she was more effective as part of a team, and self-reported level of skepticism). When these three variables were incorporated into the ANCOVA, none of the covariates was significant (Auditor 1's audit experience was marginally significant at p = 0.07 two-tailed) and the interpretation of the results did not change.

from the normative response (Z = 1.522, p = 0.064 two-tailed) and no relationship to the difference in the likelihood of misstatement assessment from the correct response (Z = 0.795, p = 0.213 two-tailed)[13].

I also developed an additional measure, Cutoff Identification, that I believe to be a more valid measure of the underlying construct. Cutoff Identification is a binary variable indicating identification of the most significant issue – improper revenue cut-off. Table 8 Panel A presents the frequency of teams identifying the underlying problem (improper revenue cut-off) and communicating it to the manager for follow-up. Chi-square analysis revealed no statistically significant difference (chi-square = 1.588, p = 0.208 two-tailed) between the percentage of hierarchical teams (18%) and peer teams (7%) identifying the problem in revenue cut-off. Logistic regression finds no evidence of a relationship between team structure and Cutoff Identification (chi-square = 1.273, p = 0.259 two-tailed).

I believe this binary variable, Cutoff Identification, is a more appropriate measure of judgment quality in this study than the planned measures. As evidenced by the range of observed values, Difference in the Adjusting Journal Entry is a noisy measure and can be influenced by incorrect interpretations made by participating teams. Furthermore, teams showed a reluctance to propose journal entries without performing inquiries and additional audit procedures. This reluctance is evidenced by participants' written responses such as "Not enough information. Extrapolate errors after further testing." and confirmed by observation of teams discussing the experimental task. Similarly, the likelihood of misstatement and fraud can fluctuate due to incorrect inferences. Using the identification of cut-off as the measure of judgment quality

[13] Inclusion of demographic variables in ANCOVAs of these variables found no covariates to be significant and conclusions were quantitatively and qualitatively similar.

highlights those teams who have performed optimally on the task and have raised the relevant concern to be addressed with further audit procedures.[14]

Review of the correlation matrix presented in Table 9 provides additional information regarding the measures of judgment quality. As expected, measures quantifying the difference from normative amounts are positively correlated. The likelihood assessments for misstatement and fraud (Difference in Misstatement, and Difference in Fraud) have the strongest correlation (coefficient = 0.718, $p < .0001$). The correlation between misstatement and adjusting journal entry is also significant (coefficient = 0.406, $p = 0.003$), and the relationship between fraud and adjusting journal entry is marginally significant (correlation = .259, $p = 0.072$).

I expected Cutoff Identification (in which high values represent high judgment quality) to be negatively correlated with the remaining measures of judgment quality (Difference in AJE, Difference in Misstatement, and Difference in Fraud) for which high values represent low judgment quality. Instead, the measures show positive, although not significant, relationships. The unexpected direction of this relationship is a reflection of the different aspects of judgment quality captured by the various measures. Typically, teams either proposed an adjusting journal entry or communicated the underlying cutoff issue to their supervisor, but only one team did both.

4.3.3 Hypothesis 1b

Hypothesis 1b extends the first hypothesis to consider problem structure as the mediating variable in the relationship between team structure and judgment quality. To test for mediation, I use the four-step method proposed by Baron and Kenny (1986), with the results presented in

[14] The researcher reviewed all journal entries to identify those based on incorrect inferences of the case information and created an additional variable based only on the correct portion of proposed journal entries. Alternate analysis using this corrected adjusting journal entry yields similar inferences regarding the relationship of team structure on judgment quality.

Table 10. The first step of establishing mediation, evidencing the relationship between team structure (initial variable) and judgment quality (using Difference in Adjusting Journal Entry as the dependent variable), was considered in H1a, with no statistically significant relationship identified ($F = 2.23$, $p = 0.142$ two-tailed).

Similarly, the remaining steps of the mediation test find no statistically significant relationships. The second step, examining the relationship between the initial variable and the mediator, was tested using a between-groups ANOVA on problem structure examining differences based on team structure. Results reported in Panel C show no relationship between team structure and problem structure ($F = 0.49$, $p = 0.486$ two-tailed).

The third step, presented in Panel D, examines the effect of the mediator on the outcome variable. Analysis using ANOVA finds no relationship ($F = 0.04$, $p = 0.478$ one-tailed) between problem structure and judgment quality. The fourth step utilizes an ANCOVA to control for problem representation while examining the effect of team structure on judgment quality. The results, tabulated in Panel E, yield no statistically significant relationships on judgment quality when measured using Difference in Adjusting Journal Entry.

4.3.4 Hypothesis 1b using Alternative Measures

Additional analysis, reported in Table 11, also fails to find evidence of mediation when Cutoff Identification is used as the final dependent variable. As shown again in Table 11 Panel A, a logistic regression of Cutoff Identification on the independent variables shows no evidence of a relationship between team structure and judgment quality (chi-square = 1.273, $p = 0.259$ two-tailed). Similarly, the ANOVA reported in Panel B fails to find evidence of a relationship between team structure and problem structure ($F = 0.490$, $p = 0.486$ two-tailed). I find evidence of a statistically significant relationship between problem structure and judgment quality (chi-

square = 4.078, p = 0.022 one-tailed), as reported in Panel C. Panel D reports the final step of the mediation test, a logistic regression of judgment quality on team structure after controlling for problem representation. While I fail to find support for mediation, in the final model I find both team structure (chi-square = 4.639, p = 0.031 two-tailed) and problem structure (chi-square = 5.084, p = 0.012 one-tailed) have a statistically significant impact on judgment quality, while level of prime has a marginally significant relationship (chi-square = 1.934, p = 0.082 one-tailed). Thus, after controlling for the effect of problem structure, I find support for Hypothesis 1a.

4.4 Hypothesis 2

The second hypothesis considers whether the level of counterfactual prime impacts both the communication and judgment quality of the team in subsequent tasks. Tables 12 through 17 present the results of testing for the second set of hypotheses. To examine Hypothesis 2a, I conducted an ANOVA to test whether the level of the counterfactual prime affects communication time on subsequent tasks. I supplemented this analysis with Mann-Whitney U tests that are robust to the non-normality of the dependent variable. I also repeated these analyses using a measure of communication quality collected in the post-completion questionnaire.

Hypothesis 2b, considers the effect of the level of counterfactual prime on judgment quality in subsequent tasks. I again consider multiple measures of judgment quality. The combination of ANOVA and Mann-Whitney U tests are used to evaluate the impact of the level of counterfactual prime on three measures of judgment quality (difference between the participants' adjusting journal entry, likelihood of misstatement, and likelihood of fraud and the correct responses). Logistic regression is used to test the impact on the binary indicator Cutoff Identified. Hypothesis 2c suggests problem structure is a mediator of the relationship between

the level of counterfactual prime and judgment quality. This prediction is tested using the four-step process described in section 4.3.3.

4.4.1 Hypothesis 2a

Analysis of Hypothesis 2a is presented in Table 12. As shown in Panel A and supporting my prediction, teams participating in the brainstorming session (i.e., primed at the team level) have a higher amount of communication in the experimental task (mean 10.30 minutes) than those completing the priming task as individuals (mean 7.78). The ANOVA reported in Panel C reflects a marginally significant relationship ($F = 2.45$, $p = 0.062$ one-tailed) between the level of counterfactual prime and the amount of discussion between the team members in subsequent tasks[15]. However, the Mann-Whitney U test does not find support for this relationship ($Z = -1.182$, $p = 0.119$).

4.4.2 Hypothesis 2a using Alternative Measures

As planned, I also conducted additional analyses using a measure of communication quality self-reported by the teams. Each participant assessed the overall team communication on a Likert scale from 1-Very Little to 5-Very Great as part of the post-experiment questionnaire. For each dyad, I averaged these scores to obtain a measure of communication quality for the team. Table 13 reports the results of testing to evaluate the impact of the level of the counterfactual prime on the communication quality of the team. As shown in Panel A, dyads primed at the team level have a higher quality of communication (3.57) than those primed at the individual level (3.07). This difference is statistically significant ($t = -2.50$, $p = 0.016$ two-tailed).

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[15] Additional analysis using ANCOVA identified three significant covariates – Auditor 1's belief that he/she is more effective ($p = 0.0436$ two-tailed) and more efficient ($p= 0.0399$ two-tailed) when working in a team, and Auditor 2's familiarity with his/her teammate (0.0021). Inclusion of these covariates increases the strength of the observed relationship between level of prime and judgment quality ($p = 0.031$ one-tailed).

An ANOVA of communication quality on the level of prime shows a statistically significant relationship between the two variables (F=6.31, p = 0.008 one-tailed)[16]. The non-parametric analysis of the Mann-Whitney U test corroborates these results (Z = 2.374, p = 0.009 one-tailed).[17]

4.4.3 Hypothesis 2b

Hypothesis 2b predicts that dyads primed at the team level will generate a higher quality judgment in subsequent tasks. While descriptive statistics in Table 14 Panel A show that brainstorming teams, on average, propose journal entries with a greater difference ($1,407,063) from the normative amount than teams using individual-level strategic prompting ($1,396,294), a t-test reveals no statistical difference between the two groups (t = -0.36, p = 0.723 two-tailed). I test Hypothesis 2b using an ANOVA of Difference in Adjusting Journal Entry on the independent variables level of counterfactual prime and team structure. As reported in Panel C, I find no support for a relationship between the level of prime activation and Difference in Adjusting Journal Entry using ANOVA (F = 0.12, p = 0.366 one-tailed). Due to violations of the normality assumption, I augment this analysis with the Mann-Whitney U Test, which also fails to find evidence of a significant relationship (Z = -0.272, p = 0.393 one-tailed) between the level of the brainstorming session and Difference in the Adjusting Journal Entry.

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[16] Consideration of demographic variables as covariates identified two characteristics with marginal significance in the ANCOVA – the amount of difficulty reported by Auditor 2 in completing the task (p = 0.0649 two-tailed) and a binary variable indicating whether Auditor 1 provided an email address to receive results of the study (used as one measure of interest in the study (p = 0.0518). Inclusion of these two variables into the model increases the significance of the results for level of prime (p = 0.006).

[17] Untabulated analyses reveal stronger results if only the senior's assessment of communication quality is used (ANOVA F-ratio = 8.52, p = 0.003 one-tailed; Mann Whitney p = 0.002 one-tailed). Analysis using only the second auditor's assessment finds no evidence of a relationship (ANOVA F = 0.87, p = 0.178 one-tailed; Mann Whitney p = .141 one-tailed).

4.4.4 Hypothesis 2b using Alternative Measures

I conducted additional analysis of Hypothesis 2b using Cutoff Identification, the binary variable indicating identification of revenue recognition cutoff problems, as the measure of judgment quality. I present the results of this alternative analysis, which uses what I believe to be the most accurate measure of judgment quality, in Table 15. Panel A reports the frequency of teams identifying cutoff as a significant issue for further examination. Teams completing the priming task as a unit have a higher detection rate of the underlying problem (22%) than those completing the task as individuals (3%). This difference is statistically significant (chi-square 4.707, p = 0.030 two-tailed; Fisher's p = 0.037). Logistic regression of Cutoff Identification on the independent variables reveals a statistically significant relationship between level of prime and judgment quality (Wald chi-square = 4.070, p = 0.022)[18].

4.4.5 Hypothesis 2c

As shown in Table 16, I fail to find support for the hypothesis that the relationship between level of prime and judgment quality is mediated by problem structure. Each ANOVA in the four-step process yields insignificant results. I find no evidence of a relationship between level of prime and the size of the proposed journal entry (F = 0.12, p = 0.366 one-tailed); no relationship between level of prime and the potential mediator (F = 1.86, p = 0.178 two-tailed); and no relationship between the mediator and the final dependent variable (F = 0.09, p = 0.384 one-tailed). As shown in Panel B, the direction of the relationship between the level of prime and problem structure trends contrary to prediction, so the test of the level of prime on the potential mediator in Panel C is evaluated two-tailed.

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[18] As noted in Section 4.3.1, addition of the control variables into this model yields no statistically significant covariates (at p <= 0.5 two tailed) and does not change the quantitative or qualitative nature of the results.

4.4.6 Hypothesis 2c using Alternative Measures

I conducted additional analysis using the identification of the cutoff issue as the measure of judgment quality. As reflected in Table 17, the alternate analysis also fails to find evidence of mediation. While the results of the logistic regression support the relationship between level of prime and judgment quality as shown in Panel A (Wald chi-square = 4.070, p = 0.022 one-tailed), the second step of mediation fails as the level of prime does not have a statistically significant effect on the potential mediator (Panel B, F = 1.860, p = 0.178 two-tailed). For the third step, the mediator does have a statistically significant effect on the final dependent variable, as shown in Panel C (chi-square = 4.078, p = 0.022 one-tailed). While I do not find evidence of mediation, problem structure is a significant variable in the final model (chi-square = 5.112, p = 0.024 one-tailed) as is level of prime (chi-square = 4.297, p = 0.038 one-tailed).

4.5 Hypothesis 3

My final hypothesis predicts the improvement in judgment generated by the brainstorming session will be greater for hierarchical teams than for peer teams. Using the chart below I expect the relationship (C-A) > (D-B).

Counterfactual priming	**Team Structure**	
	Hierarchical (Staff/Senior)	Peers (Seniors)
Individual level (Strategic prompting)	A	B
Team level (Brainstorming session)	C	D

4.5.1 Results for Hypothesis 3

I test this hypothesis using a two-way ANOVA and planned contrasts, expecting a greater improvement for hierarchical teams than for peer teams. As shown in Table 7, I find no evidence of an interaction when running an ANOVA of Difference in Adjusting Journal Entry on level of prime and team structure. Similarly, the planned contrast (-3, 1, 1, 1 where the hierarchical,

individual level of prime is set to -3) is not significant (F = 1.36, p = 0.249 two-tailed). A visual depiction of my prediction is presented in Figure 3 with the observed relationships shown in Figure 4. Post-hoc analysis reveals no statistically significant difference between cells.

4.5.2 Results for Hypothesis 3 using Alternative Measures

I also tested Hypothesis 3 using Cutoff Identification as the alternate measure of judgment quality. Visual inspection of Figure 5 suggests support for the hypothesis presented in Figure 1, that a team-level brainstorming session yields a greater improvement in performance for hierarchical teams than for peer teams. I initially planned a contrast (-3, 1, 1, 1) to test if group A, the hierarchical team primed at the individual level, was different from the remaining three cells. This contrast, analyzed as part of a general linear model, is marginally significant (F = 3.60, p = 0.063 two-tailed). Since the main effect of team structure is opposite of the initial prediction, I modified the planned contrast to test if group C, comprised of hierarchical teams primed at the team level, differs from the remaining groups. This contrast (1, 1, -3, 1) is significant at F = 12.34, p < 0.001 two-tailed[19].

[19] Examination of covariates identified no additional statistically significant relationships and did not alter the strength of the planned contrast.

4.6 Supplemental Analysis

4.6.1 Explanation for the Main Effect of Team Structure

Literature in the psychology domain suggests status differences generate additional barriers to communication for hierarchical teams and may results in decisions of lower quality than those made by peer teams. However, as seen in Table 11 and discussed in Section 4.3, the hierarchical teams in this study made higher quality judgments than peer teams. While this result runs contrary to my prediction in Hypothesis 1a, responses from the post-experiment questionnaire on communication quality explain the phenomenon.

Table 18 reports a series of ANOVAs run on various measures self-reported by the participants regarding the quality of communication during the experimental task[20]. While many responses tabulated in Panel A reflect an improvement in quality due to the brainstorming session manipulation, four measures indicate differences based on team structure. Descriptive statistics for these four variables are reported in Table 19 and detailed in the following paragraph.

When part of a hierarchical team, the second auditor reports an increased level of interest from his/her teammate ("Teammate was Interested", F-ratio = 13.97, p = 0.001 two tailed). This difference is also noted by Auditor 1 ("You were Interested", F –ratio = 3.45, p = 0.069 two-

[20] Supplemental analysis finds several demographic variables (including audit experience, task specific experience, the positive nature of prior interactions between team members, perceived difficulty of the task, and attitudes toward groupwork) are significant covariates in one or more of the ANOVAS on communication variables. Inclusion of these variables altered the results in only two of the analyses. The addition of Auditor 1's audit experience and Auditor's 2 perception about the efficiency of teamwork (both marginally significant) reduces the significance of hierarchy (p = 0.0663 two-tailed) in the ANCOVA of the second auditors response to "You Volunteered". The inclusion of two characteristics of Auditor 1 (assessed interrelated nature of the workpapers and the provision of an email address requesting results of the study) and two characteristics of Auditor 2 (difficulty of the task and enjoyment of teamwork) identified a significant relationship between team structure and overall communication as reported by Auditor 2 (p = 0.0079) despite the fact that none of the covariates were statistically significant in the final model.

tailed). The second auditor also perceives differences in the amount of questions asked by the first auditor ("Teammate Asked, F-ratio = 8.30, p = 0.006 two-tailed); and, seemingly in response, the second auditor volunteers more information from his/her packet (You Volunteered, F-ratio = 4.34, p = 0.042 two-tailed).

These responses suggest that, when auditors are assigned to a hierarchical team, the member with seniority assumes a leadership role. The leader takes ownership of the entire task, rather than just his/her designated workpapers. He/she is more interested in the information in the second auditor's workpapers, asks more questions, and motivates his/her teammate to volunteer a greater amount of information. Thus, it is not the informal allocation of speaking time described by the Expectation States Theory that predicts communication in this task. Rather, when placed in a hierarchical team, the senior auditor changes his communication style to seek out information from the subordinate and ensure appropriate completion of the task.

To examine this possibility, I used paired t-tests to compare the number of questions asked by Auditor 1 to the number asked by Auditor 2. If the leadership explanation is valid, Auditor 1 should exhibit a questioning behavior similar to that of Auditor 2 when assigned to a peer team; but Auditor 1 should ask more questions than Auditor 2 when working in a hierarchical team. The paired t-test reported in Panel B of Table 19 support the leadership effect. Auditor 1 reports he/she asks more questions than his/her teammate (mean difference 0.5 on a 5 point Likert scale, t = -3.15, p = 0.004) on a hierarchical team, but identifies no difference on a peer team (mean difference 0.07, t = -0.57, p = 0.573). This difference is also noted by the second auditor when working on a hierarchical team (mean difference 0.86, t= 3.66, p = 0.001) but is absent for peer teams (mean difference = -0.21, t = -1.65, p = 0.110).

4.6.2 Communication Quality as a Mediator between Level of Prime and Judgment Quality

Hypothesis 2 addresses the impact of a team-level brainstorming session on the quality of judgments made by the team in subsequent tasks and considers problem structure as a potential mediator of that relationship. While not developed as a formal hypothesis, communication was a key factor in developing Hypothesis Two as academic literature suggests communication amongst the audit team is critical for success in a configural processing task. In this section I consider the quality of the team's communication as a potential mediator of the relationship between level of prime and judgment quality.

As shown in Table 20, I find some support for my expectation that communication quality is a partial mediator of the relationship between level of prime and judgment quality. I find support for three of the four steps in the mediation test. For the first step, I use a logistic regression to establish the relationship (Wald chi-square of 4.07, p = 0.022 one-tailed) between the initial variable (level of prime) and the final dependent variable (judgment quality). For the second step, I use ANOVA to test the relationship (F= 6.310, p = 0.008 one-tailed) between the initial variable (level of prime) and the mediator (communication quality). Next, I test the relationship (Wald chi-square of 1.392, p = 0.119 one-tailed) between the mediator (communication quality) and the dependent variable (judgment quality) using logistic regression, but find no support for this step. Finally, I run a logistic regression of judgment quality on level of prime, controlling for the effect of communication quality. I note the statistical significance of the relationship between level of prime and judgment quality declines (from a p-value of 0.026 to a p-value of 0.038) after communication quality is added to the regression model as a covariate.

Thus I find some support for communication quality as a partial mediator of the relationship between the level of prime and judgment quality.

CHAPTER FIVE
DISCUSSION, CONTRIBUTIONS AND LIMITATIONS

The final chapter of the paper contains three sections. I begin by discussing the results of the statistical analysis presented in Chapter Four. In the second section, I highlight the contributions this study makes to extant literature. In the third section, I identify aspects of the research design that may limit the generalizability of my findings. In the final section, I conclude the paper with opportunities for future research.

5.1 Discussion

My study seeks to facilitate configural processing at the team level. It considers how a particular aspect of the audit environment – the hierarchical audit team – affects the quality of the team's judgment. It also finds a particular procedure in the planning process, the SAS 99 fraud brainstorming session, has carryover effects that impact the team's judgments during the testing phase of the audit. This section of the paper discusses the results of the statistical analysis presented in Chapter Four and summarized in Table 21.

5.1.1 Hypothesis 1

The first hypothesis considers whether the structure of the audit team impacts the quality of judgments made by the team. Guided by the literature on configural processing from other domains, I predicted the hierarchical team would make decisions of lower quality than those of peer teams. However, I found the opposite to be true in the accounting domain. In this configural processing task, the hierarchical teams actually outperformed the peer teams with a greater percentage of teams identifying and communicating the underlying problem in the task. I fail to find support for problem representation as a mediator variable, but believe this may be due to the method of measurement. Future studies using more precise methodology, such as verbal protocol analysis, may yet provide evidence of this relationship.

The unexpectedly positive impact of the hierarchical team structure offers encouraging findings for the audit profession in which engagements are typically conducted by hierarchical teams. I explored the nature of this relationship in Section 4.6.1 and found the senior auditor, when assigned to a hierarchical team, takes on a leadership role, and assumes responsibility for the entire task rather than just his/her designated workpapers. When serving as a team leader, the senior takes greater interest in the staff auditor's workpapers, asks more questions about the cues possessed by the staff auditor, and motivates the staff auditor to volunteer a greater volume of information.

The behavior of senior auditors in the hierarchical teams is well described by the taxonomy of functional leadership developed by Fleishman, Mumford, Zaccaro, Levin, Korotkin, and Hein (1991). Fleishman et al. (1991) review over fifty years of psychological, management, and military literature on leadership to develop a comprehensive taxonomy on effective leadership behavior. They find four superordinate leadership performance functions are linked to group effectiveness: information search and structure, information use in problem solving, managing personnel resources, and managing material resources. In the current study, the senior auditors assigned to hierarchical teams evidence the first two leadership behaviors necessary for team success. Rather than simply working to complete their assigned workpapers, they seek to acquire all information necessary to complete the team's assigned task. They then analyze the information to develop an appropriate solution to the questions posed to the team. Fleishman et al. propose a model predicting that these critical leader behaviors moderate the cognitive processes of the team and lead to greater team effectiveness.

The Fleishman et al. (1991) model of team effectiveness explains the results obtained in this study. The leadership role assumed by the senior auditor moderates the cognitive function of

the team and enables the hierarchical teams to reach higher quality judgments than teams composed of peers. This finding is particularly interesting because in order to outperform the peer team, the hierarchical team overcomes not only differences in status but differences in experience levels as well. When a senior auditor assumes the role of leadership and supervises the work of a staff auditor, that team is able to outperform two senior auditors.

While these findings provide encouraging conclusions regarding the quality of judgments reached by the hierarchical audit teams typically employed in audits, they do raise questions regarding the quality of work conducted by teams of peers. Should we expect a lower quality decision when a team of seniors work jointly on a complex engagement? While extant literature provides evidence that teams of seniors working together generate process gains, existing studies provided all available information to each member of the team. They do not distribute cues throughout the team as done in this study. The results of this study suggest teams of seniors may generate process losses, or at the least, may not perform as well as if a hierarchical team structure was utilized. Future research may determine if supervision or review by a manager overcomes the effect of team structure noted in this study. An additional line of research can examine whether these findings hold at all levels of the firm hierarchy. Should we expect a similar result if the team is comprised entirely of managers or partners? If so, it is critical to identify interventions that may overcome the effect, such as designation of a leader within the peer team or modification of training methodologies. This is a worthy area for future research that can both extend academic knowledge and inform audit practice.

5.1.2 Hypothesis 2

The second hypothesis predicts the impact of a team-level brainstorming session carries over to improve communication and judgment quality during the testing phase of the audit. I find

support for this hypothesis. While I fail to find support for problem representation as a mediator, the supplemental analysis in Section 4.6.2 presents some evidence that communication quality partially mediates the relationship between the level of prime and judgment quality.

The identification of effects cascading from the SAS 99 brainstorming session to impact team communication and judgment in the testing phase of the audit is a novel contribution to the audit literature. While extant literature has found the interrelated nature of audit procedures may cause the completion of one task to affect judgments made on a second task, this study is one of the first to identify a particular procedure that is likely to impact subsequent tasks. Existing literature provides evidence that the SAS 99 brainstorming session enhances decisions made during the planning phase of the audit. My study is the first, of which I am aware, to determine that the SAS 99 brainstorming session impacts judgments made during the testing phase of the audit. This finding is particularly relevant for practitioners. As firms weigh the costs and benefits of requiring team members to participate in the fraud brainstorming session, this study provides additional evidence of the benefits of having less experienced auditors participate in the session.

5.1.3 Hypothesis 3

The final hypothesis predicts that the fraud brainstorming session will lead to a greater improvement in judgment quality for hierarchical teams than for peer teams. I find evidence supporting this hypothesis. Interestingly, while hierarchical firms initially outperformed the peer teams, participation in a brainstorming session still had a greater impact on hierarchical teams. Again, this strengthens the incentive for firms to require lower levels of staff to participate in the brainstorming session even if they are unable to make a meaningful contribution to the planning decisions made during the meeting. It does, however, heighten the need to extend this line of

research. If the brainstorming session has minimal impact on the judgments of peer teams, we must seek out alternative interventions that can improve decisions made by these teams.

5.2 Contributions

This dissertation extends prior literature as the first study, to my knowledge, to consider configural processing at the team level. While numerous studies have verified the critical importance of this cognitive process in the accounting domain, no study has examined the impact of distributing cues to multiple team members. It is also the first accounting study, of which I am aware, to examine the impact of the hierarchical team structure on judgments made by the team. As such, it offers an unexpected finding. While literature from other domains suggests hierarchical teams will struggle to pool cues and complete a configural processing task, I find the opposite is true in the accounting domain. The hierarchical team outperforms the peer teams, communicating problems to their supervisors with a greater frequency. While this finding is encouraging for the auditing profession, which typically conducts work in hierarchical teams, it does raise questions about the judgments made when seniors or managers work jointly on a complex engagement.

This paper makes a novel contribution to accounting literature by recognizing the nature of the brainstorming session as a counterfactual prime and identifying the cascade effects that impact judgments made during the testing phase of the audit. While extant literature has determined the interrelated nature of audit tasks means the completion of one task may influence judgments made on a second task, this paper is one of the first to identify a particular procedure that impacts successive tasks based on its psychological nature. The consideration of benefits from the SAS 99 brainstorming session impacting judgments made during the testing phase of the audit is highly relevant for audit firms as they determine which members of the audit team

should be required to attend the brainstorming sessions. In their field investigation, Brazel et al. (2010) found some members of the audit team were absent for 27% of the sessions, and 35% of the sessions were conducted after planning had been completed. My study provides evidence that the staff participation in brainstorming sessions can enhance communication during the testing phase of the audit and improve the likelihood of detecting misstatements in the financial statements. I believe identification of these cascade effects may shift the scales as firms weigh the cost against the benefits of entry-level staff participation in the brainstorming session.

5.3 Limitations and Future Research

This study utilizes a modified version of realistic workpapers developed and validated for use in a prior study. This decision was made to maximize external validity, but it combines cue identification with cue communication. Future research could separately test the impact of the SAS 99 brainstorming session on cue identification, cue selection, and cue communication.

Secondly, the proposed study recruits staff and senior auditors as subjects. This design choice was made to focus analysis on the lowest levels of the firm hierarchy and therefore the auditors least likely to identify and communicate potentially relevant cues. Future research could determine whether the observed impact of team structure and the SAS 99 brainstorming session on judgment quality holds at higher levels within firms, or if supervision or review by a manager overcomes the effect of team structure noted in this study. An additional line of study could identify interventions that may overcome the effect, such as designation of a leader within the peer team.

Third, in this study I used participant responses to an open-ended question as a measure of problem representation. While I fail to find evidence of problem representation as a mediating variable, this may be due to noise introduced by the operationalization of the variable. Future

research, implementing more precise methods of measurement, may yield additional evidence on this relationship.

Finally, the simplified scenario is limited to one area of the audit and excludes remaining cycles of the financial statements as well as certain elements of the audit environment. Subsequent studies could consider the impact of a richer set of audit workpapers, a quality brainstorming session guided by a partner or fraud specialist, and the formal review process.

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Figure 1
Predicted Effects of Team Structure
and Level of Counterfactual Prime on Judgment Quality

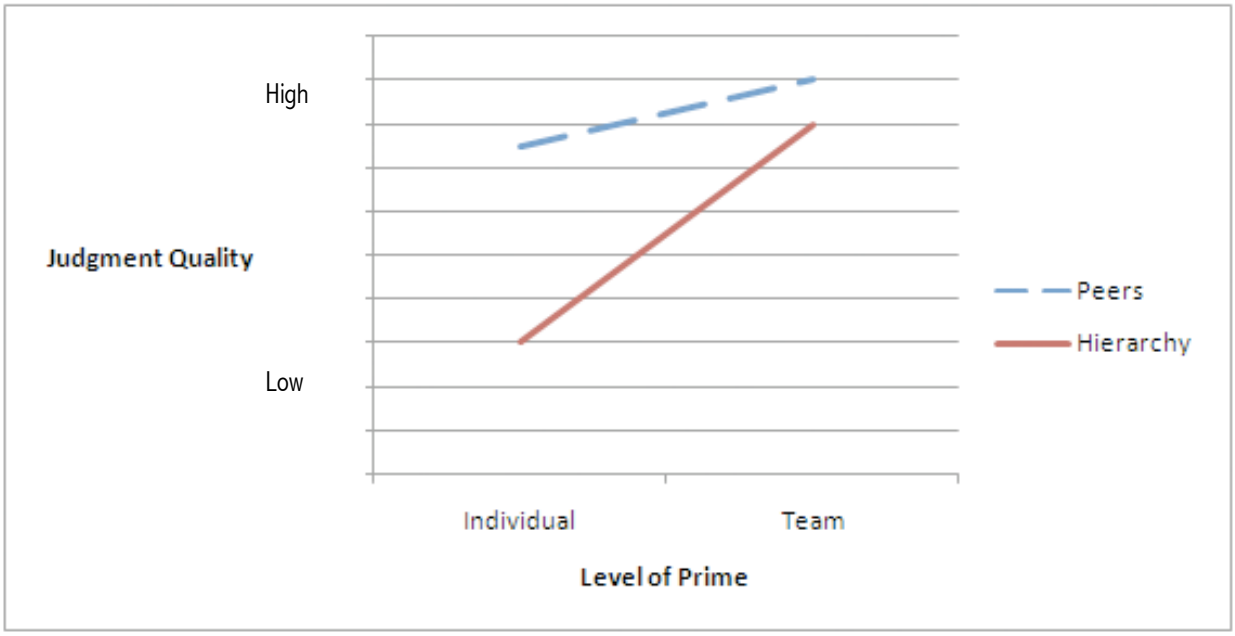


Figure 2
Flowchart of Experimental Procedures

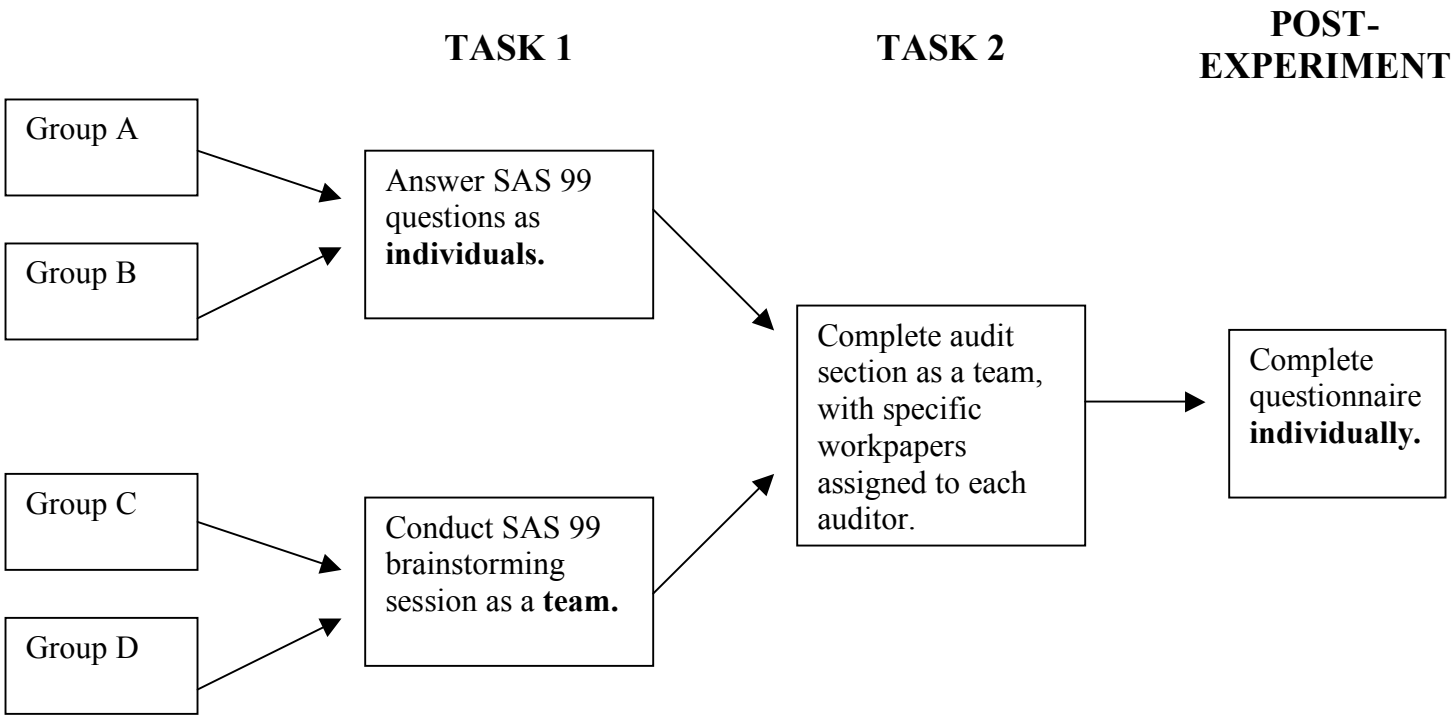


Figure 3
Predicted Relationship of Level of Prime and Team Structure on Error in Proposed Journal Entry

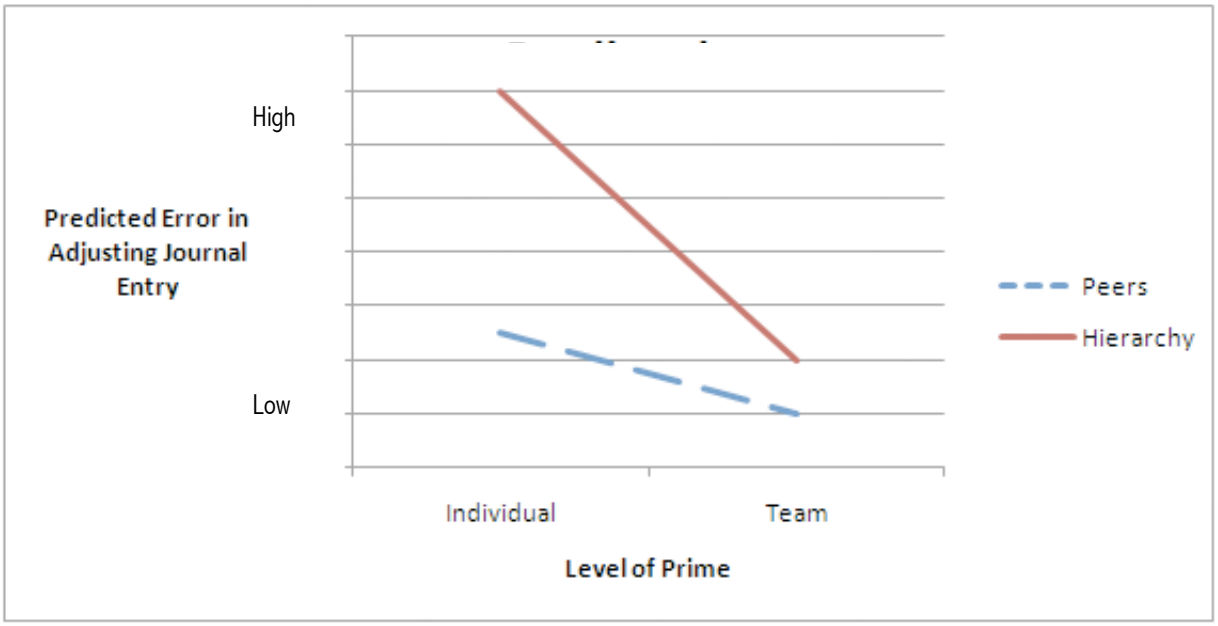


Figure 4
Observed Relationship of Level of Prime and Team Structure on Error in Proposed Journal Entry

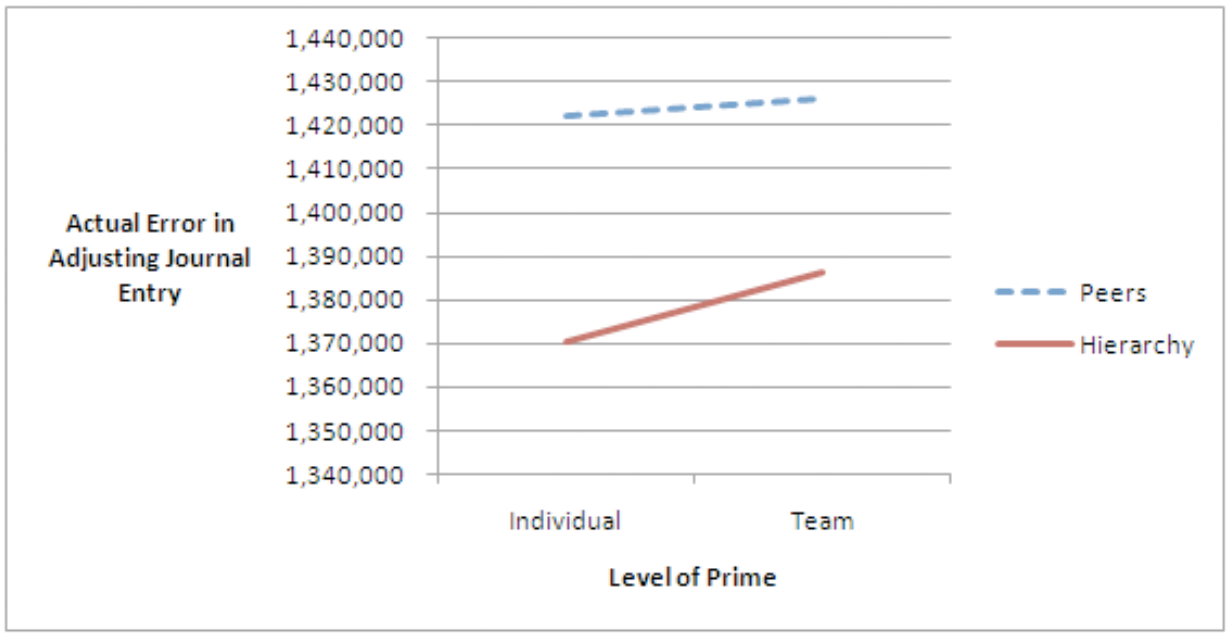


Figure 5
Observed Percentage of Teams Identifying Cutoff Problem by Cell Group

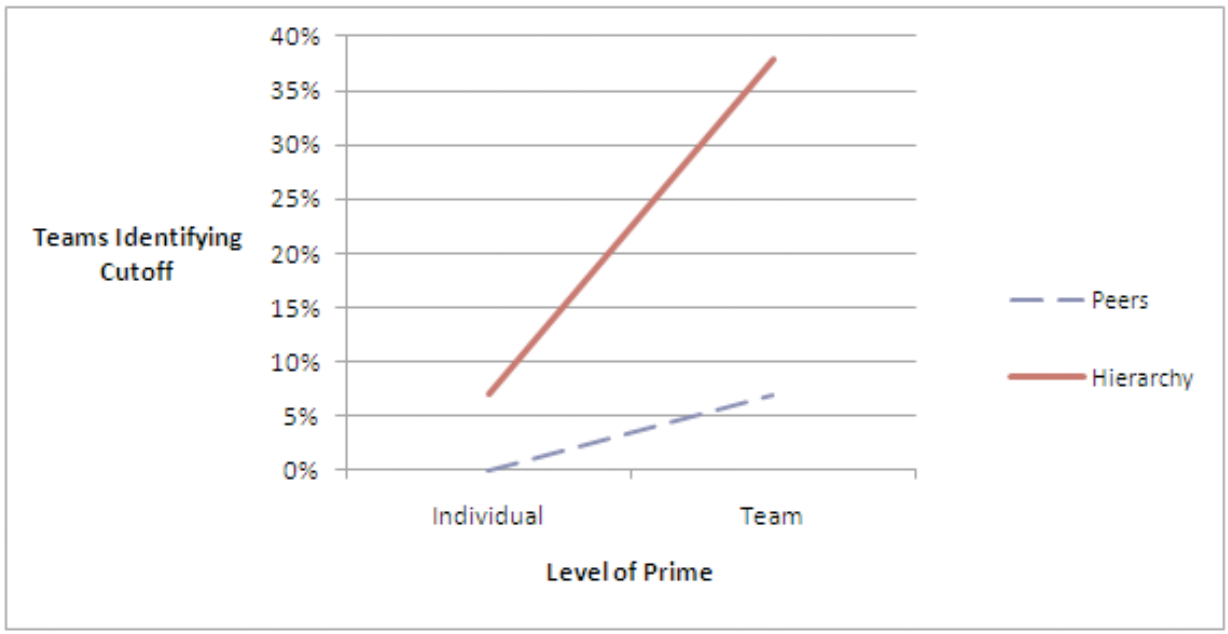


Table 1
Cues Seeded by Workpaper

Cue	Workpaper	Error
1	AR 5	No recorded shipment to support client explanation of confirmation exception.
2	AR 5	No recorded shipment for the remaining invoice dated 12/30 selected for confirmation.
3	AR 2, Appendix 1	A/R clerk named Donna Ross.
4	AR 2, Appendix 1	High volume of sales near year-end (November & December).
5	AR 6, Appendices 2&3	One confirmation returned with exception. Client reconciliation reports a timing difference
6	AR 6, Appendices 2&4	Confirmed balance does not tie to Aged A/R.
7	AR 6, Appendix 2	One additional invoice from sample was recorded at year end 12/30.
8	Appendix 2	Customer confirmation signed by Donna Ross.

**Note: Cues 1-4 provided to Auditor 1. Cues 5-8 provided to Auditor 2.*

Table 2
Seeded Cue Patterns

	Member	Cue #	Description
Pattern 1	Staff	5	1 of 10 confirmations returned with an exception. Explained by client as timing difference.
	Senior	1	No supporting shipment for sale in question.
	Combined Interpretation		Fictitous transaction.
Pattern 2	Staff	7	Confirmations include one additional invoice dated 12/30. Fact is insignificant when interpreted independently.
	Senior	2	No supporting shipment for sale in question.
	Senior	4	High volume of sales in November & December
	Combined Interpretation		Sales and accounts receivable inflated by fictitious transactions recorded near year end.
Pattern 3	Staff	8	Confirmation signed by Donna Ross
	Senior	3	Donna Ross is accounts receivable clerk for WMI
	Combined Interpretation		Likely related party transaction, potentially fraudulent.

Table 3
Estimated Error in Sales/Accounts Receivable

Error estimates for accounts receivable, based on confirmation procedures:

	Error in Sample		
	$	%[a]	Extrapolated[b]
Variance between confirmed amount and Aged A/R Trial Balance	36,242.74	4%	193,514.07
Reported exception - year-end invoices without supporting shipment	29,128.00	9%	262,913.20
Total confirmation exceptions	65,370.74		456,427.27
Additional year-end invoice without supporting shipment	107,000.00	15%	965,796.24
Total errors in sample	172,370.74		1,422,223.51

[a] The percentage of error in each aging category sampled.

[b] Error extrapolated by extending percentage of error in each aging category sampled to each aging category in the population. Substantially similar results are obtained by extrapolating the error as a percentage of the balance sampled to the ending balance of A/R.

Table 4
Demographic Data (Continuous Measures)

Panel A: Continuous Measures

Attribute	*Scale*	*N*	*Mean*	*Std. Dev.*	*Minimum*	*Maximum*
Audit Experience	Years					
Senior 1		57	4.90	1.63	2.00	10.08
Senior 2		29	5.23	0.92	2.00	8.00
Staff 1		27	1.48	1.37	0.17	6.00
Times Brainstorming	Count					
Senior 1		55	18.82	19.56	0.00	100.00
Senior 2		27	10.48	8.29	0.00	40.00
Staff 1		27	3.96	9.86	0.00	Yes
Times Auditing Sales	Count					
Senior 1		54	15.12	18.50	0.00	100.00
Senior 2		27	12.96	14.71	0.00	50.00
Staff 1		28	3.63	5.22	0.00	23.00
Skepticism	Likert (1-10)					
Senior 1		57	7.19	1.67	2.00	10.00
Senior 2		29	6.76	1.66	2.00	9.00
Staff 1		27	7.15	1.70	2.00	10.00
Efficient alone	Likert (1-10)					
Senior 1		57	6.30	2.21	2.00	10.00
Senior 2		28	5.75	2.37	1.00	10.00
Staff 1		28	5.36	2.45	1.00	10.00
Effective alone	Likert (1-10)					
Senior 1		57	5.42	2.24	2.00	10.00
Senior 2		28	5.71	2.66	1.00	10.00
Staff 1		28	4.61	2.10	1.00	8.00
Enjoy teamwork	Likert (1-10)					
Senior 1		57	8.11	1.62	3.00	10.00
Senior 2		29	8.24	1.38	5.00	10.00
Staff 1		28	7.96	1.10	6.00	10.00

Table 5
Demographic Data (Discrete Measures)

Panel A: Categorical Variables

	Senior 1		Senior 2		Staff 1	
Attribute	*N*	*Percentage*	*N*	*Percentage*	*N*	*Percentage*
Gender						
Male	23	40%	13	45%	10	36%
Female	34	60%	16	55%	17	61%
No response	-	-	-	-	1	3%
Firm Affiliation						
Big 4	38	67%	29	100%	9	32%
International	9	15%	-	-	9	32%
Regional	5	9%	-	-	5	18%
Local	5	9%	-	-	5	18%

Panel B: Prior Experience

	Yes		No		No response	
	N	*Percentage*	*N*	*Percentage*	*N*	*Percentage*
With Fraud						
Senior 1	11	19%	44	77%	2	4%
Senior 2	7	24%	21	73%	1	3%
Staff 1	-	-	25	89%	3	11%
With Misappropriation						
Senior 1	11	19%	44	77%	2	4%
Senior 2	7	24%	20	69%	2	7%
Staff 1	1	4%	24	86%	3	11%
With Teammate						
Senior 1	25	44%	31	54%	1	2%
Senior 2	5	17%	21	73%	3	10%
Staff 1	19	66%	8	30%	1	4%

Table 6
Index of Assigned Workpapers

	Workpaper Assignment	
Content	**Auditor 1**	**Auditor 2**
A/R Aging Analysis	AR-2	
Ratio Calculations	AR-3	
Analytical Review	AR-4	
Cutoff Testing	AR-5	
Confirmation Summary		AR-6
Notes on A/R Aging (AR-2)	Appendix 1	
Confirmations		Appendix 2
Reconciliation of Exception		Appendix 3
Aged A/R Balances By Customer		Appendix 4

Table 7
Results for Hypothesis 1a
Mann-Whitney U Test and ANOVA Results
Team Structure and Judgment Quality

Panel A: Descriptive Statistics for Dependent Variable - Difference in Adjusting Journal Entry

Team Structure	*N*	*Means*	*Std. Dev*	*Min*	*Max*
Peers	29	1,424,225	17,325	1,363,733	1,480,633
Hierarchy	28	1,377,750	164,019	615,989	1,480,715

Panel B: Mann-Whitney U Test Results for Dependent Variable - Difference in Adjusting Journal Entry

Source of Variation	*N*	*Mean Rank*	*Sum of Ranks*	*Z*	*p-value*
Peers	29	31.22	905.50	-1.3901	0.165 [b]
Hierarchy	28	26.70	747.50		

Panel C: ANOVA Results for Dependent Variable - Difference in Adjusting Journal Entry

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	1,647,862,975	0.12	0.366 [a]
Team Structure	1	30,768,624,710	2.23	0.142 [b]
Structure * Prime	1	229,684,178	0.02	0.898 [b]
Error	53			

[a] One-tailed p-values.
[b] Two-tailed p-values.

Table 8
Results for Hypothesis 1a using Alternative Measure
Chi-Square Analysis and Logistic Regression
Team Structure on Judgment Quality

Panel A: Frequency of Teams Identifying Cutoff As Significant Issue[a]

	Hierarchical Team		Peer Team	
Identified Cutoff as Significant	*Count*	*Percentage*	*Count*	*Percentage*
Yes	5	18%	2	7%
No	23	82%	27	93%
Total	28	100%	29	100%

Panel B: Logistic Regression for Dependent Variable - Cut-off Issue Identified by Team

Variable	*Wald Chi-Square*	*p-value*	
Intercept	14.966	<0.001	[c]
Level of Prime	4.070	0.022	[b]
Team Structure	1.273	0.259	[c]

[a]Frequency of teams identifiying cutoff as a significant issue to be communicated to partner. Chi-square of 1.588 is not significant (p = 0.208). Fisher's Exact test p-value = 0.197.
[b]One-tailed p-values.
[c]Two-tailed p-values.

Table 9
Correlation Matrix

		Judgment Quality				Problem Representation	Communication	
		Difference in AJE	Difference in Misstatement	Difference in Fraud	Cutoff Identified	Number of Patterns	Communication Quality	Discussion Time
Difference in AJE	Correlation	1.000						
	p-value							
Difference in Misstatement	Correlation	0.406	1.000					
	p-value	0.003 ***						
Difference in Fraud	Correlation	0.259	0.718	1.000				
	p-value	0.072 *	<.0001 ***					
Cutoff Identified	Correlation	0.054	0.024	0.020	1.000			
	p-value	0.691	0.871	0.889				
Number of Patterns	Correlation	0.040	0.073	(0.048)	0.336	1.000		
	p-value	0.767	0.616	0.743	0.011 **			
Communication Quality	Correlation	(0.200)	(0.344)	(0.314)	0.159	0.103	1.000	
	p-value	0.135 **	0.015 **	0.028 **	0.236	0.447		
Discussion Time	Correlation	(0.261)	(0.002)	(0.055)	0.068	0.095	0.398	1.000
	p-value	0.073 *	0.991	0.722	0.646	0.521	0.005 ***	

* Significant at p=.01
** Significant at p=.05
*** Significant at p=.10

Table 10
Results for Hypothesis 1b
Test for Mediation of Problem Structure
on the Effect of Team Structure on Judgment Quality

Panel A: Step 1 - ANOVA Results of Judgment Quality (Difference in AJE) on Team Structure

Variable	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	1,647,862,975	0.12	0.366 [a]
Team Structure	1	30,768,624,710	2.23	0.142 [b]
Structure * Prime	1	229,684,178	0.02	0.898 [b]
Error	53			

Panel B: Step 2 - Descriptive Statistics: Dependent Measure Problem Structure (Patterns)[c]

	Hierarchical Team		Peer Team	
Patterns Identified	*Count*	*Percentage*	*Count*	*Percentage*
0	26	93%	26	90%
1	2	7%	2	7%
2	-	0%	1	3%
Total	28	100%	29	100%

Panel C: Step 2 - ANOVA Results of Problem Structure on Team Structure

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	0.238	1.86	0.178 [b]
Team Structure	1	0.063	0.49	0.486 [b]
Structure * Prime	1	0.277	2.16	0.147 [b]
Error	53			

Panel D: Step 3 - ANOVA Results of Judgment Quality on Problem Structure

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Problem Structure	2	1,257,374,974	0.04	0.478 [a]
Error	54			

Panel E: Step 4 - ANCOVA Results of Judgment Quality on Team Structure
Controlling for Problem Structure

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	1,698,530,813	0.12	0.365 [a]
Team Structure	1	29,107,457,827	2.07	0.157 [b]
Problem Structure	1	498,235,249	0.04	0.426 [a]
Structure * Prime	1	293,998,211	0.02	0.886 [b]
Error	52			

[a] One-tailed p-values.
[b] Two-tailed p-values.
[c] Chi-square of 0.983 (p = 0.612) and Fisher's exact test (p = 1.000) are not significant.

Table 11
Results for Hypothesis 1b using Alternative Measure
Test for Mediation of Problem Structure
on the Effect of Team Structure on Judgment Quality

Panel A: Logistic Regression Results of Judgment Quality (Cutoff Identified) on Team Structure

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	14.966	<0.001 [b]
Level of Prime	4.070	0.022 [a]
Team Structure	1.273	0.259 [b]

Panel B: ANOVA Results of Problem Structure (Number of Patterns Identified) on Team Structure

Source of Variation	*df*	*Sum of Squares*	*F-ratio*	*p-value*
Level of Prime	1	0.238	1.860	0.178 [b]
Team Structure	1	0.063	0.490	0.486 [b]
Structure * Prime	1	0.277	2.160	0.147 [b]
Error	53			

Panel C: Logistic Regression Results of Judgment Quality on Problem Structure

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	30.423	<.0001 [b]
Problem Structure	4.078	0.022 [a]

Panel D: Logistic Regression Results of Judgment Quality on Team Structure
Controlling for Problem Structure

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	12.490	<.0001 [b]
Level of Prime	1.934	0.082 [a]
Team Structure	4.639	0.031 [b]
Problem Structure	5.084	0.012 [a]

[a] One-tailed p-values.
[b] Two-tailed p-values.

Table 12
Results for Hypothesis 2a
Mann-Whitney U Test and ANOVA Results
Level of Counterfactual Prime and Judgment Quality

Panel A: Descriptive Statistics for Dependent Variable - Discussion Time

Level of Prime	*N*	*Means*	*Std. Dev*	*Min*	*Max*
Individual	23	7.78	3.45	2.00	15.00
Team	25	10.30	6.82	2.50	30.00

Panel B: Mann-Whitney U Test Results for Dependent Variable - Discussion Time

Level of Prime	*N*	*Mean Rank*	*Sum of Ranks*	*Z*	*p-value*
Individual	23	22.02	506.50	-1.1816	0.119 [a]
Team	25	26.78	669.50		

Panel C: ANOVA Results for Dependent Variable - Discussion Time

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	75.92	2.45	0.062 [a]
Team Structure	1	10.27	0.33	0.568 [b]
Structure * Prime	1	2.83	0.09	0.764 [b]
Error	44			

[a] One-tailed p-values.
[b] Two-tailed p-values.

Table 13
Results for Hypothesis 2a using Alternative Measure
Mann-Whitney Test and ANOVA Results
Level of Counterfactual Prime and Communication Quality

Panel A: Descriptive Statistics for Dependent Variable - Communication Quality

Level of Prime	*N*	*Means*	*Std. Dev*	*Min*	*Max*
Individual	30	3.07	0.72	2.00	4.50
Team	27	3.57	0.81	2.00	5.00

Panel B: Mann-Whitney U Test Results for Dependent Variable - Communication Quality

Level of Prime	*N*	*Mean Rank*	*Sum of Ranks*	*Z*	*p-value*
Individual	30	24.12	723.50	2.3741	0.009 [a]
Team	27	34.43	929.50		

Panel C: ANOVA Results for Dependent Variable - Communication Quality

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	3.66	6.31	0.008 [a]
Team Structure	1	0.59	1.02	0.317 [b]
Structure * Prime	1	0.40	0.68	0.412 [b]
Error	53			

[a] One-tailed p-values.
[b] Two-tailed p-values.

Table 14
Results for Hypothesis 2b
Mann-Whitney Test and ANOVA Results
Level of Counterfactual Prime and Judgment Quality

Panel A: Descriptive Statistics for Dependent Variable - Difference in Adjusting Journal Entry

Level of Prime	*N*	*Means*	*Std. Dev*	*Min*	*Max*
Individual	30	1,396,294	148,470	615,989	1,480,715
Team	27	1,407,063	69,234	1,098,224	1,480,633

Panel B: Mann-Whitney U Test Results for Dependent Variable - Difference in Adjusting Journal Entry

Level of Prime	*N*	*Mean Rank*	*Sum of Ranks*	*Z*	*p-value*
Individual	30	29.43	883.00	-0.2718	0.393 [a]
Team	27	28.52	770.00		

Panel C: ANOVA Results for Dependent Variable - Difference in Adjusting Journal Entry

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	1,647,862,975	0.12	0.366 [a]
Team Structure	1	30,768,624,710	2.23	0.142 [b]
Structure * Prime	1	229,684,178	0.02	0.898 [b]
Error	53			

[a] One-tailed p-values.
[b] Two-tailed p-values.

Table 15
Results of Hypothesis 2b using Alternative Measure
Chi-Square Analysis and Logistic Regression
Level of Counterfactual Prime and Judgment Quality

Panel A: Frequency of Teams Identifying Cutoff As Significant Issue[a]

	Team Level Prime		Individual Level Prime	
Identified Cutoff as Significant	*Count*	*Percentage*	*Count*	*Percentage*
Yes	6	22%	1	3%
No	21	78%	29	97%
Total	27	100%	30	100%

Panel B: Logistic Regression for Dependent Variable - Cut-off Issue Identified by Team

Variable	*Wald Chi-Square*	*p-value*	
Intercept	14.966	<0.001	[c]
Level of Prime	4.070	0.022	[b]
Team Structure	1.273	0.259	[c]

[a]Frequency of teams identifiying cutoff as a significant issue to be communicated to partner. Chi-square of 4.707 is significant (p = 0.030). Fisher's Exact test p-value = 0.037.
[b]One-tailed p-values.
[c]Two-tailed p-values.

Table 16
Results of Hypothesis 2c
Test for Mediation of Problem Structure
on the Effect of Level of Counterfactual Prime on Judgment Quality

Panel A: Step 1 - ANOVA Results of Judgment Quality (Diff. in AJE) on Level of Prime

Variable	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	1,647,862,975	0.12	0.366 [a]
Team Structure	1	30,768,624,710	2.23	0.142 [b]
Structure * Prime	1	229,684,178	0.02	0.898 [b]
Error	53			

Panel B: Step 2 - Descriptive Statistics: Dependent Measure Problem Structure[c]

	Team Level Prime		Individual Level Prime	
Patterns Identified	*Count*	*Percentage*	*Count*	*Percentage*
0	26	96%	26	87%
1	1	4%	3	10%
2	0	0%	1	3%
Total	27	100%	30	100%

Panel C: Step 2 - ANOVA Results of Problem Structure on Level of Prime

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	0.239	1.86	0.178 [b]
Team Structure	1	0.063	0.49	0.486 [b]
Structure * Prime	1	0.277	2.16	0.147 [b]
Error	53			

Panel D: Step 3 - ANOVA Results of Judgment Quality on Problem Structure

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Problem Structure	1	1,230,398,291	0.09	0.384 [a]
Error	55			

Panel E: Step 4 - ANCOVA Results of Judgment Quality on Level of Prime
Controlling for Problem Structure

Source of Variation	*df*	*Sum of Squares*	*F-Ratio*	*p-value*
Level of Prime	1	1,698,530,813	0.12	0.365 [a]
Team Structure	1	29,107,457,827	2.07	0.157 [b]
Patterns	1	498,235,249	0.04	0.426 [a]
Structure * Prime	1	293,998,211	0.02	0.886 [b]
Error	52			

[a] One-tailed p-values.
[b] Two-tailed p-values.
[c] Chi-square of 1.8472 (p = 0.3971) and Fisher's exact test (p = 0.614 one-tailed) are not significant.

Table 17
Results of Hypothesis 2c using Alternative Measure
Test for Mediation of Problem Structure
on the Effect of Team Structure on Judgment Quality

Panel A: Logistic Regression Results of Judgment Quality (Cutoff Identified) on Level of Prime

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	14.966	<0.001 [b]
Level of Prime	4.070	0.022 [a]
Team Structure	1.273	0.259 [b]

Panel B: ANOVA Results of Problem Structure (Number of Patterns Identified) on Level of Prime

Source of Variation	*df*	*Sum of Squares*	*F-ratio*	*p-value*
Level of Prime	1	0.239	1.860	0.178 [b]
Team Structure	1	0.063	0.490	0.486 [b]
Structure * Prime	1	0.277	2.160	0.147 [b]
Error	53			

Panel C: Logistic Regression Results of Judgment Quality on Problem Structure

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	30.423	<.0001 [b]
Problem Structure	4.078	0.022 [a]

Panel D: Logistic Regression Results of Judgment Quality on Team Structure
Controlling for Problem Structure

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	12.490	<.0001 [b]
Level of Prime	1.934	0.082 [a]
Team Structure	4.639	0.031 [b]
Problem Structure	5.084	0.012 [a]

[a] One-tailed p-values.
[b] Two-tailed p-values.

Table 18
Results of ANOVAs on Various Measures of Communication

Panel A: Results of ANOVAs with Communication measures as Dependent Variable

		Level of Prime		Hierarchy	
Dependent Variable	*df*	*F-ratio*	*p-value*[a]	*F-ratio*	*p-value*[b]
Reported by Auditor 1					
Teammate Asked	56	4.50	0.019 **	0.44	0.511
You Asked	56	2.14	0.075	0.68	0.414
Teammate Volunteered	56	1.99	0.082	0.05	0.820
You Volunteered	56	1.06	0.155	2.40	0.127
Teammate was Interested	56	6.37	0.007 **	0.56	0.459
You were Interested	56	2.82	0.050 *	3.45	0.069 *
Overall Communication	56	8.62	0.002 **	0.00	0.996
Overall Teamwork	56	4.84	0.016	0.00	0.968
Reported by Auditor 2					
Teammate Asked	56	1.51	0.112	8.30	0.006 **
You Asked	56	5.54	0.011 **	0.38	0.541
Teammate Volunteered	56	2.92	0.047 **	0.90	0.348
You Volunteered	56	0.07	0.395	4.34	0.042 **
Teammate was Interested	54	0.03	0.437	13.97	0.001 **
You were Interested	55	0.27	0.303	0.53	0.471
Overall Communication	56	0.93	0.170	2.55	0.116
Overall Teamwork	56	1.00	0.161	0.30	0.585

[a] One-tailed p-values.
[b] Two-tailed p-values.
* Significant at p = .10
** Significant at p = .05

Table 19
Results of t-tests on Self-reported Communication Quality

Panel A: Descriptive Statistics - Self-Reported Measures of Communication by Team Structure

	Peers		Hierarchy				
	Mean	*Std Dev*	*Mean*	*Std Dev*	*t-test*	*p-value*	
Reported by Auditor 1							
You were Interested	2.97	1.21	3.50	1.00	-1.81	0.075	*
Reported by Auditor 2							
Teammate Asked	2.52	1.12	3.36	1.06	-2.90	0.005	**
You Volunteered	3.07	1.39	3.75	0.97	-2.14	0.037	**
Teammate was Interested	2.66	1.17	3.77	0.95	-3.84	<.001	**

Panel B: Difference in Questions Asked by You versus Your Teammate

	N	*Mean Difference*	*Std Dev*	*t-test*	*p-value*	
Reported by Auditor 1						
Peers	29	-0.07	0.65	-0.57	0.573	
Hierarchy	28	-0.50	0.84	-3.15	0.004	**
Reported by Auditor 2						
Peers	29	-0.21	0.68	-1.65	0.110	
Hierarchy	28	0.86	1.24	3.66	0.001	**

[a] All tests conducted two-tailed.

* Significant at p = .10

** Significant at p = .05

Table 20
Supplemental Analysis of Communication as Potential Mediator of the Effects of Level of Prime on Judgment Quality

Panel A: Logistic Regression Results of Judgment Quality (Cutoff Identified) on Level of Prime

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	14.966	<0.001 [a]
Level of Prime	4.070	0.022 [a]
Team Structure	1.273	0.259 [b]

Panel B: ANOVA Results of Communication Quality on Level of Prime

Source of Variation	*df*	*Sum of Squares*	*F-ratio*	*p-value*
Level of Prime	1	3.659	6.310	0.008 [a]
Team Structure	1	0.592	1.020	0.317 [b]
Structure * Prime	1	0.396	0.680	0.412 [b]
Error	53			

Panel C: Logistic Regression Results of Judgment Quality on Communication Quality

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	4.363	0.037 [b]
Communication Quality	1.392	0.119 [a]

Panel D: Logistic Regression Results of Judgment Quality on Team Structure Controlling for Communication Quality

Source of Variation	*Wald Chi-Square*	*p-value*
Intercept	1.992	0.158 [b]
Level of Prime	3.167	0.038 [a]
Team Structure	1.537	0.215 [b]
Communication Quality	0.077	0.390 [a]

[a] One-tailed p-values.
[b] Two-tailed p-values.

Table 21
Summary of Hypothesis Testing

H1a: Effect of team structure on judgment quality			
Dependent Measure	*Test*	*p-value*	*Supported*
Difference in AJE	Mann-Whitney U-test	0.165 [b]	No
Cut-off identified			
bivariate analysis	Logistic regression	0.259 [b]	No
after controlling for problem representation	Logistic regression	0.031 [b]	Yes
H1b: Effect of team structure on judgment quality mediated by problem representation			
Mediator	*Test*		*Supported*
Problem structure	4-step Mediation Test		No
H2a: Effect of level of prime on team communication			
Dependent Measure	*Test*	*p-value*	*Supported*
Minutes of discussion	Mann-Whitney U-test	0.119 [a]	No
Quality of communication	Mann-Whitney U-test	0.009 [a]	Yes
H2b: Effect of level of prime on judgment quality			
Dependent Measure	*Test*	*p-value*	*Supported*
Difference in AJE	Mann-Whitney U-test	0.393 [a]	No
Cut-off identified	Logistic regression	0.022 [a]	Yes
H2c: Mediated Effect of level of prime on judgment quality			
Mediation Measure	*Test*		*Supported*
Problem structure	4-step Mediation Test		No
Communication quality	4-step Mediation Test		Partial
H3: Effect of level of prime on judgment quality differs based on team structure			
Dependent Measure	*Test*		*Supported*
Difference in AJE	ANOVA with contrast	0.249 [b]	No
Cut-off identified	ANOVA with contrast	<0.001 [a]	Yes

[a] One-tailed p-values.
[b] Two-tailed p-values.

APPENDIX A – INTRODUCTION

My name is Rebecca Fay and I am a Ph.D. student at Virginia Tech studying auditing. I would like to thank you for agreeing to assist me in completing my dissertation research. The purpose of the project is to gain knowledge and insight into the process of audit testing. Over the next 45 minutes, you will be asked to complete two audit tasks for a hypothetical audit client and a brief questionnaire with a total completion time of 45 minutes. The two of you must work in the same office and remain in the room for 45 minutes as you complete this study from beginning to end.

***(Manipulation 1 – Individual level Prime*)**
The partner in charge of the audit has asked you to complete the first task individually. You have approximately 11 minutes to read the materials and answer 3 questions in preparation for the SAS 99 fraud brainstorming session. You may now open the smaller envelope labeled Task #1 and begin the first task. A copy of the materials has been provided for each of you, including a form to record your individual responses. Please refrain from talking as you complete this task individually.

***(Manipulation 1 – Group level Prime*)**
The partner in charge of the audit has asked you to complete the first task as a pair. You have approximately 11 minutes to read the materials and answer 3 questions in preparation for the SAS 99 fraud brainstorming session. You may now open the smaller envelope labeled Task #1 and begin the first task. A copy of the materials has been provided for each of you, as well as a form to record your pair's responses.

APPENDIX B – TASK 1 MATERIALS

Planning decisions

Please indicate the time you begin Task 1 _____

For your first task, you have/your team has [***Manipulation 1-Level of prime]*** been asked to complete a planning task for the 12/31/09 financial statement audit of Wilson Manufacturing, Inc. (WMI). You have been provided with a client description, and brief financial statements. After reading the material, you will be asked to answer 3 planning questions. Twelve minutes have been budgeted for completion of this task (approximately 6 minutes to read the material and 6 minutes to answer questions).

Client description

WMI manufactures and markets a variety of products and parts for automobiles. It sells its products to independent and chain auto parts retailers in the southeast United States. Competition is very intense in the industry and there is very little to distinguish one supplier from another. WMI's activity is typical, and its accounting policies and estimates are conservative for its industry.

Your firm, Davis, Johnson, and Smith, LLP (DJS), has audited WMI since 1990. The client typically has few audit adjustments and no material weaknesses from prior years. Control risk has always been assessed as low. Management has always been receptive to recommendations in the management letter. WMI has been well received by the financial markets and is traded on NASDAQ. Earnings data and stock price activity for the last five years are listed below.

Exhibit I
WMI
FIVE YEAR INCOME AND STOCK PRICE DATA (000s omitted)

	2009*	2008	2007	2006	2005
EPS	$ 0.085	$ 0.049	$ 0.039	$ 0.025	$ 0.023
Avg. Stock Price	$2.03	$1.33	$1.11	$0.77	$0.61
Price/Earnings Ratio	(24)	(27)	(28)	(31)	(27)

- Unaudited

Current year fraud risk for WMI has been assessed as **moderate** based on the following items:

- WMI has experienced rapid growth and profitability, especially compared with that of other competitors in the industry.
- A significant portion of WMI management's compensation is contingent upon achieving targets for stock price.
- WMI management reports new collection procedures implemented in the current year have resulted in significant improvements in the aging of accounts receivable with 67% of the receivable balance attributed to current accounts compared to 56% in the prior year.

Exhibit II
WMI
Balance Sheet
December 31, 2009

	12/31/09	12/31/08
ASSETS		
Current assets		
Cash and cash equivalents	$ 9,379	$ 7,992
Accounts receivable less allowances of $269, and $234 respectively	9,362	6,664
Inventories	49,947	33,521
Other current assets	5,309	3,399
Total current assets	**73,997**	**51,576**
Property, plant and equipment – net	21,174	15,892
Goodwill and other intangibles	8,597	6,868
Other assets	3,494	2,216
Total assets	**$ 107,262**	**$ 76,552**
LIABILITIES AND SHAREHOLDERS EQUITY		
Accounts payable	$ 11,440	$ 8,218
Current portion of long-term debt	1,208	442
Accrued liabilities	20,968	13,302
Federal and foreign income taxes	3,109	2,623
Total current liabilities	**36,725**	**24,585**
Long-term debt	27,206	16,945
Total liabilities	**63,931**	**41,530**
Common stock	1,000	1,000
Capital in excess of par value	3,653	3,653
Retained earnings	39,236	30,786
Treasury stock	(558)	(417)
Total shareholders' equity	**43,331**	**35,022**
Total liabilities and shareholders' equity	**$ 107,262**	**$ 76,552**

Exhibit III
WMI
Income Statement
For the Years Ended December 31, 2009 and 2008

	2009		2008	
Net sales	**$ 55,985**	**100%**	**$ 36,023**	**100%**
Cost and expenses				
Cost of products sold	29,500	53%	19,000	53%
Selling, general, administrative	12,420	22%	8,271	23%
Research and development	1,065	2%	743	2%
Total expenses	42,985	77%	28,014	78%
Operating earnings	**13,000**	**23%**	**8,009**	**22%**
Other (Income) expense	560	1%	360	1%
Earnings before income taxes	13,560	24%	8,369	23%
Provision for income taxes	5,110	9%	3,469	10%
Net earnings	**$ 8,450**	**15%**	**$ 4,900**	**14%**

Exhibit IV
WMI
Statement of Cash Flows
For the Year Ended December 31, 2009

Cash flow from operating activities	
Net earnings	$ 8,450
Adjustments to cash provided (used) by operations:	
Depreciation expense	750
Amortization of intangibles	307
Net effect of change in current assets/ current liabilities	(8,894)
Net cash used by operations	613
Net cash used by investing activities	(9,346)
Net cash provided by financing activities	10,120
Net Increase in cash and cash equivalents	1,387
Cash and cash equivalents at beginning of period	7,992
Cash and cash equivalents at end of period	$ 9,379

APPENDIX C – TASK 1 RESPONSE

Your Task
Manipulation 1 – Individual prime
You have been asked to answer the following three questions. We are looking for your **INDIVIDUAL** judgment for this task, so do not confer with your teammate.

Manipulation 1 – Group prime/ Manipulation 2 – mixed status
Your team has been asked to answer the following three questions. We are looking for your **TEAM** judgment on these questions, so be sure to discuss your responses. As the team leader, the senior auditor is responsible for recording the **TEAM** decision.

Manipulation 1 – Group prime/ Manipulation 2 – equal status
Your team has been asked to answer the following three questions. We are looking for your **TEAM** judgment on these questions, so be sure to confer with your teammate, then record the **TEAM** decision.

1) Identify 2-3 areas of the financial statement that are most susceptible to fraud?

2) If management anticipated your traditional audit procedures, how could these fraudulent acts be concealed?

3) What audit procedures could help you detect these frauds?

Please indicate the time you completed Task 1 _____

How many MINUTES did you take to complete Task 1? _____

Of that time, how many minutes did you spend in discussion? _____

After completing this task, place your response and all related documents back into the envelope labeled Task #1.

(**Manipulation 1 – Individual level prime)** When both you and your partner have completed the task), you may then open the envelope labeled Task #2 and read the instructions as a team.

(Manipulation 1 – Group level prime) You may then open the envelope labeled Task #2 and read the instructions as a team.

APPENDIX D – TASK 2 INTRODUCTION & RESPONSES

Audit of the Sales and Collection Cycle

Budgeted time: 25 minutes

Introduction

For your second task, your team has been asked to complete and evaluate results from the substantive testing of WMI's sales and collection cycle. Each member of your team has been assigned specific workpapers for completion and/or review. You should only complete your assigned task, but feel free to discuss your workpapers as you evaluate the results of testing and respond to six questions as a team regarding the fair presentation of sales and accounts receivable. You have approximately 25 minutes to complete this task, including approximately 16 minutes to complete your assigned workpaper and 9 minutes to respond to questions. You may now open the envelope labeled Task #2. You will find an introduction and response form for the team, as well as a set of materials for each auditor.

Task Assignments

Senior 1 has been assigned the task of completing AR-3 and reviewing the remaining workpapers in his/her packet. Staff 1 has been assigned the task of completing AR-6. After completion of these tasks, your team must work together to answer six questions. The team leader must record the team response for each question. You will each be provided with a copy of the audit program, and the workpapers necessary to complete your task.

Do not be concerned about any workpapers that are not included here. You should assume that those workpapers have been properly prepared, reviewed and signed off. For convenience, the reviewed workpapers not included in this case study will be referred to as workpapers from the **L** series.

Interim Work and Results

Based on WMI's strong financial position and effective internal controls, **planning materiality for 12/31/09 has been set at $650,000**, which is 5% of the $13.6 million income before taxes. **Tolerable error for any account is $325,000** (50% of planning materiality).

> ***Note: If you should complete your assigned workpapers before your teammate does, you should still remain in the room for the allotted time. Remember, you should not share workpapers or complete procedures for your teammate, but you should feel free to discuss the contents of your workpapers.***

TASK 2 RESPONSES

Work together as a **TEAM** to answer the following questions:

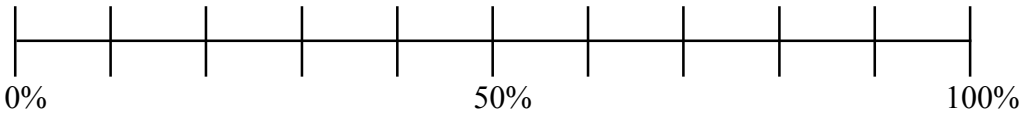
1) Has your team identified any errors in the sales and collection cycle? ***Circle*** **Yes** or **No**.
   If yes, please describe.

2) Does your team have any proposed journal entries? ***Circle*** **Yes** or **No**.
   If yes, please list the entry and show how the amount was calculated.

3) Does your team have any other items to communicate to your supervising manager?
   Circle **Yes** or **No**. If yes, please describe.

4) What is the likelihood of material misstatement in the financial statements related to the sales and collection cycle?

5) What is the likelihood of fraudulent financial reporting in the sales and collection cycle?



6) Please list the relevant information you incorporated into your judgments regarding any potential misstatements in accounts receivable.

Please list the initials of Senior 1 (completing analytical procedures) _____

Please list the initials of Staff 1 (completing confirmation summary) _____

Please indicate the time you complete Task 2 _____

Of this time, how many minutes did you spend in discussion? _____

After completing this task, place your response and all related documents back into the envelope labeled Task #2. You may then open the envelope labeled Task #3 and complete the final questionnaire individually.

APPENDIX E – TASK 2 MATERIALS
AUDITOR 1

Exhibit VI
WMI

AUDIT PROGRAM FOR YEAR END 12/31/09 AUDIT OF WMI RECEIVABLES, ALLOWANCE FOR DOUBTFUL ACCOUNTS AND RELATED BAD DEBT EXPENSE

Procedure:	Workpaper Ref.:	Prepared by and Date:	Assigned to:
Obtain and test the mathematical accuracy of WMI's accounts receivable (A/R) aging schedule and agree aging balance to the general ledger (G/L).	AR-2	PBC/ACA 2/16/10	
Update understanding of WMI's controls over the revenue and cash receipt cycle and perform tests of controls as deemed necessary.	L Series	ACA 2/17/10	
Prepare a schedule and analysis of receivables and related balances as compared to prior years.	AR-3		***Senior 1***
Perform comparative analytical procedures on WMI's A/R related ratios.	AR-4	ACA 2/18/10	
Inquire of client regarding the existence of sales booked in which WMI must perform additional services (e.g., bill and hold sales).	L Series	ACA 2/19/10	
Evaluate cutoff by obtaining the Daily Shipment Logs for 12/28/09 to 1/5/10 and review all sales recorded on these days.	AR-5	ACA 2/18/10	
Judgmentally select a sample of invoices and customer balances and confirm these items.	AR-6		***Staff 1/ Senior 2***
Evaluate adequacy of WMI's allowance for uncollectibles using both historical trends and the aging analysis.	L Series	ACA 2/18/10	
Review credit memo transactions for reasonableness.	L Series	ACA 2/19/10	

MANIPULATION

Exhibit VII
Workpaper Index

	Workpaper Assignment	
Content	**Senior1**	**Staff1/Senior2**
A/R Aging Analysis	AR-2	
Ratio Calculations	AR-3	
Analytical Review	AR-4	
Cutoff Testing	AR-5	
Confirmation Summary		AR-6
Notes on A/R Aging (AR-2)	Appendix 1	
Confirmations		Appendix 2
Reconciliation of Exception		Appendix 3
Aged A/R Balances By Customer		Appendix 4

MANIPULATION

WMI
A/R Aging Analysis
12/31/2009

W/P Ref:	AR-2
Prepared by:	PBC/ACA
Date:	2/16/10

Procedure: Obtain and test the mathematical accuracy of WMI's A/R aging schedule.

Work Performed: A sample of 30 entries in the Aging Schedule (Appendix 4) was traced to the A/R Master File without exception. Also, the overall balance in the schedule agrees with the A/R accounts in the general ledger.

COMPARATIVE AGING SCHEDULE

Aging Category	%	12/31/07	%	12/31/08	%	12/31/09*
Current	44%	$2,403,663	56%	$3,862,550	67%	$6,452,741
1-30	25%	$1,365,718	21%	$1,448,456	23%	$2,215,120
31-60	11%	$600,916	11%	$758,715	5%	$481,548
61-90	6%	$327,772	4%	$275,896	1%	$96,310
>90	14%	$764,802	8%	$551,793	4%	$385,238
Total Gross A/R	100%	$5,462,871	100%	$6,897,410	100%	$9,630,957
	RC	**F, PY**	**RC**	**F, PY**	**RC**	**F, G/L**

*Unaudited

RC Recalculated without exception
F Footed without exception
PY Agreed to prior year workpapers without exception
G/L Agreed to the 12/31/09 general ledger

WMI
Ratio calculations – Accounts Receivable
12/31/2009

W/P Ref:	AR-3
Prepared by:	ACA/
Date:	2/16/10

Procedure: Prepare a schedule and analysis of receivables and related balances as compared to prior years. Complete the following steps:
1. Examine the schedule below.
2. Fill in the empty cells for FY 08 and 09 to complete the analysis.
3. Note any issues you would like to convey to your manager.

Work Performed:

Comparative A/R Schedule and Analysis:

Account	12/31/07	12/31/08	12/31/09*
Gross A/R	$5,462,871	$6,897,410	$9,630,957
Allowance for Doubtful Acct	($168,190)	($233,595)	($268,999)
Total Net A/R	**$5,294,681**	**$6,663,815**	**$9,361,958**
Sales	$30,592,817	$35,959,659	$56,275,810
Gross A/R as a % of Sales	18%		
A/R Turnover (using 2 yr. avg. A/R)	5.60		
Days Sales Outstanding (DSO)	65		
A/R Write-offs	$272,492	$206,309	$112,632
Write-offs as a % of Sales	0.89%		
Allowance as a % of Gross A/R	-3.08%		
Allowance as a % of Sales	-0.55%		

*Unaudited
d Calculated as: Total Trade A/R / Sales
e Calculated as: Sales / ((PY Total Net A/R + CY Total Net A/R) / 2)
f Calculated as: 365 / A/R Turnover
g Calculated as: A/R Write-offs / Sales
h Calculated as: Allowance for Doubtful Acct / Total Trade A/R
i Calculated as: Allowance for Doubtful Acct / Sales

WMI
Analytical Review – A/R ratios
12/31/2009

W/P Ref:	AR-4
Prepared by:	ACA
Date:	2/18/10

Procedure: Perform comparative analytical procedures on WMI's A/R related ratios.

Work Performed:

As shown in the Ratio Calculations at AR-3, DJS compared the client's A/R related ratios (**A/R as a % of Sales**, **A/R turnover**, **Days Sales Outstanding** [DSO]) over the period 12/31/07 – 12/31/09. Upon review of the ratios over the three-year period, DJS noted that the client's A/R turnover was consistent with prior years and days sales outstanding improved in the current year. Per discussion with Donna Ross, A/R Clerk, the client implemented a standardized collection process in the current year which was not in-place in the prior year. Per Donna, a domestic customer is contacted via telephone 10 days after an invoice becomes overdue (standard payment terms are net 30 days) while foreign customers are contacted via fax. This procedure is repeated on a weekly basis until receipt of customer payment with levels of contact going to customer management as balances become further past due. The A/R Dept. also includes the customer's sales rep. in the collection procedures as balances become further past due. See additional documentation related to the client's A/R collection procedures in the **L** series. The A/R writeoff as a % of sales and allowance as a % of A/R are tested as part of evaluating the adequacy of the allowance for uncollectible accounts (see L series). Based on the above discussion, the decrease in A/R as a % of sales and the improvement in days sales outstanding in the current year appear reasonable.

WMI
Cut-off Testing – Sales and Receivables
12/31/2009

W/P Ref:	AR-5
Prepared by:	ACA
Date:	2/18/10

Procedure: Evaluate cutoff by obtaining the daily shipment logs for 12/28/09 to 1/5/10 and review all sales recorded on these days.

Work Performed:

Customer	Invoice #	Invoice Date	Shipping Terms	Sales Journal Date	Recorded in Proper Period
Central Fabrications	059602	12/28/09	FOB shipping	12/28/09	×
Central Fabrications	059603	12/28/09	FOB shipping	12/28/09	×
Central Fabrications	059604	12/29/09	FOB shipping	12/29/09	×
Moore Auto Parts	059605	12/30/09	FOB destination	1/4/10	×
Professional Body Repair	059606	12/30/09	FOB destination	1/4/10	×
VOID	059607				✓
VOID	059608				✓
City Transmission	059609	1/4/10	FOB destination	1/5/10	×
Collision Specialists	059610	1/4/10	FOB shipping	1/4/10	×
C & R Automotive, Inc.	059611	1/4/10	FOB shipping	1/4/10	×
Franklin Repair Shop	059612	1/4/10	FOB destination	1/7/10	×
Exotic Auto Sales	059613	1/4/10	FOB destination	1/8/10	×
VOID	059614				✓
City Transmission & Re	059615	1/5/10	FOB shipping	1/5/10	×
Alpha Auto Parts	059616	1/5/10	FOB destination	1/6/10	×
Executive Used Cars	059617	1/5/10	FOB shipping	1/5/10	×
Moore Automotive Parts	059618	1/5/10	FOB shipping	1/5/10	×
Acme Auto Electric	059619	1/5/10	FOB shipping	1/5/10	×
Grant Auto Supply	059620	1/5/10	FOB shipping	1/5/10	×
B & T Motorsports	059621	1/5/10	FOB shipping	1/5/10	×

× Recorded in the proper period
✓ Invoice was voided and properly excluded from WMI's Sales Journal and A/R records

APPENDIX 1
NOTES TO AGING ANALYSIS AT AR-2
12/31/2009

DJS reviewed the *Aging Analysis* (AR-2) noting all percentage aging bucket changes greater than 3% over the period 9/30/09-12/31/09. DJS noted that the current aging bucket increased 15%. Per discussion with Bob Wilson (Controller) and Donna Ross (A/R clerk), this increase can be attributed entirely to the significant monthly sales recorded during 11/09 and 12/09 (approx. $5.1 million and $7.4 million gross respectively). 12/09 total net sales were approx. $2.6 million greater than 9/09 total net sales which would account for the significantly greater current aging bucket balance @ 12/31/09.

DJS also noted that the 31-60 day aging bucket decreased by 4% and the 'greater than 90-day' bucket decreased by 8% over the period. Per Bob Wilson and Donna Ross, these decreases can be attributed entirely to the client's dedication of resources to improve cash collections in the 4th quarter. As noted in the *Comparative A/R Schedule and Analysis* on AR-3, the client's Days Sales Outstanding has decreased in the current year despite the client's continued significant sales growth.

Based on the above discussion and test work, the 31-60 and >90 aging bucket *decreases* appear reasonable.

APPENDIX F – TASK 2 MATERIALS
AUDITOR 2

Exhibit VI
WMI

AUDIT PROGRAM FOR YEAR END 12/31/09 AUDIT OF WMI RECEIVABLES, ALLOWANCE FOR DOUBTFUL ACCOUNTS AND RELATED BAD DEBT EXPENSE

Procedure:	Workpaper Ref.:	Prepared by and Date:	Assigned to:
Obtain and test the mathematical accuracy of WMI's accounts receivable (A/R) aging schedule and agree aging balance to the general ledger (G/L).	AR-2	PBC/ACA 2/16/10	
Update understanding of WMI's controls over the revenue and cash receipt cycle and perform tests of controls as deemed necessary.	L Series	ACA 2/17/10	
Prepare a schedule and analysis of receivables and related balances as compared to prior years.	AR-3		***Senior 1***
Perform comparative analytical procedures on WMI's A/R related ratios.	AR-4	ACA 2/18/10	
Inquire of client regarding the existence of sales booked in which WMI must perform additional services (e.g., bill and hold sales).	L Series	ACA 2/19/10	
Evaluate cutoff by obtaining the Daily Shipment Logs for 12/28/09 to 1/5/10 and review all sales recorded on these days.	AR-5	ACA 2/18/10	
Judgmentally select a sample of invoices and customer balances and confirm these items.	AR-6		***Staff 1/ Senior 2***
Evaluate adequacy of WMI's allowance for uncollectibles using both historical trends and the aging analysis.	L Series	ACA 2/18/10	
Review credit memo transactions for reasonableness.	L Series	ACA 2/19/10	

MANIPULATION

Exhibit VII
Workpaper Index

	Workpaper Assignment	
Content	**Senior1**	**Staff1/Senior2**
A/R Aging Analysis	AR-2	
Ratio Calculations	AR-3	
Analytical Review	AR-4	
Cutoff Testing	AR-5	
Confirmation Summary		AR-6
Notes on A/R Aging (AR-2)	Appendix 1	
Confirmations		Appendix 2
Reconciliation of Exception		Appendix 3
Aged A/R Balances By Customer		Appendix 4

MANIPULATION

WMI
Confirmation Summary – A/R
12/31/2009

W/P Ref:	AR-6
Prepared by:	
Date:	

Procedure: Judgmentally select a sample of invoices and customer balances and confirm these items. Complete the following steps:
1. Examine the schedule below and the confirmations received in Appendix 2 created by ACA.
2. Complete the schedule below. Use an "x" to denote which of the three columns is appropriate for each customer. The "Reconciled Difference" refers to an amount provided by a customer on the confirmation which is different than the amount per WMI.
3. Note below any issues you would like to convey to your manager.

Work Performed:

A/R Confirmations Summary
12/31/09 Final Testwork

Customer	Invoice #	Amt per WMI	Confirmed without Exception	No Confirmation Received	Confirmed with Exception	Reconciled Difference
Central Fabrication	Total bal	$ 354,709.30				
Discount Auto	Total bal	164,434.70				
Prof. Body Repair	056874	60,700.00				
Western General Parts	058500	45,000.00				
New Century Motors	058338	49,500.00				
Collision Spec, Inc.	056940	59,919.97				
BBC Brake & Muffler	056960	91,000.00				
BBC Brake & Muffler	059585	107,000.00				
Pro-Sport Autos	057260	56,504.22				
Ross Auto Restoration	058824	57,889.95				

(Note: See Appendix 2 for supporting confirmations)

APPENDIX 2
A/R CONFIRMATIONS

January 3, 2010

Central Fabrication

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
Total Balance	As of 12/31/09	$413,200.00

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (X) Correct

( ) Not Correct

Please give details of differences, if any.

Company: *Central Fab*

Signature: *Johnathan B. Baskins*

Title: *CFO*

Date: *1/10/10*

January 3, 2010

Professional Body Repair

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
056874	11/3/09	$60,070.00

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (X) Correct

( ) Not Correct

Please give details of differences, if any.

Company: *PROFESSIONAL BODY REPAIR*

Signature: *Janice S. Tucker*

Title: *A/P Supervisor*

Date: *January 14, 2010*

January 3, 2010

Western General Parts

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
058500	12/9/09	$45,000.00

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (✓) Correct

( ) Not Correct

Please give details of differences, if any.

Company: Western General Parts

Signature: Carl P. Fisher

Title VP of Finance

Date: 1-7-10

January 3, 2010

Collision Specialists, Inc.

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
056940	11/10/09	$59,919.97

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (x) Correct

( ) Not Correct

Please give details of differences, if any.

Company: CSI

Signature: Elsie P. Potter

Title: AP Clerk

Date: 1-13-10

January 3, 2010

BBC Brake & Muffler

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
056960	11/21/09	$91,000.00

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (x) Correct

( ) Not Correct

Please give details of differences, if any.

Company: *BBC Brake and Muffler*

Signature: *Donna Ross*

Title: *A/P Clerk*

Date: *1/10/10*

January 3, 2010

BBC Brake & Muffler

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
059585	12/30/09	$107,000.00

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (X) Correct

( ) Not Correct

Please give details of differences, if any.

Company: *BBC Brake and Muffler*

Signature: *Donna Ross*

Title: *A/P Clerk*

Date: *1/20/10*

January 3, 2010

Ross Auto Restoration

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
058824	12/14/09	$57,889.95

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (✓) Correct

( ) Not Correct

Please give details of differences, if any.

Company: *Ross Auto Restoration*

Signature: *Alan Ross*

Title: *President*

Date: *1/14/10*

January 3, 2010

Pro-Sport Auto

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
057260	11/23/09	$56,504.22

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (✓) Correct

( ) Not Correct

Please give details of differences, if any.

Company: *Pro Sport Auto*

Signature: *Steven Jackson*

Title: *A/P Manager*

Date: *1/10/10*

January 3, 2010

Discount Auto

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
Total Balance	As of 12/31/09	$164,434.70

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is ( ) Correct

(X) Not Correct

Please give details of differences, if any.

The balance per our records is $135,306.70

See Appendix 3 for the reconciliation of this amount to WMI's balance.

Company: *Discount Auto*

Signature: *Julie Conroe*

Title: *AP Clerk*

Date: *January 8, 2010*

January 3, 2010

New Century Motors

Ladies and Gentlemen:

In connection with the audit of our financial statements as of 12/31/09 and for the year then ended, our independent auditors wish to determine whether our records of your indebtedness to us at 12/31/09 agree with yours. According to our records, your indebtedness to us on that date included the following invoice(s):

Invoice Number	Invoice Date	Amount
058338	12/11/09	$49,500.00

This is neither a request for payment, nor an indication of your total indebtedness to us.

Please compare the above information to your records, complete the statement below, and send this letter directly to our independent auditors, DJS. An addressed envelope is enclosed for your convenience.

The information stated above is (X) Correct

( ) Not Correct

Please give details of differences, if any.

Company: *New Century Motors*

Signature: *Anna Elise*

Title: *Controller*

Date: *January 16, 2010*

APPENDIX 3
RECONCILIATION OF DISCOUNT AUTO A/R BALANCE
12/31/2009

PBC/
2/3/10

Reconciliation of Discount Auto Account Balance
As of 12/31/09

			Disposition
Balance per WMI Books		$164,434.70	
Less: Invoices generated & billed by WMI on 12/28/09 but not received by Discount until after 12/31/09.			
Invoice #059571	2,028		
Invoice #059572	27,100	(29,128)	
Revised WMI Balance		135,306.70	
Balance confirmed by Discount		135,306.70	

APPENDIX 4
AGED A/R BALANCES BY CUSTOMER
12/31/09

WILSON MANUFACTURING, INC.
A/R AGED TRIAL BALANCE
ALL CUSTOMERS AS OF: 123109
SUMMARY

CUS ID	CUSTOMER NAME	CURRENT	1-30	31-60	61-90	OVER 90	TOTAL A/R
A1000	**A-1 AUTOMOTIVE**						
CUSTOMER TOTALS		55,313.84	†41,097.62				96,411.46
							0.00
A1020	**AAA PARTS & SUPPLY**						0.00
CUSTOMER TOTALS		297,172.04	158,933.04	1,842.51	8,476.60		466,424.19
							0.00
A1030	**ABS SYSTEMS**						0.00
CUSTOMER TOTALS		57,500.00			775.00		58,275.00
							0.00
A1115	**ACME AUTO ELECTRIC**						0.00
CUSTOMER TOTALS				†14,702.02			14,702.02
							0.00
A1160	**ALPHA AUTO PARTS**						0.00
CUSTOMER TOTALS		1,974.00		9,442.98		63,788.00	75,204.98
							0.00
A1421	**AMERICAN AUTO SUPPLY**						0.00
CUSTOMER TOTALS		117,437.93	1,761.00				119,198.93
							0.00
A1441	**AMERICAN PARTS &**						0.00
CUSTOMER TOTALS		542,611.38	57,772.21	3,457.91			603,841.50
							0.00
B1002	**B&B MUFFLER**						0.00
CUSTOMER TOTALS					8,013.00		8,013.00
							0.00
B1005	**B&T MOTORSPORTS**						0.00
CUSTOMER TOTALS		†4,412.11					4,412.11
							0.00
B1130	**BBC BRAKE & MUFFLER**						0.00
CUSTOMER TOTALS		107,000.00	91,000.00				198,000.00
							0.00
B1190	**BOB'S IMPORT MOTORS**						0.00
CUSTOMER TOTALS				9,345.20		23,000.07	32,345.27
							0.00
B1272	**BMX SPORTS**						0.00
CUSTOMER TOTALS		7,566.87	4,002.00	998.52	631.95		13,199.34
							0.00

B1354	**BRANDON MOTORS**						0.00
CUSTOMER TOTALS					14,450.00		14,450.00
							0.00
B1399	**BRANSON MOTORS**						0.00
CUSTOMER TOTALS		625,325.49	56,412.00	†113.33		17,732.44	699,583.26
							0.00
C1004	**C&R AUTOMOTIVE, INC**						0.00
CUSTOMER TOTALS		42,778.65				19,429.00	62,207.65
							0.00
C1009	**CORPORATE RENTALS**						0.00
CUSTOMER TOTALS		†24,499.00				16,544.11	41,043.11
							0.00
C1015	**CENTRAL FABRICATION**						0.00
CUSTOMER TOTALS		354,709.30	58,490.70				413,200.00
							0.00
C1230	**CITY TRANSMISSION & RE**						0.00
CUSTOMER TOTALS		224,816.65		†42,769.67			267,586.32
							0.00
C1320	**COLLISION SPECIALISTS**						0.00
CUSTOMER TOTALS		37,991.01	59,919.97				97,910.98
							0.00
D1090	**DIRECT AUTOMOTIVE, INC**						0.00
CUSTOMER TOTALS		214,058.90	†52,300.00			†19,072.00	285,430.90
							0.00
D1221	**DISCOUNT AUTO**						0.00
CUSTOMER TOTALS		100,796.17	52,636.36		11,002.17		164,434.70
							0.00
E0000	**EMPLOYEE ADVANCES**						0.00
CUSTOMER TOTALS		7,460.00					7,460.00
							0.00
E1874	**EXECUTIVE USED CARS**						0.00
CUSTOMER TOTALS		71,410.10	†778.01	7,555.08			79,743.19
							0.00
E1991	**EXOTIC AUTO SALES**						0.00
CUSTOMER TOTALS		64.44					64.44
							0.00
F1090	**FRANKLIN REPAIR SHOP**						0.00
CUSTOMER TOTALS		458,493.44	274,330.00			17,020.00	749,843.44
							0.00
G1370	**GRANT AUTO SUPPLY**						0.00
CUSTOMER TOTALS		†14,221.00					14,221.00
							0.00
G1721	**GREAT NORTHERN MOTO**						0.00
CUSTOMER TOTALS		5,500.00	11,298.12	30,881.00	†73.95		47,753.07
							0.00
H1070	**HARVARD BODY WORKS**						0.00
CUSTOMER TOTALS		5,678.89	88,934.07	42,000.00			136,612.96
							0.00
H2121	**HODGES BODY WORKS**						0.00
CUSTOMER TOTALS						17,639.96	17,639.96

							0.00
M1171	**MOORE AUTO PARTS**						0.00
CUSTOMER TOTALS		14,632.66	165,945.76	†41,823.70	15,569.50		237,971.62
							0.00
M1564	**MOORE AUTOMOTIVE PAR**						0.00
CUSTOMER TOTALS						†18,138.47	18,138.47
							0.00
N1061	**NATIONWIDE SUPPLY**						0.00
CUSTOMER TOTALS		869,325.19	90,543.78				959,868.97
							0.00
N1181	**NEW CENTURY MOTORS**						0.00
CUSTOMER TOTALS		49,500.00	13,334.44	187.49			63,021.93
							0.00
P1330	**POPULAR IMPORTS**						0.00
CUSTOMER TOTALS		123,436.78	227,980.02	17,041.00			368,457.80
							0.00
P1422	**PRO-SPORT AUTOS**						0.00
CUSTOMER TOTALS		52,322.49	†56,504.22				108,826.71
							0.00
P1713	**PROFESIONAL AUTO REPA**						0.00
CUSTOMER TOTALS		72,298.99	60,700.00				132,998.99
							0.00
P1732	**PROFESSIONAL BODY REP**						0.00
CUSTOMER TOTALS		†13,332.76	96,312.74	†46582.13	820.73		157,048.36
							0.00
Q1003	**QUALITY USED CARS**						0.00
CUSTOMER TOTALS						†6,645.00	6,645.00
							0.00
Q1101	**QUANTUM IMPORTS**						0.00
CUSTOMER TOTALS		†414.44	3,488.88			4,697.73	8,601.05
							0.00
R1032	**RANCH ROAD REPAIRS**						0.00
CUSTOMER TOTALS		13,377.52	61,940.09	†11,433.95		10,243.40	96,994.96
							0.00
R1390	**RELIABLE AUTO IMPORTS**						0.00
CUSTOMER TOTALS						113,286.60	113,286.60
							0.00
R1342	**ROSS AUTO RESTORATIO**						0.00
CUSTOMER TOTALS		57,889.95	72,300.76	44,800.79	†5,500.00	9,250.95	189,742.45
							0.00
S1010	**SARMO AUTO REPAIR**						0.00
CUSTOMER TOTALS		162,223.00	107,442.23	†52,220.74	52.26		321,938.23
							0.00
S1050	**SELLERS SUPPLY**						0.00
CUSTOMER TOTALS		61,457.92				17,770.00	79,227.92
							0.00
S1667	**SIMPSON PARTS & SUPP**						0.00
CUSTOMER TOTALS		†540,736.23	74,219.27	31,057.08		†4,400.00	650,412.58
							0.00
T1022	**TAYLOR'S TRAILERS**						0.00

CUSTOMER TOTALS		50,800.04	35,405.58			†6,580.27	92,785.89
							0.00
T1440	**THOMSON USED CARS**						0.00
CUSTOMER TOTALS		1,776.53	590.92		†74.31		2,441.76
							0.00
U1020	**U-HAUL-IT**						0.00
CUSTOMER TOTALS		339.89	42,333.17	57,012.22			99,685.28
							0.00
U1177	**UPTON'S, INC**						0.00
CUSTOMER TOTALS		†374,674.51	†43,669.82	14,556.66			432,900.99
							0.00
W1550	**WESTERN GNL PTS**						0.00
CUSTOMER TOTALS		†45,000.00	26,715.45				71,715.45
							0.00
X1010	**XYZ AUTO RESTORATION**						0.00
CUSTOMER TOTALS					30,870.20		30,870.20
							0.00
Y1020	**YAEGER AUTOMOTIVE, INC**						0.00
CUSTOMER TOTALS		77,232.14	1,752.33				78,984.47
							0.00
Y1311	**YOUNG PARTS**						0.00
CUSTOMER TOTALS		493,178.92	19,223.00				512,401.92
							0.00
Z1111	**ZERO TOLERANCE**						0.00
CUSTOMER TOTALS			†5,052.45	†1,724.00			6,776.45
GRAND TOTALS		**6,452,741.17**	**2,215,120.01**	**481,547.98**	**96,309.67**	**385,238.00**	**9,630,956.83**

† Agreed to A/R Master File (see AR-2)

APPENDIX G - POST-COMPLETION QUESTIONNAIRE

As your final task, please provide your **INDIVIDUAL** response to each of the following questions. Please do NOT refer to your workpapers while responding to these questions.

Please list your initials _____

TASK 1 – CONSIDERATION OF FRAUD

1) How often have you participated in a SAS 99 Fraud brainstorming session? _____ times

2) **(Manipulation 1 – Individual level prime only)** Of the time you spent completing this task, how many minutes did you spend in discussion with your teammate?

   _____

3) How *difficult* did Task 1 (consideration of fraud for the hypothetical client) seem to you?

1	2	3	4	5	6	7	8	9	10
Not Very Difficult									Very Difficult

4) Describe your level of professional skepticism while performing your work in the case study:

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

5) **(Manipulation 1 – Group level prime only)** For each of the following questions regarding group interaction during the fraud brainstorming task, please circle the number which best represents the actual level of communication/interaction during the task and the amount you feel was needed to do the job most effectively.

VL – Very Little
L – Little
S – Sufficient
VG – Very Great
G – Great

	Actual Level of Communication						Amount of Communication **Needed**				
	VL	L	S	G	VG		VL	L	S	G	VG
Teammate asked about information from your workpapers	1	2	3	4	5		1	2	3	4	5
You asked about information from your teammate's workpapers	1	2	3	4	5		1	2	3	4	5
Teammate volunteered information about his/her workpapers	1	2	3	4	5		1	2	3	4	5
You volunteered information from your workpapers	1	2	3	4	5		1	2	3	4	5
Teammate seemed interested in your information	1	2	3	4	5		1	2	3	4	5
You were interested in your teammate's information	1	2	3	4	5		1	2	3	4	5
Overall level of communication	1	2	3	4	5		1	2	3	4	5
Overall level of teamwork	1	2	3	4	5		1	2	3	4	5

TASK 2 – ACCOUNTS RECEIVABLE WORKPAPERS

6) How often have you prepared workpapers for the sales and collections cycle (e.g., accounts receivable)? _____ times

7) How *difficult* did Task 2 (preparing/reviewing workpapers for the sales and collection cycle) seem to you?

1 2 3 4 5 6 7 8 9 10
Not Difficult ... Very Difficult

8) How *confident* are you that you *accurately identified*, significant audit issues (if any) in the client's sales and collection cycle?

1 2 3 4 5 6 7 8 9 10
Completely Uncertain ... Completely Certain

9) While completing the case, how *concerned* were you with the *time constraints*?

1 2 3 4 5 6 7 8 9 10
Not at all Concerned ... Very Concerned

10) While completing the case, how concerned were you that your workpapers were effective (i.e., you identified potential audit issues (if any) and provided high quality audit documentation)?

1	2	3	4	5	6	7	8	9	10
Not at all Concerned									Very Concerned

11) To what extent do you believe the workpapers regarding the sales and collection cycle were inter-related?

1	2	3	4	5	6	7	8	9	10
Not at all									To a Great Extent

12) How much mental effort did you expend while preparing your audit documentation?

1	2	3	4	5	6	7	8	9	10
None at all									Extreme

13) For each of the following questions regarding group interaction during the accounts receivable task, please circle the number which best represents the actual level of communication/interaction during the ask and the amount you feel was needed to do the job most effectively.

VL – Very Little
L – Little
S – Sufficient
G – Great
VG – Very Great

	Actual Level of Communication						Amount of Communication **Needed**				
	VL	L	S	G	VG		VL	L	S	G	VG
Teammate asked about information from your workpapers	1	2	3	4	5		1	2	3	4	5
You asked about information from your teammate's workpapers	1	2	3	4	5		1	2	3	4	5
Teammate volunteered information about his/her workpapers	1	2	3	4	5		1	2	3	4	5
You volunteered information from your workpapers	1	2	3	4	5		1	2	3	4	5
Teammate seemed interested in your information	1	2	3	4	5		1	2	3	4	5
You were interested in your teammate's information	1	2	3	4	5		1	2	3	4	5
Overall level of communication	1	2	3	4	5		1	2	3	4	5
Overall level of teamwork	1	2	3	4	5		1	2	3	4	5

DEMOGRAPHIC AND OTHER INFORMATION

Please indicate your level of agreement with the following statements:

14) I believe I am more *efficient* when I work alone.

1 2 3 4 5 6 7 8 9 10
Strongly Disagree Strongly Agree

15) I believe I am more *effective* when I work alone.

1 2 3 4 5 6 7 8 9 10
Strongly Disagree Strongly Agree

16) I enjoy working as part of a team.

1 2 3 4 5 6 7 8 9 10
Strongly Disagree Strongly Agree

Experience in public accounting

17) What firm do you work for? _____

18) How much *experience* do you have in public accounting ? ____years _____months

19) How much *audit experience* do you have? _____years _____months

20) What is your current position? _____staff _____senior

_____other (please specify)

21) Please list your industry specialization, if any? _____

22) How much experience do you have in your area of specialization, if applicable?

_____years _____months

23) Have you ever been involved in an audit where *fraudulent financial reporting has occurred* (circle one): YES NO

24) Have you ever been involved in an audit where *material misappropriation of assets has occurred* (circle one): YES NO

Other accounting experience (non-public)

25) How much *accounting experience* do you have other than in public accounting?
_____years _____months

26) What industry did you work in, if any? _____

27) Please describe your previous position (e.g., CFO, accounts receivable clerk, etc.).

_____

Miscellaneous

28) Please select your gender (circle one): MALE FEMALE

29) Have you worked with your teammate before this session? (circle one) YES NO

30) If so, to what extent has prior interaction been a positive experience?

1	2	3	4	5	6	7	8	9	10
Very Negative									Very Positive

31) If you are interested in receiving a summary of results after this research project is complete, please list your email address.

_____

After completing this task, place both questionnaires back into the envelope labeled Task #3. Please be sure all three task envelopes are in the large outer envelope then return it to your designated firm contact.

Thank you for completing this case study.