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JUDGMENT-VERSUS-CHOICE, ACCOUNTABILITY DEMANDS, AND THE AUDITOR'S EVIDENCE SEARCH STRATEGY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of the Ohio State University

By

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*****

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To my parents, Reverend and Mrs. Franklin R. Williams
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CHAPTER I
Introduction

This dissertation examines two elements of the audit decision environment that may influence the auditor's decision strategy: the nature of the task (judgment or choice), and the presence of accountability demands. Specifically, this dissertation attempts to address the following research questions:

(1) Does the difference in nature and incentives between judgment and choice influence the auditor's evidence search?

(2) Does the imposition of accountability influence the auditor's evidence search? If so, do the preferences of the individual to whom the auditor is accountable play a role in its influence?

(3) Is there an interactive effect between judgment, choice, and accountability demands on the auditor's evidence search?

Judgment involves the explicit assignment of a particular value to an attribute under examination. Choice is the selection of one course of action over all other alternative actions. Accountability refers to the social act of defending one's position.

Judgments such as internal control evaluations and audit risk assessments are normally made to provide a basis for choices among alternatives, such as the timing and extent of substantive testing. Similarly, predictions of future events, such as the collectibility of the client's accounts receivable balances or the potential viability of the client, provide a basis for allowance account or audit opinion decisions. Normative decision theory [Edwards, 1954] suggests that the decision process for such tasks consists of two components: (1) probability judgment, and (2) risky choice, "where probability
judgments are combined with utilities for outcomes to determine choice actions" [Libby, 1981, p. 51].

According to the decision model, auditors' utility for outcomes influences their choices, but not their judgments. In an audit, it is common for different members of the audit team to perform the individual components of the decision process for a given audit task, such that one team member provides judgments (i.e., inputs) for choices made by a second team member. For example, the audit team member who evaluates the internal controls often is not the same individual who specifies substantive testing levels. If utilities for outcomes influence the auditor who is choosing, but not (at least to the same extent) the auditor who is judging, different cognitive steps may be employed in choice as opposed to judgment. Specifically, the judgment-versus-choice distinction may influence the auditor's evidence search.

For example, when the auditor is required to provide only an assessment (judgment) of the internal control environment, s/he likely would engage in a fairly exhaustive search and examination of evidence in order to determine an accurate value. This may be the result of his/her knowledge that such a judgment will provide the basis of subsequent choice actions by others in the audit. On the other hand, if the auditor is required to provide an assessment of the control environment and determine substantive levels testing, s/he may engage in a decision strategy that supports the final choice action. That is, the auditor may engage in search processes that attempt to support (or confirm) the final choice actions and offer more extreme assessments (or judgments) when also selecting

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1 Some judgment and decision-making research suggests that, contrary to the normative model, utilities for outcomes affect decision-makers' probability judgments (see Einhorn and Hogarth, 1981, for discussion). Virtually all of that research, however, has examined the decision process of single individuals, that is, individuals who would be assumed to be making both a judgment and the choice based on that judgment. As discussed in the body, in the auditing context, I assert that judgments and the related choices often are made by different individuals, which likely significantly reduces or eliminates the influence of utilities for outcomes on judgments.
choice actions than when providing only judgments. By specifically addressing the
cognitive steps auditors employ in making judgments and choices and how such steps
potentially affect their evidence search strategy, this study will improve extant
understanding of the judgment-versus-choice distinction.

Accountability demands are also of particular interest in audit judgment literature.
Specifically, the audit review process, traditionally conceptualized as a quality-control
mechanism, has been characterized as an "accountability-inducing" mechanism in the audit
setting [Kennedy, 1993]. Kennedy suggests that accountability has a debiasing effect on
judgment biases related to effort. That is, the imposition of accountability may cause a
more effortful, analytic decision strategy [Tetlock, 1983a]. Some authors suggest,
however, that, in some cases, the influence of accountability demands on an individual's
behavior may likely depend, at least in part, on what the s/he perceives to be preferred by
the individual to whom s/he is accountable [Peecher, 1993, 1994; Solomon and Shields (in
press)]. That is, in some cases, the auditor may have a greater concern in "marshaling"
evidence to support a preferred decision than in conducting an unbiased search for truth.

Peecher (1993) offers the following example. Suppose that a senior auditor's
reviewing manager has a history of penalizing seniors who spend a substantial amount of
time seeking evidence inconsistent with explanations provided by the client. The senior
auditor would then have reason to seek evidence anticipated to support the client's
explanations. In this case, accountability demands may increase the auditor's willingness
to follow a truncated search and use confirmatory processes. On the other hand, an auditor
who must justify his/her decisions to a reviewer who demands meticulous follow-up on all
plausible causes of unexpected fluctuations has reason to seek evidence anticipated to verify
explanations other than those offered by the client. In this case, accountability demands
may increase the auditor's willingness to follow an exhaustive search strategy. Further,
given the type of reviewer, accountability demands may interact with the nature of the response (judgment versus choice) in affecting the auditor's decision strategy.

The contributions of this research are threefold. First, it contributes to the literature on the auditor's decision process by examining the influence of judgment, choice, and accountability demands on the auditor's evidence search. The auditor's decision-making process is characterized as a sequential and continuous process that consists of selecting and evaluating evidence to form conclusions regarding the audit assertion examined [Gibbins, 1984; Knechel and Messier, 1990]. Hence, the selection of evidence (the auditor's search strategy) is an essential part of the auditor's decision-making process. The resulting evidence of this process provides the very basis of the auditor's conclusions. Further, judgments, choices, and accountability demands are a part of the auditor's decision environment. Investigation of these variables on the auditor's decision strategy adds to our understanding of the auditor's decision process.

Second, this research provides experimental evidence regarding the extent to which audit researchers should be concerned whether their measurement of decision processes accurately reflects that which exists in the audit setting. The findings suggest that results of experiments that utilize a judgment-type response may not generalize if a choice-type response exists in the audit environment. Consequently, researchers should explicitly consider the response variables present in the actual audit environment when constructing experimental instruments designed to examine decision processes of the auditor.

Third, it contributes to audit judgment literature by providing a more complete specification of accountability demands as they relate to auditing. Most audit judgment research regarding accountability demands has primarily focused on their impact on the auditor's evidence evaluation [Anderson, Koonce and Marchant, 1994; Ashton, 1992, 1990; Church, 1991; Glover, 1994; Johnson and Kaplan, 1992; Kennedy, 1993; Lord,
1992; Tan, 1991; Peecher, 1993, 1994; Koonce et al., 1995]. Very little work has been
done regarding the impact of accountability demands on the auditor's evidence search.²
This study helps fill this void in our understanding of the effects of accountability
demands.

The remainder of the dissertation is organized as follows. Section 2.1 discusses the
judgment-versus-choice distinction and proposes a framework for predicting when these
response variables may affect the auditor's search behavior. Section 2.2
considers accountability demands and the conditions under which they may lead to
evidence-search differences. Section 2.3 states the research hypotheses to be examined in
this dissertation. Chapter 3 describes the experimental method used. Chapter 4 presents
the results. Chapter 5 provides discussion of the results and suggestions for future
research.

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²Peecher (1994) examined the effect of accountability demands on the auditor’s formulation of
alternative hypotheses. He found no statistically significant results.
CHAPTER II
Background and Hypotheses

Section 2.1 discusses the judgment-versus-choice distinction and proposes a framework for predicting when these response variables may affect the auditor's search behavior. Section 2.2 considers accountability demands and the conditions under which they may lead to evidence-search differences. Section 2.3 concludes with a statement of the research hypotheses.

2.1 Judgment-Versus-Choice

The discussion of the judgment-versus-choice distinction begins in Section 2.1.1 with a description of the roles of judgment and choice in the audit setting. Section 2.1.2 follows with discussion of the judgment-versus-choice distinction as characterized in the psychology literature. Section 2.1.3 concludes with discussion regarding the generalizability of related psychology studies to the audit setting.

2.1.1 The Roles of Judgment and Choice in the Audit Setting

The audit process, in general, is characterized to consist of four phases: 1) the assessment of the auditee and its environment, 2) the assessment of audit risk, 3) the development and execution of the audit approach, and 4) the formulation and issuance of the audit opinion. Although judgments and choices are made in each of the four stages, the
first two phases are characterized by more judgment-type tasks and the final two stages contain relatively more choice-like tasks.

During the first two phases of the audit process (the assessment of the auditee and its environment, and the assessment of audit risk), the auditor seeks to understand and evaluate those relevant factors of the audit environment that will influence the audit actions to be taken. As a result, the auditor performs many judgment-type audit activities during these phases in which s/he explicitly assigns a particular value to the attribute under examination. This value may be in terms of a quantitative value (e.g., a dollar amount), or it may be in terms of a nominal value (e.g., minimal, low, moderate, or high). Examples of such activities include the assessment of management integrity, the assessment of the control environment, the assessment of materiality and tolerable misstatement, and the identification of significant accounts.

The last two phases (the development and execution of the audit approach, and the formulation and issuance of the audit opinion) often require the auditor to document choice actions taken. For example, during the development and execution of the audit approach, the auditor must determine the appropriate sample sizes for substantive testing. During the accounts receivable collectibility review task, the auditor must determine what portion, if any, of the receivable should be reserved or written off. Likewise, during the formulation and issuance of the audit opinion, the auditor must decide on the appropriate audit opinion to issue. The choice actions taken during these activities are often difficult to retrieve; once a choice is made, it is often costly to remedy any deleterious outcome.

In the audit setting, choice entails a conflict: the choice of one action precludes all other actions. This characteristic often provides a salient link between the actions chosen and the resulting outcomes. Thus, the auditor must consider the potential outcomes of the
actions chosen, and more importantly, the potential influence of these outcomes on his/her welfare (i.e., consequences).

The link between judgment and outcomes in the audit setting, however, does not appear to be as direct. In the audit setting, the judgments made by the auditor generally serve to reduce the number of alternative choice actions considered during the audit process. That is, the audit tasks requiring judgment-type conclusions orient the auditor to the attributes under audit examination. They provide a framework in which the auditor determines the courses of action to take during the audit engagement. Moreover, the members of the audit team who provide such judgments often are not the individuals who subsequently select the related choice actions in the audit engagement. As a result, auditors may perceive audit tasks that require judgment-type conclusions to differ from those that require choice-type conclusions.

How might this influence the auditor's decision process? I turn to recent work in the psychology literature for possible insights.

2.1.2 The Judgment-Versus-Choice Distinction in Psychology

Several psychology researchers argue that choice, unlike judgment, involves an action which is intimately tied to notions of regret and responsibility, and thus, involves finding a concise, coherent set of reasons that justify the preferred choice action taken [Tversky, 1972; Einhorn and Hogarth, 1981; Slovic, Fischhoff, and Lichtenstein, 1982; Payne, 1982; Montgomery, 1983; Montgomery and Svenson, 1983; Dahlstrand and Montgomery, 1984; Montgomery, 1989; Tversky, et al., 1988]. As a result, they suggest that people tend to follow different evidence search strategies when making judgments as opposed to making choices [Russo and Dosher, 1983; Billings and Scherer, 1988; Hawkins, 1994]. In particular, these authors suggest that the judgment-versus-choice
distinction influences the type of evidence selected, how it is selected, and how much is selected.

These authors posit that individuals employ a search strategy which allows them to justify their choice action, without seeking evidence that may not be critical to the decision. As a result, the decision-maker may follow some variant of an elimination-by-aspects rule [Tversky, 1972] in choice. An elimination-by-aspects rule involves the comparison of alternatives along a set of dimensions (i.e., intradimensional), one dimension at a time in order of importance. Montgomery (1989) argues that the tendency to base the selection of the final choice on such a rule facilitates the construction of a dominance structure favoring the final choice. In fact, an individual may "impose" dominance by choosing a search strategy that allows him/her to evoke such a relation. As a result, s/he may "engage in confirmatory search for sufficient conditions to make it possible to initiate and stick to a certain line of action" [Montgomery, 1989, p. 27]. Creation of this type of dominance structure allows one to resolve the conflict in a choice action in a justifiable manner.

When providing a judgment, however, individuals may follow a search strategy that allows them to adequately determine an accurate value. As a result, individuals may further consider evidence of lesser importance. Payne (1982) suggests that in a judgment task, each and every alternative is examined on all, or nearly all dimensions. Einhorn and Hogarth (1981) further posit that judgment, when compared to choice, is characterized to be more time-demanding and cognitively demanding, involving a relatively exhaustive search of the dimensions associated with the alternative under examination.

Several researchers provide evidence of the distinction between judgment and choice [Russo and Dosher, 1983; Billings and Scherer, 1988; Hawkins, 1994]. Russo and Dosher (1983) found that subjects used a preponderance of intradimensional search transitions (i.e., comparison of dimensions across alternatives) in choice. Further, these
strategies involved selecting the alternative that was better on the greater number of dimensions, or eliminating the dimension with the smallest difference and selecting the alternative with a decisive advantage. Billings and Scherer (1988) indicated that subjects in the choice condition generally sought less information, considered a more variable amount of information per alternative, and followed a more intradimensional search pattern than those in the judgment condition. Hawkins (1994) found that the subjects in the choice condition tended to be more sensitive to dominance relationships among dimensions than those in the matching (judgment) condition. These patterns would be expected for strategies that focus on selecting a choice action (alternative) based on the order of importance of dimensions.

2.1.3 Generalizability of Related Psychology Studies to the Audit Setting

Psychology literature’s discussion of judgment-versus-choice provides insight into how individuals behave when required to provide only an explicit judgment or an explicit choice. Since audit tasks that require judgment-type conclusions are often performed by audit team members who differ from those who actually select subsequent choice actions (as discussed in Section 2.1.2), psychology findings with respect to judgment may hold in the audit setting. For example, the auditor likely perceives the quality of his/her judgments to depend upon the completeness and thoroughness of the investigation of the information available, since such judgments may be used as inputs to subsequent choice actions taken by others during the audit. As a result, the auditor, like the psychology subject, may tend to follow a comprehensive and exhaustive search strategy when providing judgments.

With respect to choice, auditors likely are concerned with justifying the choices made, especially given the nature of the environment in which the auditor operates. In the audit setting, the auditor is accountable to several different evaluative audiences— the client,
audit management, and third-party constituents (e.g., lenders, investors). Since choice actions are costly to retrieve, the auditor must consider the consequences of his/her choice actions in light of these evaluative audiences. One manner in which the auditor may resolve this conflict in choice is by seeking a course of action which may be considered justifiable to others [Gibbins and Emby, 1985]. To find a justifiable choice, the auditor might seek the action which dominates all other actions. Thus, the auditor, similar to the psychology subject, may tend to impose dominance by examining only a subset of the available evidence or searching for evidence that is expected to confirm the auditor's preferred action.

Although the auditor's concern for justifying his/her choices may lead to evidence-search behavior similar to that reported in psychology, the empirical studies in psychology may not generalize directly to the auditing context. The psychology studies employed choice tasks that possessed both of the following characteristics: (1) the selection of the "best" alternative and (2) "independent" evidence across alternatives. For example, Billings and Scherer's (1988) study involved the selection of the best of eight candidates (alternatives) for a resident advisor position. The selection was based on criteria (dimensions) such as grade point average, program planning ability, and leadership skills. Across alternatives, the values on these criteria were independent; for example, the leadership skills of one candidate were unrelated to the skills of the other. Candidates could, therefore, be compared with one another along the same dimensions, but the values of the dimensions were independent across candidates.

In auditing, there are no audit tasks that possess both characteristics. The audit tasks that require selection of the best alternative (e.g., sample size choices, adjustment choices, the opinion choice, analytical review evaluation) involve evidence of a dependent nature. For example, in choosing the appropriate ("best") audit opinion, the auditor
evaluates the same evidence for each of the possible alternatives. On the other hand, audit tasks that are characterized by evidence of an independent nature involve deciding which alternatives should be included in a particular category, not the choice of the best alternative. For example, the auditor’s review of the allowance for doubtful accounts involves the selection of those accounts receivable balances which should and should not be included in the allowance balance. Such tasks can be characterized as categorization (category choice) tasks. Other examples of category choice tasks include the selection of audit clients and the lower-of-cost-or-market testing in inventory. Examining the judgment-versus-choice distinction in a “best” alternative choice audit task would prove to be difficult because the dependent nature of the evidence would not allow me to measure, with any confidence, the evidence search variables in which I am interested. Thus, I select the category choice audit task to investigate potential differences between judgment and choice.

I believe that category choice tasks are similar to tasks that involve choosing the best alternative because they require the selection of one category over another. Thus, similar to choosing the best alternative, these actions are likely to be tied to notions of regret and responsibility. As a result, individuals may employ a search strategy which allows them to justify their category selections, without seeking evidence that may not be critical to the decision.

To summarize thus far, although the choice tasks used in psychology have different characteristics than auditing tasks, the psychology literature’s “theoretical” characterization of judgment and choice generally reflects judgment and choice in the audit setting. Thus, in the audit setting, I expect judgment to be more deliberative than category choice, because judgment is more cognitively demanding than choice and requires an explicit assessment. Further, because the judgments of one auditor often provide a basis for subsequent choices
made by other audit team members, the auditor making a judgment may tend to follow an exhaustive evidence search in determining an accurate value.

On the other hand, category choice, because the auditor is concerned with utilities for outcomes and justifying the choice taken, may lead to less information evaluated and a more confirmatory search pattern. As noted earlier, to find a justifiable choice action, the auditor might seek the choice action which dominates the other action(s). In the audit setting, the initial hypothesis of choice tasks are often provided by the client (via client inquiry) [Kinney and Hayes, 1990; Wright and Ashton, 1989; Koonce, 1992]. Absent management integrity concerns, the auditor likely perceives the client’s assertions to be the starting point for evidence search. Professional pronouncements’ (e.g., SAS 56) instructions to corroborate client assertions may further unintentionally heighten their significance, and lead to a premature identification of a dominating choice. This, in turn, may lead the auditor to attend to a biased subset of pertinent data (i.e., confirmatory search) resulting in premature closure.

2.2 Accountability Demands

Section 2.2.1 discusses accountability demands as characterized in the psychology literature. Section 2.2.2 follows with a review of recent accounting studies that have addressed this phenomenon.

Section 2.2.1 Accountability in Psychology Research

Accountability is defined as the requirement to justify one’s position to significant others. The effects of accountability demands have been investigated across a wide variety of tasks such as social choice [Adelberg and Batson, 1978], business simulation [McCallister, Mitchell, and Beach, 1979], risky choice [Cvetkovitch, 1978], attitude
formation and change [Chaiken, 1980; Tetlock, 1983b], multiple cue probability learning [Hagafors and Brehmer, 1983], negotiations [Ben-Yoav and Pruitt, 1984], and social inference [Ford and Weldon, 1981; Rozelle and Baxter, 1998; Tetlock, 1983a, 1985a; Tetlock and Kim, 1987]. Much of this research found that subjects who were held accountable for their responses attended to information more thoroughly and processed information more vigorously. This line of research contends that accountability demands induce individuals to explicitly consider the consequences of their decisions and how these consequences will directly affect their welfare [Tetlock, 1983a]. As a result, individuals tend to exert more cognitive effort by employing more thorough analytic procedures [Tetlock, Skitka, and Boettger, 1989; McCallister, Mitchell, and Beach, 1979; Hagafors and Brehmer, 1983; and Chaiken, 1980].

Section 2.2.2 Accountability in Accounting Research

There is considerable evidence that auditors spend a great deal of time trying to justify their performance to various evaluative audiences [e.g., Gibbins and Emby, 1985; Emby and Gibbins, 1988; Messier and Quilliam, 1992]. According to questionnaire data gathered by Emby and Gibbins (1985, 1988), auditors regarded the ability to justify a decision to be important, if not paramount, in their decision process. Consequently, the influence of accountability demands on the auditor's decision and judgment processes has received a great deal of attention in recent audit research.

Johnson and Kaplan (1991) employed an experiment in which the auditor-participants were required to assign the risk of obsolescence to twenty inventory items. Half of the participants were told that their judgments would be reviewed and they would have to justify them; the other half were anonymous. Results indicated that those in the accountable condition showed higher consensus and self-insight. In an experiment where
auditor-participants were required to judge a hypothetical client's ability to continue as a going concern, Kennedy (1993) found that accountability mitigated the recency effect that had been documented in experiments with no explicit accountability requirements [e.g., Asare, 1992].

In two experiments, Tan (1995) found that prior involvement (i.e., repeat engagements) increased recall of facts that were consistent with a prior decision and increased the chances that the auditor-participants would make a decision that was consistent with the prior decision. However, anticipation of supervisory review (i.e., accountability) mitigated this effect, and participants paid more attention to inconsistent evidence. Koonce, Anderson and Marchant (1995) required their auditor-participants to review an unexpected increase in a hypothetical client's gross margin, and then write justifications for their revised audit budgets. These authors found, similar to Tan (1995), that auditors who expected a subsequent supervisory review documented more total justifications and attended more to inconsistent evidence than those who did not expect a review.

Some recent accounting research has questioned the assertion that accountability demands always result in mitigating judgmental biases. Gibbins and Newton (1994) surveyed 156 auditors and asked them to provide four situations in which they felt accountable but which varied in clarity or agreement of sources' expectations. They found that the accountability process is interdependent. The accountable participants experienced pressure to comply with the position of various sources. However, when sources disagreed, the accountants often sided with one or more sources, in opposition to others. When the positions of the sources were unclear, the accountants interpreted the situation in light of their personal experiences.
Peecher (1993, 1994) argues that the auditors' concern with satisfying accountability demands may in some case jeopardize audit quality:

"For instance, audit partners may sometimes tolerate questionable accounting treatments for unusual transactions because they believe that attempts to justify preferred accounting treatments to client executives will frustrate chances of retaining the clients involved. In like manner, staff auditors may hesitate to deviate from procedures carried out in previous years simply because it would be necessary to justify departures from last year's audit program...At times, therefore, in-house justification demands may motivate auditors to become less critical in their thinking, less open-minded to novel problem-solving approaches, and less inclined to validate explanations than may be optimal [for the audit firm]." (1993, pp. 1-2)

Peecher (1994) employed an experiment in which the auditor-participants were required to review two scenarios, one containing an unusual increase in net accounts receivable and one containing an unusual increase in the gross margin percentage. He manipulated the preferences of audit management to whom the participants were accountable and the levels of client integrity. There were three preference conditions labeled "credence-inducing," "skepticism-inducing," and "objectivity-inducing." The "credence-inducing" condition expressed the concerns of management regarding auditors who spent time specifically looking for evidence inconsistent with the explanations provided by the client, in the absence of evidence to the contrary. The "skepticism-inducing" condition expressed the concerns of management regarding auditors who tended to frequently corroborate client-provided explanations without adequately considering other plausible causes. The "objectivity-inducing" condition expressed the concerns of management regarding auditors who reach, without adequate justification, conclusions regarding the underlying cause of unusual account balance fluctuations. There were two levels of client integrity, "high" and "low." He found that the type of management preferences significantly influenced the auditors' likelihood judgments of the client-provided explanations and their search for alternative explanations when the auditor was presented with high-integrity clients. That is, when presented with high-integrity clients, the auditors in the credence-inducing condition
assessed the likelihood of the client-provided explanations to be higher than those in the skepticism- and objectivity-inducing conditions, and listed significantly fewer alternative explanations than those in the skepticism- and objectivity-inducing conditions.

These studies indicate that an important construct of accountability demands is the perceived consequences associated with the decision being considered. That is, auditors must consider the degree to which one or more aspects of their actions will directly or indirectly affect their welfare. For staff and senior auditors, this consideration may be directly tied to the preferences of the individual(s) to whom they are accountable. That is, when auditors can anticipate their reviewers' preferences, they may choose search strategies likely to support these preferences. In the case where the manager has a history of heavily penalizing individuals who spend time specifically looking for evidence inconsistent with the explanations provided by the client (credence-inducing), the auditor may concede to a confirmatory search process. In the case where the manager is known to demand meticulous follow-up of all plausible causes (skepticism-inducing), the auditor may follow a more exhaustive search process. Thus, the auditor may seek evidence anticipated to justify a tentative desired course of action. As a result, in some cases (as in the "credence-inducing" condition), the auditor's evidence search and acquisition may be more of an exercise in "evidence marshaling than an unbiased search for truth" [Solomon and Shields, in press; Peecher, 1993].

2.3 Research Hypotheses

The characterization of accountability demands outlined in section 2.2 suggests that accountability demands may change the auditor's predisposition to acquiring certain evidence items by altering the perceived value (weight) of such information (dimensions). Given the reviewer-type, the influence of accountability demands may interact with that of
the nature of the task (judgment or choice). Accountability demands may tend to moderate the judgment-versus-choice effect by incorporating a justification process in judgment assessments. Further, the direction of this moderated effect may depend upon the preferences of the reviewer. That is, "credence-inducing" conditions may evoke more "choice-like" search behavior under judgment while "skepticism-inducing" conditions may evoke more "judgment-like" search behavior under category choice decisions.

In sum, this leads to the hypotheses to be examined in this research:

H1: Auditor-participants in the choice condition will, on average, select fewer evidence items, seek a more variable amount of information per alternative, expend less time, and follow a more confirmatory search of the client's explanation than those in the judgment condition. (judgment-versus-choice effect)

H2: In the accountability conditions, auditor-participants who are offered credence-inducing preferences of the reviewer will, on average, select fewer evidence items, seek a more variable amount of information per alternative, expend less time, and follow a more confirmatory search of the client's explanation than those offered skepticism-inducing preferences of the reviewer. (accountability effect)

H3: In the accountability conditions, there will be a less pronounced judgment-versus-choice effect on the auditor-participants' search behaviors than in the no accountability condition. That is, auditor-participants in the judgment condition who are offered credence-inducing preferences will follow more "choice-like" search behavior, while auditor-participants who are offered skepticism-inducing preferences will follow more "judgment-like" search behavior. (interaction effect)
CHAPTER III

METHOD

Section 3.1 provides an overview of the experiment used to collect data to test the hypotheses. Section 3.2 follows with a discussion of the statistical methods used to analyze the data.

3.1 Overview of the Experiment

Section 3.1.1 provides justification for using an experimental approach to the research issues being studied. Section 3.1.2 provides a description of the experimental procedure and materials completed by the auditor-participants. Section 3.1.3 describes the administration of the experiment. Section 3.1.4 discusses the manipulations used in the experimental materials. Section 3.1.5 provides a description of the post-experimental questionnaire. Section 3.1.6 discusses the measurement of the variables of interest. Section 3.1.7 concludes with a brief description of the pilot testing of the experimental materials.

3.1.1 Suitability of the Experimental Approach

The research approach was experimental, using practicing auditors as participants. For the issues examined in this dissertation, the experimental approach was considered the optimal research approach (over archival and theoretical research approaches) because (1) it provides a link to previous related research, and (2) it permits the inference of causation.
Since much of the current research was based upon previous related experimental audit and psychological research, the approach was consistent with the existing literature. Further, to investigate the underlying processes of auditor decision-making, it is imperative to study auditors making decisions and judgments. This may be done by studying the decisions and judgments that auditors have made on actual audits (archival approach), or by creating an audit environment where auditors are asked to provide responses that can be examined (experimental approach). The latter approach has several advantages over the former.

First, an experimental approach, rather than an archival approach, allows the researcher to manipulate treatment conditions (independent variables) in a manner such that observed differences in the behaviors of interest (dependent variables) can be unambiguously attributed to critical differences among the treatment conditions. Second, an experimental approach enables the researcher to achieve a desired level of controllability by means of randomization.

3.1.2 Experimental Procedure

The data were gathered using an experimental task that was controlled and administered via computer. The computer program was both iterative and interactive. The auditor-participants were asked to perform two audit tasks—a accounts receivable collectibility review and an inventory obsolescence review. Each task involved the auditor-participants selecting and evaluating audit evidence. The order of the tasks was randomly assigned.

First, auditor-participants were provided a screen of general instruction which thanked them for their effort and clarified the study’s purpose. The accountability variable was introduced at this step (see Appendix A for examples). For those auditor-participants
in the accountability conditions, a second screen appeared introducing the reviewer's preferences (see Appendix B for examples). Figure 1 on the next page provides an overview of the experimental procedure.

In the accounts receivable collectibility review task, the ensuing screen provided background information on the hypothetical client's policy regarding assessing the allowance for doubtful accounts (see Appendix C). Following this information, the auditor-participants were provided with an instruction screen (see Appendix D). This was followed by a short tutorial session in which they walked through one customer account and all of its related evidence. Subsequently, the auditor-participants were asked to evaluate nine customer account balances to determine whether they should be identified as accounts with uncollectible balances (see Figure 2 for example of the nature of the evidence items). The procedure involved the auditor clicking with a computer mouse on the highlighted account balance of interest (see Appendix E for examples of schedule of accounts screen). The ensuing screen provided client discussion of the account considered. The following screen offered a menu of options (dimensions) from which the auditor-subject selected additional evidence (see Appendix F). To create an experimental context that involved search costs similar to that of an actual audit, there was a five-second time delay before each selected evidence item appeared on-screen.

To identify what evidence was acquired and how the evidence was processed, the auditor-participants explicitly requested evidence from the menu screen as described above. The computer program recorded what evidence was selected, the sequence in which it was

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3There were seven pieces of evidence available per account balance in the accounts receivable collectibility review task, and eight pieces of evidence available per inventory account in the inventory obsolescence review task.

4This manipulation was meant to maintain the presence of search costs found in actual audits, and not to simulate the actual search costs of the individual evidence inquiries.
selected, and the time attended to each selection. The software packages used to create the computer program for the experiment were VisualBasic for the IBM version and Macromedia Director 4.0.4 for the Macintosh version.

After the evaluation of each evidence item, the auditor-participant was presented with another menu screen. This screen allowed the auditor-participant either to provide a response (i.e., either category choice or judgment) regarding the current account balance, or select additional evidence regarding the current account balance (see Appendix G for examples). The auditor-participants were asked to examine as little or as much evidence as they needed to provide a response. A similar procedure was used for the inventory obsolescence review task.

3.1.3 Administration of the Experimental Materials

Auditor-participants were requested from two Big 6 public accounting firms. One of the participating firms provided auditor-participants from both national training sessions and local offices. The other participating firm provided auditor-participants from local offices. For both firms, the author was provided with the name of the person at each office or training site who would be responsible for the administration and collection of the experimental materials.

The administration and collection of the data proceeded in the same fashion for auditor-participants at the local offices and training sites. The contact persons received a box containing packets of two diskettes that were to be distributed to senior-level auditors. Each contact person agreed not to reveal the authors of the study, but to indicate to the participants that the case materials to be performed were of interest to their national office and were to be completed in one sitting. In the case where the experimental materials were
Read general instructions

Learn reviewer preferences, if any

Read instructions regarding case to be performed

Walk through tutorial session

Choose second case

Examine an A/R aging schedule
Examine an inventory account schedule

Select account of interest to examine

Read client-discussion narrative

Select evidence item from menu

Need more evidence?

yes

no

Provide a response regarding account balance (judgment or category choice)

Is a written justification required?

yes

Write justification memo on-screen

no

Are there more accounts to examine?

yes

Completed both cases?

no

no

no

yes

Answer post-experimental questionnaire and read debriefing script

Figure 1
Overview of Experiment
Barbara's Travels

Client Management
We've been informed by letter that Barbara's Travels has recently been purchased by Sam's Travels. Sam's Travels has accepted full responsibility of all obligations of Barbara's Travels. Sam's Travels maintained good cash flows and working capital this past year. Furthermore, it maintains an excellent credit standing. We believe that we will not have any problems collecting this receivable.

Annual Financial Statements
Net sales in fiscal 1994 for Sam's Travels were $1.2 million, an increase of 41.1%. Net earnings were $219,000, an increase of 37%. The company's working capital increased by 8% to $456,000, and its current and quick ratios were 2.04 and 1.12, respectively. (confirmatory)

Dun & Bradstreet Credit Rating
RATING: 1A1
The "1A" portion of the Rating (Estimated Financial Strength) indicates that Sam's Travels has a worth between $500,000 and $749,000. The "1" on the right (Composite Credit Appraisal) indicates an overall "high" credit appraisal. The "high" credit appraisal was assigned because the company's overall payment record shows consistent promptness in payment and because of D&B's "high" assessment of the company's 9/30/94 fiscal financial statements. (confirmatory)

Customer File
There does not exist any prior credit relationship between Sam's Travels and WilCo, Inc. However, it was noted in the Barbara's Travels' files that a dispute over an August invoice of $7,956 was documented. Barbara's Travels argues that it never received the merchandise; however, WilCo's records contain a copy of the shipping documents. (disconfirmatory)

Subsequent Cash Collections
Invoice payments totaling $23,692 were collected in the month of October related to June and July invoices. (disconfirmatory)

Customer Correspondence
A September 5, 1994 letter from Sam's Travels to WilCo, Inc. detailing its acquisition of Barbara's Travels and all of its obligations, was noted. (confirmatory)

Attorney Correspondence
No correspondence related to this account was noted. (disconfirmatory)

Special Events
September 2, 1994 BusinessWeek article discussed Sam's Travels purchase of Barbara's Travels. (confirmatory)

Figure 2
Sample of the nature of the evidence items available in the accounts receivable collectibility review task and their classifications
distributed at training sites, the cases were administered on a group basis and performed by the auditor-participants in one given time period. In the case where the experimental materials were administered at local offices, the participants completed the materials and returned the packets by a given deadline (usually within one week of receipt of the materials).

3.1.4 Experimental Manipulations

Section 3.1.4.1 describes the manipulation used in the experimental materials to examine the judgment-versus-choice effect. Section 3.1.4.2 discusses the manipulation used in the experimental materials to examine the accountability demand effect.

3.1.4.1 Manipulation of Category Choice/Judgment

In the category choice condition, auditor-participants were asked to choose the appropriate category for each alternative. That is, the participants were asked to identify the uncollectible balances (in the accounts receivable review task), and identify all inventory items that are potentially obsolete (in the inventory obsolescence review task). In the judgment condition, the auditor-participants were asked to provide a numerical assessment on a 0-100 scale of the likelihood that the account balance considered will be collected in full in the accounts receivable collectibility review task, and provide a numerical assessment of 0 (low) or 1 (high) of the likelihood that an inventory item is potentially obsolete (see Appendix G for examples).\(^5\)

\(^5\)This manipulation allowed me to investigate potential differences due to the fineness of scale.
3.1.4.2 Manipulation of Accountability

Similar to Koonce et al. (1994), the auditor-participants in the accountability conditions were told that their responses would be forwarded to a partner in their firm's national office. Further, they were told that they may be contacted by this individual, if deemed necessary. Each auditor-participant in these conditions provided his/her name, firm location and phone number on-screen at the end of the cases. Auditors in the no accountability condition were told that their responses in both tasks were completely anonymous (See Appendices A and B for examples).6

In addition, the preferences of the reviewer were introduced on-screen during the initial stages of the experiment. For example, the credence-inducing version of the task expressed the concerns of the firm that many auditors tend to expand audit procedures to investigate explanations other than the explanations provided by the client, in the absence of evidence to the contrary. On the other hand, the skepticism-inducing version of the task expressed the concerns of the firm that many auditors tend to frequently corroborate client-provided explanations without adequately considering other plausible causes. Auditor participants were required to write a short description of the firm’s concerns to ensure the salience of this manipulation.

Each auditor-participant in the accountability conditions provided on-screen justifications of two of their responses in both tasks. Instructions indicated that the decisions requiring written justifications would be disclosed after the responses were made (see Appendix C).

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6 All participants were told that they might want to take notes on a separate sheet of paper as they proceeded through the cases, but that only their diskettes, not their notes, were to be turned in.
3.1.5 Post-experimental Questionnaire

After both cases were completed, the auditor-participants completed on-screen a post-experimental questionnaire that included questions regarding their experience with the two tasks performed in the cases and their industry experience (see Appendix H for example).

3.1.6 Measurement of Decision Behavior

There were four dependent variables measured. Section 3.1.6.1 discusses the measures computed for three of the four dependent variables- amount of information searched, average time of search, and variability of search. Section 3.1.6.2 details the measure computed for the pattern-of-search dependent variable.

3.1.6.1 Amount, Average Time, and Variability of Search

The amount of information searched was measured by the number of evidence items examined before the final choice (judgment). The average time of search was measured as the length of time spent on each evidence screen before the final choice (judgment) was made for each account. This variable was defined as the total time spent on all evidence screens for a specific account divided by the total number of evidence screens examined. The variability of search was measured as the standard deviation of the number of evidence items searched across accounts per task.

3.1.6.2 Pattern of Search

The pattern of search was measured by considering which evidence items were selected and in what order. Each selection of an evidence item that followed directly from the client's hypothesized cause was classified as a confirmatory search move, while
selection of any other evidence screen was classified as a disconfirmatory search move. The pattern-of-search variable was calculated as follows. First, the pieces of evidence examined were ranked by the order in which they were reviewed. The rank assigned to an evidence item was based on the potential number of evidence items that could be selected by the participant. Since seven evidence items were available for the accounts receivable collectibility review (and eight evidence items for the inventory obsolescence review), the highest rank of 7 (8) was assigned to the evidence item selected first, and correspondingly lower ranks were assigned to the other evidence items chosen. Second, the ranks of the confirmatory evidence items examined were summed, and the sum was divided by the total ranks of all of the pieces of evidence examined. The values for this variable, then, could range from 0 (a totally disconfirmatory search) to 1 (a totally confirmatory search).

This method of computation takes account of both the magnitude and direction of the auditor-participant’s search. Previous studies that have examined the auditor’s evidence search have generally only considered the direction of the auditor’s search pattern (e.g., Kida, 1984; Peecher, 1993, 1994; McMillan and White, 1993). For example, Kida (1984) investigated the influence of hypothesis framing on the auditor’s evidence search. He manipulated hypothesis framing by asking the auditor-participants to assess the viability (or failure) of a hypothetical firm. The search measures examined were the number of questions that confirmed the initial hypothesis frame (viability or failure) and the number of questions that disconfirmed the hypothesis frame. The auditor’s evidence search was

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7 For example, suppose an auditor-participant performing the accounts receivable collectibility review task chose, for one customer account, evidence items in the following order: confirmatory-confirmatory-disconfirmatory-disconfirmatory. In computing the pattern of search variable, the pieces of evidence would first be ranked by the order in which they were examined. The first piece of evidence would receive a rank of 7 (since there are a total of seven pieces of evidence that could have been examined), the second piece of evidence would receive a rank of 6, the third piece would receive a rank of 5, and the fourth piece would receive a rank of 4. Then the total ranks of the confirmatory pieces of evidence (13) would be divided by the total ranks of all of the pieces of evidence examined (21). In this case, the value assigned to the pattern of the search variable for this customer account would be .6190.
considered more (or less) confirmatory by the number of confirmatory (or disconfirmatory) questions selected. Peecher (1993, 1994), in an analytical review task, investigated the influence of audit management preferences on the auditor’s evidence search. The search measure examined was the number of alternative hypotheses other than that provided by the client that were generated by the auditor-participants regarding an unexpected account balance fluctuation. The auditor’s evidence search was considered more (or less) confirmatory by the number of alternative hypotheses the auditor-participants were able to generate.

McMillan and White (1993) employed a search measure that incorporated both the magnitude and direction of the auditor’s evidence search, similar to the search measure used in the current study. Among other issues, McMillan and White were interested in the influence of hypothesis framing, confirmation bias, and professional skepticism on the auditor’s evidence search. In an analytical review task, the auditor-participants were asked to select the hypothesis frame that “most likely” identified the source of the fluctuation in a hypothetical firm’s financial statement ratios. Following this selection, they were asked to indicate the likelihood that the hypothesis frame selected represented the true state. Following the establishment of their initial beliefs, the auditor-participants were asked to review a menu of 16 audit questions (eight environmental and eight error questions) and rank-order the first four questions they would initially seek answers to in an attempt to explain the marked change in the financial ratios. Following this selection, they were provided evidence cues to the questions selected. The evidence was classified as either confirmatory or disconfirmatory depending upon whether or not the nature of the evidence supported the hypothesis frame chosen. The auditor-participants were then asked to select any of the 12 remaining questions from the menu to which they would then seek answers and rank-order them.
Two dependent measures were used to assess the auditors' search behavior. The search measure most similar to the one used in the current study was labeled a "ranked" search score. Similar to the search measure used in the current study, this measure was designed to place more emphasis on the evidence cues that the auditor-participants chose to examine first. The rank assigned to a question was based on the number of questions selected by the participant (0-12), where the highest rank was assigned to the top-ranked question, and corresponding lower ranks were assigned to the other questions. Positive ranks were assigned to the questions that agreed with the participant's hypothesis frame, and negative ranks were assigned to the other questions selected. To compensate for the potential bias that the set of twelve questions remaining would not be equally distributed between the two types of evidence (environmental and error), the ranks were then weighted by the reciprocal of the probability that one question of its evidence type would be selected. These adjusted ranks were then summed, and standardized by dividing the number of questions selected.

The manner in which the auditor's evidence-search pattern is studied in the current study is advantageous over previous studies for several reasons. As Peecher (1994) conjectures, it is not clear that auditors always "spontaneously" generate a number of alternative hypotheses regarding an unexpected finding on an audit. As a result of training, however, the auditor may be able to conduct a search in general areas of the client's environment that may uncover the true cause without having a specific hypothesis in mind. By allowing the auditor-participants to freely select and evaluate the evidence items of their interest, rather than be cued by a predetermined menu of questions from which they select, I believe I can more adequately capture their evidence search experience.

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* This may be a function of audit experience and/or expertise.
Second, by using a search measure that incorporates the order in which auditors attend to the evidence, I am able to examine whether the issues of interest in this study (response variable and reviewer preferences) influence not only the type of evidence examined, but the order in which the evidence is examined. This may provide insight into their ultimate influence on the auditor's evidence evaluation.

3.1.7 Pilot Testing

The experimental materials were examined for reasonableness and clarity by three national partners from three Big 6 public accounting firms. After extensive discussion and revision, the experimental materials were then completed by four of the author's colleagues who had auditing experience. Based on feedback from pilot testing, a five-second delay before each evidence screen was determined to reasonably reflect the presence of search costs found in the cases provided in the experimental materials. Further, the wordings of instructions and the debriefing questions were changed to reduce ambiguities.

3.2 Statistical Analysis

Each participant performed two tasks, the accounts receivable collectibility review and the inventory obsolescence review. For each task, the auditor-participants were asked to examine nine accounts, which provides a total of nine observations per participant for the dependent variables of amount of information searched, average time of search, and pattern of search, and one observation per participant for the dependent variable of variability of search. As a result, two measures for each of the dependent
variables (one from each task) for each participant were included in the statistical analysis.

Given the audit environment in which auditors daily operate, there were concerns, however, that the auditor-participants in this study may not be familiar with the format in which the audit tasks were presented. For example, in the audit environment, the audit tasks employed in this study usually are not performed by computer, nor is the evidence considered provided in a computerized, menu form. The auditor-participants may attempt to become familiar with the experimental tasks during the beginning of each task, by following a comprehensive search with little or no variance in the examination of the first several accounts. After becoming familiar, the auditors would then follow their “strategy.” To control for these learning effects, the first two observations of each dependent variable were excluded.

A 3X2X(2) repeated-measures ANOVA was used to test the hypotheses for amount of information searched, variability of search, time of search, and pattern of search. This model included two between-subjects factors: (1) the three levels of accountability (no accountability, credence-inducing accountability, and skepticism-inducing accountability) and (2) the two types of responses (judgment and category choice). The within-subject factor consisted of the two tasks (accounts receivable collectibility review and inventory obsolescence review). The linear model underlying the repeated analysis of variance is specified by the following expression:
\[ E(X_{ijkm}) = \mu + \alpha_i + \beta_j + \alpha\beta_{ij} + \pi_{m(lj)} + \gamma_k + \alpha\gamma_{lk} + \beta\gamma_{jk} + \alpha\beta\gamma_{ljk} + \gamma\pi_{km(lj)} \]

where

- \( \alpha_i \) = reviewer preferences \( i = 1..3 \)
- \( \beta_j \) = response variable \( j = 1,2 \)
- \( \pi_{m(lj)} \) = subject \( m = 1..n \)
- \( \gamma_k \) = task \( k = 1,2 \)
CHAPTER IV
RESULTS

Section 4.1 describes the auditors who participated in the study. Section 4.2 provides discussion of the results of preliminary data analysis. Section 4.3 reports the results of the research hypotheses. Section 4.4 provides additional analyses.

Section 4.1 Participants

A total of 105 experimental instruments were sent to two Big-Six accounting firms, and 80 instruments were returned (a response rate of 76%). Roughly 98% of the 80 participants who completed the experimental instruments were senior-level auditors and the participants' years of audit experience ranged from two years and five months to four years and four months. The mean percentage of audits in which the auditor-participants had performed an accounts receivable review task was 55.21% while the mean percentage of audits in which the auditor-participants had performed an inventory obsolescence review task was 31.95%.

Fifty participants were from one Big-Six accounting firm, and 30 were from another Big-Six accounting firm. Because of the fundamental nature of the cognitive processes being examined and the lack of any hypothesized firm effects, no analysis of firm effects was conducted.

One auditor-participant in the judgment-skepticism inducing condition, spent a substantial amount of time on a number of pieces of evidence examined. This participant
was administered the experimental materials at one of the participating firms' offices during office hours. Per follow-up discussion, the participant indicated that several interruptions took place during the performance of the tasks resulting in the noticeably significant amount of time spent on the experimental tasks. As a consequence, this subject is excluded in Sections 4.3 through 4.5 in the analyses of the average time of search dependent variable. None of the results regarding the other dependent variables changed significantly with this subject excluded; the subject was therefore included in the analyses of the other three dependent variables in Sections 4.3 through 4.5.

Section 4.2 Preliminary Data Analysis

Preliminary analysis included a search for task-order effects and written responses that indicate an inability to successfully summarize the reviewer preferences. No task-order effects were noted for any of the dependent variable measures (smallest p-value=.127, two-tailed F-tests). Participants' written summaries of their reviewer preferences suggest that they were cognizant of these preferences; hence, no responses were excluded from the analyses due to the summaries provided.

Section 4.3 Tests of the Research Hypotheses

Section 4.3.1 presents the results of hypothesis one. Section 4.3.2 reports the results of hypothesis two. Section 4.3.3 reports the results of hypothesis three. Table 1 presents the descriptive statistics for each treatment condition for each dependent variable. Table 2 provides further summary statistics for each dependent variable.
Section 4.3.1 Tests of Hypothesis One

Hypothesis H1 predicted that there would be a significant judgment-versus-choice effect. That is, auditor-participants in the choice condition would, on average, select fewer evidence items, expend less time per evidence item, follow a more confirmatory search of the client’s explanation, and seek a more variable amount of information per alternative than those in the judgment condition.

Tables 1 and 2 reveal that the results for the dependent variables are directionally consistent with the predicted patterns. Further, as predicted, the repeated measures ANOVAs in Panel A of Tables 3 and 4 reveal that the judgment-versus-choice main effect had a significant effect on the participants’ amount of search (p=.026, one-tailed), and average time of search (p=.026, one-tailed). That is, across reviewer preferences and tasks, participants in the choice condition selected significantly fewer evidence items (3.0911 vs. 3.8518) and expended less time per evidence item (7.5900 vs. 9.6991) than those in the judgment condition. The planned comparisons tests in Panel B in Tables 3 through 6 show that much of the influence of the judgment-versus-choice manipulation can be attributed to the participants in the accountability conditions (i.e., credence- and skepticism-conditions). The judgment-versus-choice manipulation significantly influenced the participants’ amount of search (p=.0432, one-tailed) and time of search (p=.0199, one-tailed) in the accountability conditions. The judgment-versus-choice manipulation did not, however, significantly influence the participants’ pattern of search or variability of search.

Section 4.3.2 Tests of Hypothesis Two

Hypothesis H2 predicted that there would be a significant accountability effect. That is, participants who were presented with credence-inducing preferences of the reviewer would, on average, select fewer evidence items, expend less time per evidence
item, follow a more confirmatory search of the client's explanation, and seek a more variable amount of information per alternative than those presented with skepticism-inducing preferences.

Tables 1 and 2 reveal that, with the exception of the variability of search variable, the results for the dependent variables are directionally consistent with the predicted patterns. Further, as the planned comparison tests in Panel B of Tables 3 and 5 show, the accountability manipulation significantly influenced the participants' amount of search (p=.0106, one-tailed) and pattern of search (p=.0004, one-tailed). That is, as predicted, the credence-condition participants selected fewer evidence items (3.1667 vs. 4.3598), and followed a more confirmatory search of the client's explanation than the skepticism-condition participants (.6244 vs. .4897). However, the accountability manipulation did not significantly influence the participants' average time of search.

The repeated measures ANOVAs in Panel A of Tables 3 and 5 also reveal an accountability main effect for participants' amount of search (F=5.97, p=.004) and pattern of search (F=6.44, p=.003). With respect to the participants' amount of search, further investigation of the accountability main effect using post-hoc tests indicates that much of the influence of the accountability effect can be attributed to the skepticism-condition participants, as shown in Table 7. That is, the skepticism-condition participants selected significantly more evidence items (p<.05) than both the credence-condition (4.3598 vs. 3.1667) and the no accountability-condition participants (4.3598 vs. 2.8654), which is consistent with the hypothesis H2 analysis reported above. With respect to the participants' pattern of search, post-hoc tests in Table 7 reveal that much of the influence of the accountability effect can again be attributed to the skepticism-condition participants. The skepticism-inducing participants followed a more disconfirmatory search of the client's explanation than both the credence-inducing condition (.4897 vs. .6244) and the no
accountability condition (.4897 vs. .5885) participants, which again is consistent with the hypothesis H2 analysis reported above.

Section 4.3.3 Tests of Hypothesis Three

Hypothesis H3 predicted that there would be a significant interaction effect between the response variable (judgment-versus-choice) and accountability. In particular, hypothesis H3 predicted that, in the accountability conditions, there would be a less pronounced judgment-versus-choice effect on the participants' search behaviors than in the no accountability condition. However, as Panel B shows in Tables 3 through 6, this interaction significantly influenced only the variability of search variable (p=.0492, one-tailed).

Section 4.4 Other Analyses

Panel A of Table 6 reveals a significant task-effect (F=10.85, p=.002) on the participants' variability of search. When performing the inventory obsolescence review task, participants sought a significantly more variable amount of information per alternative than when performing the accounts receivable collectibility review task (1.2538 vs. .9978). Potential implications of this unpredicted effect are discussed in section 5.2.
Table 1
Descriptive Statistics of Dependent Variables
(Mean, Std. Deviation, and n)

Panel A: Amount of search

<table>
<thead>
<tr>
<th>RV Cond</th>
<th>Task 1</th>
<th>Task 2</th>
<th>Task ave.</th>
<th>Task 1</th>
<th>Task 2</th>
<th>Task ave.</th>
<th>Task 1</th>
<th>Task 2</th>
<th>Task ave.</th>
<th>Task 1</th>
<th>Task 2</th>
<th>Task ave.</th>
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### Panel D: Variability of search

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**Legend:**
- RP = reviewer preferences
- RV = response variable
- Task 1 = accounts receivable task
- Task 2 = inventory task
Table 2
*Summary Statistics of Between-Subject Cells*
*(Cell mean, Std. Deviation, and n)*

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2X3X(2) Repeated Measures ANOVA and Planned-Comparison Tests
for the Amount of Information Searched

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Legend:
RP = reviewer preferences
RV = response variable (judgment-vs-choice)
Table 4
2X3X(2) Repeated Measures ANOVA and Planned-Comparison Tests for the Average Time of Search

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**Panel B: Planned-Comparison Tests**

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<th>Planned Comparison</th>
<th>Mean Square</th>
<th>F-statistic</th>
<th>Prob.(2-tailed)</th>
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<tbody>
<tr>
<td>Judgment vs. Choice</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>in no accountability</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>versus Judgment vs. Choice</td>
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<td>in accountability</td>
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<td>Judgment vs. Choice</td>
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<tr>
<td>in no accountability</td>
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<tr>
<td>condition</td>
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<td>in the accountability</td>
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<td>conditions</td>
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</table>

Legend:
- RP = reviewer preferences
- RV = response variable
Table 5
2X3X(2) Repeated Measures ANOVA and Planned-Comparison Tests
for the Pattern of Search

Panel A: Repeated Measures ANOVA

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
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<td>Between Subjects Effects</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>RP</td>
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<td>.003</td>
</tr>
<tr>
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<td>1</td>
<td>.04</td>
<td>1.13</td>
<td>.292</td>
</tr>
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<td>.01</td>
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<td>Error</td>
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<td>.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Subjects Effects</td>
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<td></td>
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<td>.03</td>
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<td>.01</td>
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<td>.02</td>
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<td>.383</td>
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<td>.01</td>
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<td>.03</td>
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Panel B: Planned-Comparison Tests

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<thead>
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<th>Mean Square</th>
<th>F-statistic</th>
<th>Prob.(2-tailed)</th>
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</thead>
<tbody>
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<td>.6198</td>
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<td>.8352</td>
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<td>.2441</td>
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<td>Skepticism vs. Credence</td>
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<td>12.11</td>
<td>.0008</td>
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Legend:
RP = reviewer preferences
RV = response variable
Table 6
2X3X(2) Repeated Measures ANOVA and Planned-Comparison Tests
for the Variability of Search

**Panel A: Repeated Measures ANOVA**

<table>
<thead>
<tr>
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</tr>
<tr>
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<td>1.52</td>
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<td>2</td>
<td>.02</td>
<td>.08</td>
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<td>18.08</td>
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</table>

**Panel B: Planned-Comparison Tests**

<table>
<thead>
<tr>
<th>Planned Comparison</th>
<th>Mean Square</th>
<th>F-statistic</th>
<th>Prob.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judgment vs. Choice in no accountability versus Judgment vs. Choice in accountability</td>
<td>1.1153</td>
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<td>.0985</td>
</tr>
<tr>
<td>Judgment vs. Choice in no accountability condition</td>
<td>1.1132</td>
<td>2.79</td>
<td>.0988</td>
</tr>
<tr>
<td>Judgment vs. Choice in the accountability conditions</td>
<td>.1103</td>
<td>.28</td>
<td>.6004</td>
</tr>
<tr>
<td>Skepticism vs. Credence</td>
<td>.4278</td>
<td>1.07</td>
<td>.3035</td>
</tr>
</tbody>
</table>

**Legend:**
RP = reviewer preferences
RV = response variable
Table 7

Post-Hoc Investigation of Reviewer Preferences

(Cell Means Shown)

<table>
<thead>
<tr>
<th></th>
<th>No Accountability</th>
<th>Credence</th>
<th>Skepticism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of search (sec)</td>
<td>2.8654&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.1667&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.3598&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Pattern of search</td>
<td>.5885&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.6244&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.4897&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note. Entries within a row with the same letter are not significantly different according to Tukey honestly significant difference (HSD) post-hoc comparison test (p<.05).
CHAPTER V
DISCUSSION

Section 5.1 provides discussion of the results of the tested hypotheses. Section 5.2 ends with concluding remarks and opportunities for future work.

Section 5.1 Discussion of Tests of Hypotheses

Section 5.1.1 discusses hypothesis one. Section 5.1.2 discusses hypothesis two. Section 5.1.3 provides a discussion of hypothesis three.

Section 5.1.1 Hypothesis One

One of the major objectives of this research was to explore the potential influence of the judgment-versus-choice effect on the auditor's decision strategy. The judgment-versus-choice effect is a well-documented phenomenon in the psychological literature. An analysis of that research indicates that the judgment-versus-choice effect is found when subjects perform choice tasks that possessed both of the following characteristics: (1) the selection of the "best" alternative and (2) "independent" evidence across alternatives. These studies did not consider choice tasks that do not possess both characteristics.

The choice tasks employed in this study were characterized by evidence of an independent nature; however, they did not involve selecting the "best" alternative. Instead, these choice tasks involved deciding which alternatives should be included in a particular category, characterized in this paper as category choice tasks. While the choice tasks used in psychology had different characteristics than the auditing tasks, the "theoretical"
characterization of judgment and choice was considered to reflect judgment and choice in the audit setting. In the audit setting, I suggest that judgment is more deliberative than category choice for two reasons: (1) judgment requires an explicit assessment (an argument consistent with psychological research) and (2) judgments often provide a basis for subsequent choices made by other audit team members (distinctive of the audit setting).

Consistent with hypothesis H1, the results of this study reveal that auditor-participants in the choice condition selected significantly fewer evidence items and expended significantly less time per evidence item than those in the judgment condition. Further, the results show that much of the judgment-versus-choice influence can be attributed to the participants in the accountability conditions. That is, the differences between judgment and choice in the accountability conditions attained statistical significance for the amount-of-search and time-of-search dependent variables.

These results provide several insights. First, unlike the participants in related psychology studies, the participants in this study were professionals. Much of the related psychology research has used non-professionals, such as students. Second, the choice tasks (category choice) employed in this study were different from the choice tasks ("best" alternative) that have been discussed and examined in related psychology literature. Category choice tasks are performed daily by non-professionals. Students decide to which colleges and universities they will apply. Members decide which applicants they will accept into their organization. Individuals decide to which organizations and charities they will donate their time and money. The significant results found in this study suggests that the evidence search strategies employed when making judgments indeed differ from those used in making choices for the professional performing category choice tasks. The extent to which the non-professional behaves similarly to the professional in performing category choice tasks warrants further research in the psychology literature. Further, the behavior of
the professional in performing a "best" alternative choice task, I believe, needs further examination.

Section 5.1.2 Hypothesis Two

The other major objective of this study was to investigate the effect of accountability demands on the auditor's search behavior. The results of this study are consistent with hypotheses in that accountability demands significantly influenced the auditor-participants' amount of search and pattern of search. Results revealed that the no accountability-condition and credence-condition participants selected fewer evidence items and followed a more confirmatory search of client's explanation than the skepticism-condition participants. In essence, these participants attended to the confirmatory evidence items earlier in their search process and ended their search earlier than the skepticism-condition participants. Accountability demands, however, did not significantly influence the participants' average time of search or variability of search. This suggests that reviewer preferences primarily influence what evidence auditors examine and the sequence in which they examine the evidence, but not the time or variability of their search.

One possible explanation of the findings may be provided by Gibbins and Newton (1995) and Peecher and Kleinmuntz (1991) who suggest that auditors likely develop a repertoire of response strategies from which they choose when confronted with preferences of the reviewing audience. Because auditors potentially decide "how to justify" their performance early in their decision process [Peecher and Kleinmuntz, 1991], the repertoire of response strategies may include the amount and type of evidence to examine for a given response and not the time of search or variability of search.

I believe that the results of this study extends psychology literature's discussion of accountability in several ways. First, in psychology literature, the accountability
manipulation used has often involved holding the participant accountable to individuals of no significant personal consequence to him/her. That is, accountability was often manipulated in these studies by indicating to the experimental participants that the authors of the experimental instrument (or some third-party audience) would be reviewing their responses. By holding the auditor-participants accountable to their superior (audit management), I believe that this study more fully captures the essence of accountability and its influence. Second, given the use of professional participants in this study, the significant results suggest that the accountability effect does not discriminate based on expertise levels. However, whether accountability differentially affect novices and experts is a question that warrants further research.

Section 5.1.3 Hypothesis Three

With the exception of the variability-of-search dependent variable, Hypothesis H3 was not supported in this study. That is, the differences between judgment and choice in the no accountability condition were not significantly different from those differences between judgment and choice in the accountability conditions. This suggests that perhaps the judgment-versus-choice distinction entails more than what was initially conjectured. Pecher and Kleinmuntz [1991] suggest that, when making a judgment, “auditors are likely to be held primarily accountable for the actual process that led to their judgment, particularly since judging the quality of the outcomes after the fact may be problematic” (p. 109). Hence, when providing judgments, if the auditor anticipates accountability for the process rather than the outcome (as argued for those making a choice), then the auditor may likely select a more comprehensive and exhaustive search strategy, since it is more justifiable. Consequently, the judgment-versus-choice effect may be as profound in the accountability conditions as in the no accountability condition.
Section 5.2 Conclusions

While my hypotheses did not always predict the manner in which the auditor's decision behavior was affected by the treatment conditions, there is considerable evidence that auditors adapted their decision processes as evidenced by their varied search strategies. The finding that the auditor's amount of search and time of search were systematically affected by the nature of the response required further supports the contention in decision-making literature that "the information-processing strategies used prior to making choices are often quite different from the strategies employed in judgments" [Slovic et al., 1982, p. 28]. The lack of significant differences between the two experimental tasks regarding these search variables undermine the argument that the underlying differences between judgment and choice are trivial results of scale differences.9

Because auditors do make explicit judgments and choices in the audit setting, further research on this distinction is warranted in the audit judgment literature. To the extent that information-processing strategies differ between judgment and choice, care must be exercised when generalizing the results of research studies that use judgments to investigate choice-like tasks. One implication is that if the auditor seeks more evidence in making explicit judgments than making choices, as suggested by the current study, s/he may also reach different conclusions when evaluating the additional evidence.

The findings that reviewer preferences systematically affected the auditor's pattern of search and amount of search have important practical and theoretical implications. Auditors daily operate in an accountability-inducing environment. Given such an

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9Recall that the accounts receivable collectibility review task utilized a scale of 0-100 while the obsolescence review task utilized a scale of 0 (low) and 1 (high) in the judgment condition. Results revealed that participants sought a significantly more variable amount of information per alternative in the inventory task than in the accounts receivable task. Yet the largest differences between the two tasks are in the choice condition where both tasks utilize the same scale.
environment, these findings offer support for the contention that the auditor’s evidence search may be more an exercise in evidence marshaling than an unbiased search for truth [Solomon and Shields (in press)]. These findings further support suggestions in recent audit judgment literature that accountability mechanisms such as the audit review process may not always be bias-mitigators (e.g., Kennedy, 1993), but possibly bias-instigators (e.g., Peecher, 1993, 1994). While these findings imply caution to the practitioner, an interesting caveat and related issue for future research needs to be mentioned. Studies in auditing decision contexts have found evidence supporting the notion that auditor’s exhibit a “recency” bias when evaluating evidence. That is, auditors may have a tendency to weight more heavily, evidence evaluated later in the decision process than evidence received first (e.g., Asare, 1992). Results of the current study suggest that reviewer preferences influence the order in which evidence is examined. Whether such a search effect potentially interacts with the reported recency effect in the auditor’s evidence evaluation is an area of possible future research.
REFERENCES


Church, B.K. 1991. An examination of the effect that commitment to a hypothesis has on auditors’ evaluations of confirming and disconfirming evidence. Contemporary Accounting Research (7): 513-34.


Dear Participant,

Thank you for your participation in this study. As part of our project, we would like for you to complete two cases. One case involves performing an accounts receivable collectibility review, and the other involves performing an inventory obsolescence review.

The following screens will provide the description of the case. Your responses will consist of making a series of decisions on-screen. You may need a notepad and pencil for possible note-taking. However, only your diskettes are to be returned at the end of the session, not your notes. Your responses will be totally confidential and not traceable to you personally. They will be aggregated and averaged with the responses of all other participants, and will not be disclosed separately.

Once you understand the above, please click on the "NEXT" button to proceed. Thank you for your cooperation.
Dear Participant,

Thank you for your participation in this study. We would like for you to complete two cases. One case involves performing an accounts receivable collectibility review, and the other involves performing an inventory obsolescence review.

The following screens will provide the description of the cases. Your responses will consist of making a series of decisions and providing written justifications for some of these decisions on-screen. You may need a notepad and pencil for any notes that you may want to take throughout this session. However, only your disk is to be returned at the end of the session, not your notes.

As part of this study, [The firm] is interested in your performance. Consequently, after you have completed the case, you will be asked to provide your name and office address. Your responses along with those of the other participants will be reviewed by [national partner], in charge of [function]. If deemed necessary, [national partner] may contact you regarding his/her concerns with the responses.

Once you understand the above, please click on the "NEXT" button to proceed. Thank you for your cooperation.
APPENDIX B

SAMPLE REVIEWER PREFERENCE SCREENS
The firm is concerned about the way our auditing professionals perform certain audit procedures. Specifically, we are concerned about the potential for auditors to pursue, without adequate justification, costly investigations of explanations other than those provided by the client, in absence of evidence to the contrary. In other words, auditors sometimes might not fully utilize the clients' insights about their firms to improve the efficiency of our audits. The cases you are completing today were designed to help us learn more about these issues.

So that we can better understand your responses to today's cases, please use one or two sentences in the space provided below to summarize the concerns addressed above.

Upon completion, please click the "NEXT" button to proceed with instructions regarding your first case.
The firm is concerned about the way our auditing professionals perform certain audit procedures. Specifically, we are concerned about the potential for auditors to accept, without adequate justification, client-provided explanations. In other words, auditors sometimes might not approach client-provided explanations with a sufficient attitude of professional skepticism. The cases you are completing today were designed to help us learn more about these issues.

So that we can better understand your responses to today's cases, please use one or two sentences in the space provided below to summarize the concerns addressed above.

Upon completion, please click the "NEXT" button to proceed with instructions regarding your first case.
APPENDIX C

SAMPLE OF BACKGROUND INFORMATION GIVEN FOR HYPOTHETICAL CLIENT
You are the auditor on the UilCo, Inc. audit and are responsible for determining the adequacy of the allowance for doubtful accounts at 9/30/94. UilCo, Inc. is a manufacturer of audio and electronic equipment. It is now October 31, 1994 and you have begun year-end procedures on this account. Based on earlier discussions with the controller, you have determined that the client’s policy for calculating the allowance is as follows:

- Specifically analyze all accounts with balances over $10,000 and accounts with balances of $2,500 that are more than 60 days old, and

- Provide a general allowance for 50% of all accounts over 90 days not specifically analyzed in the previous step.

This policy is consistent with the policy for calculating the allowance used in the prior year. You have received the client’s calculation of the current year’s allowance and also an historical analysis of the allowance. You have satisfactorily tested the accumulation of information in all reports used to determine the allowance and it appears to be complete and reliable. Planning materiality for the current year is $80,000. (Tolerable error is $40,000).
Background Information- Inventory Obsolescence Review

You are the auditor on the Cintronics, Inc. audit and are responsible for performing inventory audit procedures at 9/30/94. You have been requested, among other things, to review the client's valuation reserve for obsolete or slow-moving items. Cintronics, Inc. is a wholesaler of televisions, stereos, video recorders, and video disc players. Cintronics uses a periodic inventory system and the FIFO flow assumption. Based on earlier discussions with the controller, you have determined that the client's policy for calculating the reserve is as follows:

- Specifically analyze all item numbers from the extended physical inventory summary with amounts greater than $20,000, and

- Reserve 100% of the excess quantities over a one-year supply.

This policy is consistent with the policy for calculating the reserve used in the prior year. You have received the client's calculation of the current year's reserve, and have satisfactorily tested the accumulation of information in all reports used to determine the reserve. They appear to be complete and reliable. Planning materiality for the current year is $120,000 (Tolerable error is $60,000).
APPENDIX D

INSTRUCTION SCREENS
Instruction Screen:
Accounts Receivable Collectibility Review- Choice/No Accountability Condition

REQUIRED: Using the 9/30/94 client-prepared accounts receivable aging schedule, you are to determine which of the selected accounts should be identified as accounts with uncollectible balances and require to be reserved in the allowance account.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make decisions on the remaining nine accounts.
REQUIRED: Using the 9/30/94 client-prepared accounts receivable aging schedule, you are to determine which of the selected accounts should be identified as accounts with uncollectible balances and require to be reserved in the allowance account.

You are to provide written justifications for TWO of your decisions on-screen. The two decisions requiring written justification will be disclosed immediately AFTER the respective decisions are made.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make decisions on the remaining nine accounts.
REQUIRED: Using the 9/30/94 client-prepared accounts receivable aging schedule, you are to assess the probability that each of the selected accounts receivable will be collected in full next year. Assume that these judgments will be used by the manager on the WIICo audit to assist her/him in determining the adequacy of the allowance for doubtful accounts. That is, YOU are not determining the adequacy of the allowance, but rather providing information for the audit manager to decide.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make judgments on the remaining nine accounts.

NEXT
REQUIRED: Using the 9/30/94 client-prepared accounts receivable aging schedule, you are to assess the probability that each of the selected accounts receivable will be collected in full next year. Assume that these judgments will be used by the manager on the WIICo audit to assist her/him in determining the adequacy of the allowance for doubtful accounts. That is, YOU are not determining the adequacy of the allowance, but rather providing information for the audit manager to decide.

For two of your judgments, you will be asked to provide a written justification. The two judgments requiring written justification will be disclosed immediately AFTER the respective judgments are made.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make judgments on the remaining nine accounts.
Required: Using the 9/30/94 client-prepared physical inventory summary schedule of a sample of inventory items, you are to determine which of the selected inventory items should be identified as obsolete items. That is, you are to determine which inventory items require to be written down to their appropriate net realizable values.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make decisions on the remaining nine accounts.
REQUIRED: Using the 9/30/94 client-prepared physical inventory summary schedule of a sample of inventory items, you are to determine which of the selected inventory items should be identified as obsolete items. That is, you are to determine which inventory items require to be written down to their appropriate net realizable values.

For two of your decisions, you will be asked to provide a written justification. The two decisions requiring written justification will be disclosed immediately AFTER the respective decisions are made.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make decisions on the remaining nine accounts.
REQUIRED: Using the 9/30/94 client-prepared physical inventory summary schedule of a sample of inventory items, you are to assess the risk of obsolescence of each selected inventory item as either "low" (0) or "high" (1). Assume that these judgments will be used by the manager on the Cintronics audit to assist him/her in determining the adequacy of the inventory reserve. That is, YOU are not determining the adequacy of the inventory reserve, but rather providing information for the audit manager to decide.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make judgments on the remaining nine accounts.
REQUIRED: Using the 9/30/94 client-prepared physical inventory summary schedule of a sample of inventory items, you are to assess the risk of obsolescence of each selected inventory item as either "low" (0) or "high" (1). Assume that these judgments will be used by the manager on the Cintronics audit to assist him/her in determining the adequacy of the inventory reserve. That is, YOU are not determining the adequacy of the inventory reserve, but rather providing information for the audit manager to decide.

For two of your judgments, you will be asked to provide a written justification. The two judgments requiring written justification will be disclosed immediately AFTER the respective judgments are made.

There are ten accounts. The following series of screens that appear will walk you through the first customer's account. This tutorial phase is designed to familiarize you with the task to be performed. It will also introduce you to the types of audit evidence available for each customer's account. You will need to make judgments on the remaining nine accounts.
APPENDIX E
SAMPLE OF SCHEDULE OF ACCOUNTS SCREENS
### Accounts Receivable Schedule of Accounts Screen

#### WiCo, Inc.

<table>
<thead>
<tr>
<th>Account</th>
<th>9/30/94 Balance</th>
<th>September Sales</th>
<th>August Sales</th>
<th>July Sales</th>
<th>June and Prior Sales</th>
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<tbody>
<tr>
<td>Barbara's Travels</td>
<td>31,648</td>
<td>7,956</td>
<td>21,732</td>
<td>1,960</td>
<td></td>
</tr>
<tr>
<td>Chris' Brewery</td>
<td>6,633</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cindy's Fashions</td>
<td>40,657</td>
<td>27,998</td>
<td>12,759</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gary's Sporting Goods</td>
<td>16,382</td>
<td>9,765</td>
<td>6,597</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kirsty's Discount</td>
<td>29,743</td>
<td>10,611</td>
<td>10,722</td>
<td>1,368</td>
<td>7,042</td>
</tr>
<tr>
<td>Hollifield's Stompers</td>
<td>71,368</td>
<td>49,946</td>
<td>15,474</td>
<td></td>
<td>5,948</td>
</tr>
<tr>
<td>Ray Traders</td>
<td>21,094</td>
<td>17,851</td>
<td>2,666</td>
<td></td>
<td>1,177</td>
</tr>
<tr>
<td>Spires Tires</td>
<td>26,303</td>
<td>6,350</td>
<td>8,765</td>
<td>4,320</td>
<td>6,868</td>
</tr>
<tr>
<td>Steve's Choppers</td>
<td>7,396</td>
<td>4,205</td>
<td>3,191</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willy's Gear</td>
<td>16,395</td>
<td>5,900</td>
<td>10,495</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tutorial:** You have returned to the menu of accounts. Note the check by the account you have already examined. This concludes the overview, or tutorial of what you are to expect to find as you continue with this session. As you follow the procedures which you have seen, please note that there will be only one modification—a 5-second delay for each selected item from the menu of evidence to appear on-screen. This reflects the time necessary to gather the evidence on the audit. Please enjoy the session!
Inventory Obsolescence Schedule of Accounts Screen

Cintronics, Inc.

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT $</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avery Sounds</td>
<td>SX VCR decks</td>
<td>428</td>
<td>$148</td>
<td>$22,348</td>
</tr>
<tr>
<td>Coiltech</td>
<td>CS 6' monochrome tvs</td>
<td>131</td>
<td>$51</td>
<td>$21,028</td>
</tr>
<tr>
<td>Dillon Tech</td>
<td>FRM videocassette players</td>
<td>225</td>
<td>$250</td>
<td>$56,250</td>
</tr>
<tr>
<td>GX Electronics</td>
<td>GX tape decks</td>
<td>257</td>
<td>$85</td>
<td>$21,645</td>
</tr>
<tr>
<td>Harrison Video</td>
<td>HP video camcorders</td>
<td>189</td>
<td>$435</td>
<td>$82,215</td>
</tr>
<tr>
<td>Heltach</td>
<td>XOG stereo systems</td>
<td>115</td>
<td>$375</td>
<td>$43,125</td>
</tr>
<tr>
<td>Powertronics</td>
<td>PC 25' screen televisions</td>
<td>127</td>
<td>$400</td>
<td>$50,800</td>
</tr>
<tr>
<td>Quality Play</td>
<td>QT30 disc changer</td>
<td>138</td>
<td>$240</td>
<td>$33,120</td>
</tr>
<tr>
<td>Reynolds, Inc.</td>
<td>R45 stereo systems</td>
<td>102</td>
<td>$380</td>
<td>$38,760</td>
</tr>
<tr>
<td>Rayco, Inc.</td>
<td>ZT20 video recorders</td>
<td>194</td>
<td>$275</td>
<td>$53,330</td>
</tr>
</tbody>
</table>

Tutorial: You have returned to the menu of accounts. Note the check by the account you have already examined. This concludes the overview, or tutorial, of what you are to expect to find as you continue with this session. As you follow the procedures which you have seen, please note that there will be only one modification—a 5-second delay for each selected item from the menu of evidence to appear on-screen. This reflects the time necessary to gather the evidence on the audit. Please enjoy the session.
APPENDIX F

SAMPLE OF MENU OF EVIDENCE ITEM SCREENS
Tutorial: This is a menu screen with seven options from which you may select evidence. You may view as many of these areas as you deem necessary. There is no limit on how many times you may review the same piece of evidence.
Inventory Obsolescence Review Evidence Item Menu Screen

Cintronics, Inc.
9/30/94

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avery Sounds</td>
<td>SX VCR decks</td>
<td>128</td>
<td>$418</td>
<td>$22,348</td>
</tr>
</tbody>
</table>

Menu of Evidence
(you may select from the following items:

- Industry Information
- Competitor Product Information
- Trend in Gross Profit Percentage
- Inventory Turnover Ratio
- Firm Advertising Strategy
- Firm Sales Information
- Inventory Records
- Last Year's Workpapers

DECISION

Tutorial: This is a menu screen with eight options from which you may select evidence. You may view as many of these areas as you deem necessary. There is no limit on how many times you may review the same piece of evidence.
APPENDIX G
SAMPLE RESPONSE SCREENS
 Accounts Receivable Collectibility Review - Choice Screen

WilCo, Inc.

9/30/94

<table>
<thead>
<tr>
<th>Balance</th>
<th>September Sales</th>
<th>August Sales</th>
<th>July Sales</th>
<th>June and Pico Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbara's Travels</td>
<td>31,618</td>
<td>7,936</td>
<td>21,732</td>
<td>1,960</td>
</tr>
</tbody>
</table>

I believe that the account of Barbara's Travels

[ ] does include an uncollectible balance that should be reserved in the allowance account.

[ ] does not include an uncollectible balance that should be reserved in the allowance account.

Tutorial: This is the decision screen, where you must select one of two options.
Accounts Receivable Collectibility Review - Judgment Screen

WilCo, Inc.

2/30/94

<table>
<thead>
<tr>
<th>2/30/94</th>
<th>September</th>
<th>August</th>
<th>July</th>
<th>June and Prior Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>balance</td>
<td>Sales</td>
<td>Sales</td>
<td>Sales</td>
<td>Sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbara's Travels</td>
<td>31,618</td>
<td>7,956</td>
<td>21,732</td>
<td>1,960</td>
</tr>
</tbody>
</table>

I believe that there is [ ] % probability that the account of Barbara's Travels will be collected in full next year.

Tutorial: This is the judgment screen, where you must enter in the space provided the probability that the account will be collected in full next year.
Inventory Obsolescence Review - Choice Screen

Cintronics, Inc.
9/30/94

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT $</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avery Sounds</td>
<td>SX VCR decks</td>
<td>420</td>
<td>5 140</td>
<td>5 22 440</td>
</tr>
</tbody>
</table>

I believe that the units of Avery Sounds
☐ do require to be written down to appropriate net realizable value.
☐ do not require to be written down to appropriate net realizable value.

ENTER CANCEL

Tutorial: This is the decision screen where you must determine if the units of the account being examined require to be written down to appropriate net realizable value.

NEXT
Inventory Obsolescence Review - Judgment Screen

Cintronics, Inc.
9/30/94

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT $</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avery Sounds</td>
<td>SX VCR decks</td>
<td>428</td>
<td>5 148</td>
<td>5 27,348</td>
</tr>
</tbody>
</table>

On a two-point scale of 0(low) and 1(high), I believe that the risk of obsolescence of the Avery Sounds inventory is [ ] .

Tutorial: This is the judgment screen where you must enter in the space provided the risk of obsolescence of the inventory item.
APPENDIX H

POST-EXPERIMENTAL QUESTIONNAIRE SCREEN
1. To the nearest month, how many years have you been employed as an auditor?

   *YA years  MD months*

2. What is your present rank within your firm?

   ○ staff auditor  ○ senior auditor  ○ manager  ○ senior manager  ○ partner

3. On what percentage of the audits in which you have been involved did you participate in:

   a. the accounts receivable task?  *AR %*
   b. the inventory obsolescence review task?  *IOR %*

4. During your audit career, what percentage of your time was devoted to clients in the following industries? (Percentages should add up to 100%)

   - Manufacturing  0 %  Construction  0 %  Insurance  0 %
   - Health care  0 %  Entertainment  0 %  Service Industries  0 %
   - Retailing  0 %  Extractive Industries  0 %  Communications  0 %
   - Government  0 %  Banking and Finance  0 %  Other  0 %

5. What is the highest level of education that you have attained?

   ○ less than bachelor  ○ bachelor  ○ M.B.A.
   ○ some other masters  ○ J.D.  ○ other

6. Are you a C.P.A.?  ○ Yes  ○ no