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PERCEPTIONS OF COLLEGE AND UNIVERSITY AUDITORS CONCERNING
THE IMPORTANCE OF SELECTED FACTORS ASSOCIATED
WITH OPERATIONAL AUDITING

DISSERTATION

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The primary purpose of this study was to identify and analyze the perceptions of college and university auditors concerning the importance of selected factors associated with operational auditing. The secondary purpose was to determine whether the perceptions of certified auditors differ significantly from those of noncertified auditors.

Selected factors associated with operational auditing for colleges and universities were categorized in three attribute groups--organizational, personal, and environmental. The identification of organizational and personal attributes was based mainly on concepts set forth in the Standard for the Professional Practice of Internal Auditing published by the Institute of Internal Auditors (1978). Identification of environmental attributes was based on a review of the relevant literature, as well as on discussions with selected college and university auditors. Each attribute, whether categorized as organizational, personal, or environmental, was used as a basis for the identification of detailed factors associated with

operational auditing. The findings of this study reveal that factors dealing with organizational attributes were perceived as considerably more favorable than were factors dealing with personal or environmental attributes.

With regard to the secondary purpose of this research, a total of 14 hypotheses were developed and subjected to t-tests to determine whether the perceptions of certified auditors differed significantly from those of noncertified auditors. Of the 14 hypotheses tested, there were no significant differences between perceptions of the two groups concerning the importance of independence, audit plan, audit program, audit supervision, continuing education, training, audit follow-up, objectivity, technical competence, experience, and interpersonal skills.

Certified auditors perceived attributes that deal with audit report and professional certification to be more important to operational auditing than did their noncertified counterparts. With regard to the importance of a knowledge and understanding of the higher education environment (i.e., knowledge of characteristics uniquely identifiable with institutions of higher education) to operational auditing, certified auditors perceived this attribute less favorably than did noncertified auditors.

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CHAPTER I

INTRODUCTION

Performance evaluation occupies a central position in the management control system. Institutions of higher education, like other organizations, utilize performance evaluation as a management control method to promote effective and efficient use of resources.

Institutions of higher education exist in a world of accountability which is evidenced by the mounting pressure exerted upon them by both external and internal forces. Declining resources, increasing operating costs, growing institutional size and complexity, and ever-increasing fiscal conservatism of state and federal legislators are among the many challenges facing higher education institutions in this decade (Baker, 1976). Peter Magrath (1972) describes the status of higher education as follows:

Colleges and universities throughout the United States, whether private or public, are under what we might call external public audit of a kind unknown in the sunnier days of the 1950's and 1960's. Public demands for greater accountability in higher education, fused with a cost-consciousness on the part of state legislators, alumni, and governing boards, have literally put most colleges and universities under a public microscope. (p. 73)

During the past decade, it appears that the funds available to operate colleges and universities have decreased, while the demand for expenditures for these

enterprises has risen sharply. In the face of this situation, administrators of higher education are forced to evaluate the operational effectiveness and efficiency of their respective institutions. To do this, they need useful information that will enable them to plan, coordinate, and control the operational activities in order to maximize the effective and efficient use of the limited available resources. Operational auditing, as an evaluation technique, (a) provides the necessary information; (b) serves as a control mechanism for evaluating the effectiveness, efficiency, and economy of operation; and (c) offers a constructive method of assisting administrators to discharge their responsibilities more effectively.

Statement of the Problem

This study was concerned with the identification and analysis of selected factors considered to be important in operational auditing.

Purpose of the Study

The primary purpose of this study was to identify and analyze the perceptions of college and university auditors concerning the importance of selected factors associated with operational auditing. The secondary purpose of the study was to determine, on the basis of respondents' certification status, whether responses of certified college and

university auditors differ significantly from responses of noncertified auditors.

For the purpose of this study, certified auditors are certified internal auditors (CIAs) and certified public accountants (CPAs). The inclusion of CIAs in the same category with CPAs is justified on the following grounds:

1. The philosophical and theoretical bodies of knowledge associated with internal auditing have evolved from those associated with auditing (Briston, 1980). Therefore, philosophical and theoretical underpinnings of the two professions are similar.

2. The content of the CIA examination and the CPA examination are quite similar. For example, both exams concern auditing, accounting, and business-related topics (McKee, 1986).

3. Both certification programs require similar education, past work experience, and continuing education.

The distinction between responses of certified and noncertified auditors is important because professional certification represents attainment of a common body of knowledge and authority in any given field (McKee, 1986). Furthermore, CIA and CPA certification signify professional knowledge and a high level of training in the fields of accounting and auditing (Smith, 1970).

Significance of the Study

Research concerning operational auditing for private businesses has been conducted for the past four decades and has answered many questions such as "What is operational auditing?" "How does it influence organizational performance?" "What are its advantages and limitations?" and so on. However, the extent of research on the subject as it relates to institutions of higher education has been limited.

The lack of research in the area of operational auditing for higher education is evidenced by the fact that while during the past two decades considerable resources were expended for research dealing with operational auditing for private business, less than a handful of studies were devoted to issues related to colleges and universities. Given the importance of operational auditing and the fact that operational auditing in higher education is in its infancy, there appears to be a need for further research in this area.

There are three major considerations contributing to the usefulness of this research.

1. Perceptions are individual mental processes which determine both the actual and potential responses of each internal auditor in the field (Allport, 1967). Thus, knowledge about internal auditors' perceptions can be used as a

basis for modification or reinforcement of their actual or potential responses as needed.

2. The results of this study can be used by institutional leaders to develop and implement those conditions that are perceived to be important in operational auditing.

3. Professional certification in accounting and auditing signifies (a) a demonstrated, high level of knowledge, (b) expertise, and (c) professional competence, as well as minimum years of auditing experience. Thus, the perceptions of certified internal auditors should be of critical interest to institutional leaders. If the perceptions of certified auditors are significantly different from those of noncertified auditors, the implications may point toward the need for leaders of higher education institutions to encourage professional certification of their internal audit staffs.

Hypotheses of the Study

In addition to the general identification and analysis of the perceptions of college and university auditors concerning the importance of selected factors in operational auditing, this study tested the following hypotheses:

H₁. No significant difference exists between certified and noncertified auditors regarding the perceived importance of independence in operational auditing.

H₂. No significant difference exists between certified and noncertified auditors regarding the perceived importance of audit plan in operational auditing.

H₃. No significant difference exists between certified and noncertified auditors regarding the perceived importance of audit program in operational auditing.

H₄. No significant difference exists between certified and noncertified auditors regarding the perceived importance of audit supervision in operational auditing.

H₅. No significant difference exists between certified and noncertified auditors regarding the perceived importance of continuing education in operational auditing.

H₆. No significant difference exists between certified and noncertified auditors regarding the perceived importance of training in operational auditing.

H₇. No significant difference exists between certified and noncertified auditors regarding the perceived importance of audit report in operational auditing.

H₈. No significant difference exists between certified and noncertified auditors regarding the perceived importance of audit follow-up in operational auditing.

H₉. No significant difference exists between certified and noncertified auditors regarding the perceived importance of objectivity in operational auditing.

H₁₀. No significant difference exists between certified and noncertified auditors regarding the perceived importance of technical competence in operational auditing.

H₁₁. No significant difference exists between certified and noncertified auditors regarding the perceived importance of prior work experience in operational auditing.

H₁₂. No significant difference exists between certified and noncertified auditors regarding the perceived importance of professional certification in operational auditing.

H₁₃. No significant difference exists between certified and noncertified auditors regarding the perceived importance of interpersonal skills in operational auditing.

H₁₄. No significant difference exists between certified and noncertified auditors regarding the perceived importance of knowledge and understanding of environment in operational auditing.

Limitations of the Study

The respondents in this study were internal auditors, employed by American colleges and universities, who (a) were current members of the Association of College and University Auditors and (b) had least one year of college and university operational auditing experience. Thus, the results of this study may not be indicative of the perceptions of college and university auditors who do not meet the

above-mentioned criteria. Additionally, the number and likely unrandom nature of the final sample studied (i.e., those who responded to the questionnaire) may further restrict the generalizability of the findings.

Clarification of Terms

College or University Auditor--an internal auditor who is employed by a college or university.

Economy--the effective and efficient use of resources viewed from a long-term perspective (Casler & Crockett, 1982).

Effectiveness--achievement of objectives (Casler & Crockett, 1982).

Efficiency--the manner in which objectives are achieved in terms of the ratio of cost to the value of output (Casler & Crockett, 1982).

Internal Auditing--an independent review activity within an organization.

Internal Auditor--an individual employed by an organization who is concerned with any phase of business activity which is of service to management. This involves going beyond the accounting and financial records to obtain a complete understanding of the operations under review.

Institutions of Higher Education--any U.S. college or university, whether privately or publicly funded.

Operational Auditing--a systematic process for evaluating effectiveness, efficiency, and economy of operations which are under management's control. This includes reporting to appropriate persons the results of the evaluation, along with recommendations for improvements.

Summary and Organization of the Study

Chapter I provides a general introduction to the overall area of research. It includes discussions of the statement of the problem, the need for research, the purpose of the study, the hypotheses of the study, the usefulness of the study, the limitations of the study, a clarification of terms, and a summary and organization of the study.

Chapter II consists of a literature review which examines auditing, internal auditing, operational auditing, and internal auditing for colleges and universities. Chapter III discusses the descriptive research model for this study and presents a detailed explanation of its major attribute building blocks: organizational, personal, and environmental. Chapter IV discusses the research methodology used in this study, including descriptions of research design, data collection procedures, and the general design of data analysis. Chapter V reports the findings of the study and presents the results. Finally, Chapter VI summarizes the study, presents recommendations, describes implications, and suggests future research avenues that could evolve from this study.

CHAPTER II

REVIEW OF THE LITERATURE

History of Auditing

The existence of auditing goes back to a time when merchants and governments realized the need for verification of financial data. Sawyer (1981) traced the evidence of verification of transactions to 5,500 years ago.

The records of a Mesopotamian civilization about 3,600 B.C. show tiny marks at the side of numbers relating to financial transactions. The dots, checks, and tick marks portray a system of verification. One scribe prepared summaries of transactions; another verified them. It was probably here that the control system of verification and division of duties originated. Early Egyptian, Persian, and Hebrew records show similar systems. (p. 3)

The recent history of auditing can be traced back to the period of the industrial revolution. During that time, some accounting records were, for the first time, examined by expert accountants. Although this development had a material effect on the practice of auditing, according to Bigg (1951), the audit of business accounts, as known today, became common in the 19th century.

The function of bookkeeping in Great Britain was first transformed to accounting and then to auditing in the 19th century. Adelberg (1975) noted that the development of auditing in Great Britain was a response to economic depressions that occurred in the British economy in 1815,

1836, 1857, and 1866. Each of these depressions resulted in heavy financial losses and multiple business failures. To protect the interest of creditors, an objective verification of financial statements of failed companies became a necessity. The task of objective verification of such statements became the new responsibility of accountants.

In addition to the events mentioned above, the passage of the British Companies Act of 1862 and the statutory requirement that publicly held companies keep detailed accounting records subject to independent verification created further need for independent auditing and strengthened the position of auditors. Adelberg (1975) explained the emergence of auditing in Great Britain.

The 19th century witnessed an incredible metamorphosis that could not have been remotely possible without the twin developments in Great Britain--bankruptcy statutes and British Companies Act--which extended the services rendered by so-called "accountants" from manual record keeping to professional auditing. (p. 39)

However, according to Watts and Zimmerman (1983), the historical evidence points toward the need for monitoring of performance as an underlying reason for the use of auditing. To support this assertion, Watts and Zimmerman traced the widespread voluntary use of auditing among early business corporations to the early 13th century, although the audit requirement of the first English companies act actually did not occur until 1844.

Watts and Zimmerman's assertion that auditing was used as a response to the need for monitoring of performance is consistent with the theory of the firm. The theory of the firm focuses on the importance of monitoring the performance of all contracting parties, where a firm is defined as a series of contracts (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976).

According to the recent development in the theory of the firm, "Firms are sets of contracts among the factors of production, and different contractual arrangements . . . provide different incentives for opportunistic behavior by the contracting parties. . . . Enforcement of the contract requires monitoring of management's activities" (Watts & Zimmerman, 1983, p. 614). Minimization of incentives for "opportunistic behavior," as well as enforcement of the contract, are the roles of auditing. Watts and Zimmerman found the use of audit to be consistent with the owners' desire for an efficient contractual arrangement and low agency cost, but inconsistent with the use of audit being the consequence of some statutory requirement, such as the English companies act.

Auditing first began in the United States during the 19th century, along with British investment. The British brought their own auditors to verify the balance sheets of those U.S. companies in which they had invested heavily. The British auditors brought with them their audit

objectives, programs, and procedures, which provided their American counterparts with insight and exposure to the nature of auditing.

After World War I, the U.S. economy grew substantially. During this period of rapid growth, many U.S. corporations published audited financial statements on a voluntary basis. The voluntary submission of U.S. corporations to audit was done mainly to render credibility to published financial statements which, in turn, would improve the companies' chance of obtaining capital.

No statutory external audit requirement existed in the U.S. until the passage of the Securities Act of 1933, which required publicly held companies to (a) provide information regarding the scope of audit performed, (b) provide information regarding the scope of subsidiaries, and (c) provide essential information (both quantitative and qualitative) to auditors, and also required auditors to give opinions regarding management's fairness in presenting financial statements (Skousen, 1987).

The Committee on Basic Auditing Concepts (1973) identified four conditions that create demand for auditing. These conditions are: (a) conflict of interest between the principle(s) and agent(s) that may prevent preparation of unbiased information, (b) significance of the value of information in decision making, (c) complexity of the business operation that requires expertise in financial

information preparation and verification, and (d) inability of the user of financial information to assess the quality of information directly (Wallace, 1980).

Wallace (1980) offered three distinct, but nonetheless overlapping, hypotheses to explain the demand for auditing. Her first hypothesis states that "An agency relationship is a contract under which one or more principals [sic] engage another person as their steward (agent) to perform some services on their behalf, the performance of which requires the delegation of some decision making authority to the steward" (p. 12). Because the interest of different contracting parties (e.g., principal and agent) may diverge from one another, it is necessary to monitor one's performance to ensure that his or her behavior does not harm the other party.

Wallace's second hypothesis is based on the premise that information has three benefits: (a) it reduces risk; (b) it improves decision making; and (c) it earns trading profit. Based on this premise, she argued that "the investors demand audited financial statements because they [financial statements] provide information that is useful in their investment decision" (1980, p. 16). This is to say that audit improves the quality of financial information.

The last of Wallace's (1980) hypotheses rationalizes the demand for audit on the ground of management's professional liability exposure, due to participation in

activities involving financial disclosure practices. Under both common law and the securities acts, the auditor, as well as the auditee, may be liable to third parties for losses resulting from defective financial statements. Thus, managers have "incentive to insure themselves via auditors' participation [because] the ability to shift financial responsibility for reported data to an auditor lowers the expected loss from litigation or related settlement to managers" (1980, p. 22).

Nature of Auditing

Arens and Loebbecke (1984) defined auditing as

the process by which a competent, independent person accumulates and evaluates evidence about quantifiable information related to a specific economic entity for the purpose of determining and reporting on the degree of correspondence between the quantifiable information and established criteria. (p. 1)

Holmes and Overmyer (1977) stated that during the course of their examination of financial statements, independent auditors are concerned with the following:

- . The internal control procedure of the client;
- . The examination of accounting records and transactions, and their underlying evidences for authority and validity;
- . The examination of other financial and non-financial documents and records, and their underlying evidences for authority and validity; [and]
- . Evidence obtained from outside sources--banks, customers, creditors, and others. (p. 1)

A close examination of Arens and Loebbecke's (1984) definition of auditing, combined with a close review of stated items of concern to auditors in the examination of financial statements, reveals that the nature and scope of auditing in the U.S. has undergone substantial changes since its birth in Great Britain (Stettler, 1975). One of the major changes has been the development of different types of auditing. Initially, auditing was concerned with clerical accuracy and detection of fraud and was done by external auditors. Now it covers a much wider range of services and is also done by inhouse auditors (internal auditing).

History of Internal Auditing

Historically, the concept of internal auditing is of much more recent development than that of auditing conducted by external auditors. Although a form of internal auditing can be traced to the manor house of England in the Middle Ages, most accounting historians do not consider that practice an audit because it was conducted by the lord of the manor himself (Flesher, 1977). The development of internal auditing began early in the 20th century. As an aid to management, internal auditing experienced a formal recognition and substantial growth from 1900 to 1940. The recognition and growth of internal auditing were prompted by a series of interrelated events, e.g., the growth of corporate forms of business and the increasing size and complexity of

business organizations. As the years progressed, the size of business organizations became so large that managers could no longer personally oversee, or directly influence, important activities of the organization (Smith, 1971). To cope with this situation, it became necessary to utilize internal auditing as a managerial control tool to ensure that company policies and directives were carried out.

Internal auditing, as we know it today, was first used by the railroads. According to Lamperti and Thurstone (1953), railroad companies adopted internal auditing as an essential means for controlling their widely scattered operations. Other businesses with similar problems (e.g., department stores and oil companies) also adopted internal auditing very early. Yet, others did not institute internal auditing departments in their organizations until after the passage of the Securities Acts of 1933 and 1934. The main concern of the internal audit department in these companies was to provide additional verification of accounting records in satisfaction of the requirements of the acts.

In addition to the Securities Acts, passage of the U.S. Foreign Corrupt Practices Act of 1977 created more concerns for internal audit departments. According to Sawyer,

The Act's most far-reaching implications to domestic firms are not the provisions prohibiting the corruption of foreign officials. Rather they are the requirements for record keeping imposed on United States companies. . . . The Act in general says this: internal accounting controls shall be examined, and if material

weaknesses are found, controls must be strengthened or additional ones installed. (1981, p. 68)

To comply with the act, internal audit departments were required to implement the necessary changes in the companies' systems of internal accounting control in order to provide reasonable assurance that internal controls met the requirements of the act.

Although internal auditing had received formal recognition and was growing in the early part of the 20th century, it was not until 1941 that it began to experience some radical changes in its nature, scope, and status. In 1941, two major events occurred that profoundly affected internal auditing: (a) the publication of the first book on the subject of internal auditing by Victor Z. Blink, entitled Internal Auditing, and (b) the establishment of the Institute of Internal Auditors (IIA).

Since its birth, the IIA has enjoyed rapid growth and currently has a membership in excess of 30,000 members, with 173 chapters in over 100 countries. It has served its members since 1941 by "publishing the ideas of the most progressive members of internal auditing groups and of drawing attention of general corporate executives to the possibilities inherent in this type of service to management" (Miller, 1974, p. 29). Furthermore, the institute has acted as a spokesman and information source on internal auditing theory and practice. The IIA also publishes The

Internal Auditor (TIA), the professional journal of internal auditing.

The objectives and purpose of the IIA are

1. Educational. To create, disseminate, and promote an interest in information concerning internal auditing and related subjects;
2. Ethical. To establish and maintain high standards of professional conduct, honor, and character among internal auditors;
3. Social. To maintain a library and reading, meeting, and social rooms for the use of its members, associate members, and junior members for the purpose of facilitating and promoting social activities; [and]
4. General. To do any and all things which shall be lawful and appropriate in furtherance of any of the foregoing purposes. (Walker & Davis, 1951, p. 2)

Nature of Internal Auditing

In the Standard for Professional Practice of Internal Auditing (SPPIA), the IIA defines internal auditing as

an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization. (1978, p. 1)

Brink (1982) elaborated on the key elements of this definition.

1. The term "independent" characterizes the audit work as being free of restrictions that could significantly limit the scope and effectiveness of the review or the later reporting of findings and conclusions.
2. The term "appraisal" confirms the evaluation thrust of internal auditors as they develop their conclusions.

3. The term "established" confirms the fact of definitive creation by the organization of the internal auditing role.
4. The terms "examine and evaluate" describe the action role of internal auditors first as fact-finding inquiry, and second as judgmental evaluation.
5. The words "its activities" confirm the broad jurisdictional scope of the internal auditing work as applying to all of the activities of the organization.
6. The term "service" identifies help and assistance as the end product of internal auditing.
7. The term "to the organization" confirms the total service scope as pertaining to the entire organization--which includes all corporate personnel, board of directors (including their audit committees), and stockholders. (p. 3)

Evaluation of the foregoing definition and subsequent statements of deliberation clearly indicates that the nature of internal auditing is quite broad and covers all organizational activities, whether they be financial, operational, or otherwise. However, in the early years, the practice of internal auditing was limited to maintaining the organization's internal control, checking mechanical accuracy, and detecting and preventing fraud. In fact, the Statement of Responsibilities of Internal Auditing issued in 1947 states that internal auditing deals primarily with accounting matters (Sawyer, 1981). Richard J. Briston stated that "until recently, internal auditing was a reflection of external auditing mainly concerned with matters such as vouching expense accounts, counting petty cash, and other

clerical tasks" (1980, p. 26). Furthermore, internal auditing was concerned with accounting procedures and the evaluation of compliance with the policies and procedures established by management (Blink, 1978).

In more recent years, the role of internal auditing has expanded to contribute to the overall organizational control mechanism in response to corporate management's needs. Internal auditors also provide other services aimed at improving the effectiveness and efficiency of operations. Having recognized the expanded role of internal auditing, the IIA described the objectives and range of activities of internal auditors in its 1978 Statement of Responsibilities of Internal Auditing.

The objective of internal auditing is to assist all members of management in the effective discharge of their responsibilities by furnishing them with analyses, appraisals, recommendations and pertinent comments concerning the activities reviewed. Internal auditors are concerned with any phase of business activity in which they may be of service to management. This involves going beyond the accounting and financial records to obtain a full understanding of the operations under review. The attainment of this overall objective involves such activities as:

- . Reviewing and appraising the soundness, adequacy and application of accounting, financial, and other operating controls, and promoting effective control at reasonable cost.
- . Ascertaining the extent of compliance with established policies, plans, and procedures.
- . Ascertaining the extent to which companies' assets are accounted for and safeguarded from losses of all kinds.

- . Ascertaining the reliability of management data developed within the organization.
- . Appraising the quality of performance in carrying out assigned responsibilities.
- . Recommending operating improvements. (Sawyer, 1981, p. 21)

An examination of the range of these activities suggests that the last two categories deal with operational auditing, which is aimed at improving the overall performance of the organization.

History of Operational Auditing

In the past two decades, internal auditing has evolved in scope and in responsibility. Whereas internal auditing started as a checking function, it now has expanded to include an operating control mechanism, frequently called operational auditing. In recent years, operational auditing has received increased attention, which is evidenced by a marked increase of research and writing in this area. The recent focus on operational auditing is due mainly to the benefits achieved from application of this control mechanism. The benefits which can be obtained from operational auditing include improved operational effectiveness and efficiency, reduced waste, evaluation of effectiveness of other controls, determination of areas of strength and weakness, and evaluation of organizational policies and procedures. Although this list is by no means inclusive, it

demonstrates that operational auditing can benefit management at all levels.

Operational auditing came to be as a by-product of financial auditing. However, its scope now has been expanded to include such areas as production, sales, marketing, purchasing, and the like. According to Choi (1971), operational auditing was born when internal auditors expanded their role beyond the mere verification of financial information, asked themselves why a transaction was made in the first place, and wondered if there were a way to improve effectiveness.

Operational auditing has evolved as a systematic review and evaluation technique for the use of management over the past two decades (Campfield, 1976). Today's management needs operational auditing more than ever.

As an enterprise expanded in size, the managerial burden became of greater importance because of the wider delegation of authority and responsibility to subordinates. Thus, management began to realize the need for a change in its methods of controlling its business. Management started to expect their internal auditors to provide many types of special services for them, because internal auditors have a background of company-wide experience derived through audits of different facets of operations. . . . In order to meet the increasing challenge of business complexity and diversity, the internal auditor had to adapt and recognize the need for change in his old concept of internal auditing. (Choi, 1971, p. 9)

Currently, operational auditing is a multifaceted function that benefits all levels of management by providing them

with useful information to promote effectiveness, efficiency, and economy in their respective organizations.

Nature of Operational Auditing

A review of internal auditing literature reveals many definitions of operational auditing (Choi, 1971; Evans, 1969; Leonard, 1963; Mint, 1964; Purnell, 1967; Sawyer, 1973). The current study adopts the rather comprehensive definition provided by Bradford Cadmus (1964).

Operational auditing is a systematic process of evaluating an organization's effectiveness, efficiency, and economy of operations under management's control and reporting to appropriate persons the result of the evaluation along with recommendations for improvement. Its objectives are to provide a means for evaluating an organization's performance and to enhance performance by making recommendations for improvements. Operational auditing requires measuring the degree of correspondence between actual performance and acceptable criteria and focuses on management's planning and control system. Both the adequacy of the system and the degree of compliance with established policies and procedures are evaluated. Evaluation requires an auditor who is independent of the activity being evaluated to obtain and evaluate evidence which, in the auditor's judgment, is relevant to the effectiveness, efficiency, and economy of operations. Reporting involves communication to persons in positions with a need to know the auditor's evaluation of performance and the recommendations for improving it. (p. 10)

This definition suggests that unlike protective auditing (e.g., financial auditing), which is mainly concerned with checking of accounting records, or compliance auditing, which is mainly concerned with the determination of the degree of compliance with policies and mandates, operational auditing is principally concerned with all

phases of current and future operation. In this sense, it can be viewed as constructive auditing. Operational auditing is mainly concerned with the effectiveness, efficiency, and economy of the organizational operation, where effectiveness is defined as the achievement of objectives, efficiency is defined as the manner in which objectives are achieved in terms of the cost to value of output ratio, and economy is defined as the effective and efficient use of resources from a long-term perspective (Casler & Crockett, 1982).

Operational auditing can be implemented on either an "ad hoc" or an "ex natura serum" basis (Norbeck, 1969). Under the "ad hoc" approach, the operational audit is performed as a response to an existing problem which requires attention. Conversely, with the "ex natura serum" approach, operational auditing is utilized on a regular basis. Regardless of the approach, an operational audit must follow a systematic approach and consistent methodology in order to be successful. A complete methodology for operational auditing not only requires a comprehensive knowledge of audit environment, it also requires well established audit objectives, as well as a well established audit plan, audit program, audit report, and audit follow-up. According to Casler and Crockett (1982), a systematic methodology for operational auditing is composed of five orderly phases,

wherein each phase is designed to achieve certain objectives.

Preliminary Preparation. Operational auditing requires a thorough understanding of the audit environment. Auditors must study and evaluate available information to gain an appreciation of the history and current status of an organization. . . . This knowledge should be reasonably complete before an operational audit is attempted in any functional area or organizational unit. During the preliminary preparation, the audit file containing background information on the unit, activity, or function to audit is reviewed, brought upto-date, and evaluated. Information includes the objectives and policies of the auditee, production process, resources used (financial, material, and human), organizational elements, and major controls systems employed. The objectives of the preliminary-preparation phase are to ensure that auditors understand the audit environment and identify critical aspects of operations, risk areas, and potential or apparent problem areas.

Field Survey. The field survey determines the scope and emphasis of an operational audit. During this phase, auditors use what they have learned in the earlier phase as a guide in asking questions of operating management, in reviewing reports and outputs of control systems, and in observing operations. . . . Having completed the field survey, auditors will have sufficient knowledge of operations to identify important issues and problems, if any exist, and to decide where audit efforts should be concentrated. With the information gathered during the preliminary preparation and field survey, auditors prepare a systematic plan for the conduct of the audit.

Program Development. A written audit program documents audit planning and provides a guide for the systematic accumulation and evaluation of audit evidence and consists of the detailed steps for collecting and analyzing appropriate evidence to achieve stated audit objectives. . . . In the program-development phase, auditors write audit programs for obtaining and analyzing evidence concerning the specific areas of interest which have been identified in the prior phases. . . . A written audit program is a valuable control tool without which audit efficiency and effectiveness will certainly suffer.

Audit Application. Audit application involves the step-by-step completion of each element of the audit program to gather and analyze evidence, draw conclusions, and develop recommendations. During this phase, auditors complete an in-depth review of the auditee's operations which were identified as appropriate audit subjects. . . . Auditors must also identify specific problems, gather and analyze sufficient evidence to demonstrate cause and effect, and develop recommendations for improvements during the application phase.

Reporting and Following Up. Reporting is the most critical phase of an operational audit and will not be successful unless it accurately communicates to management operating deficiencies and practical recommendations for improving operations. Good audit reports state facts (findings) precisely and clearly, support conclusions with findings, and give practical recommendations that address the problems described. . . . The reporting phase includes following up the audit report to determine what, if any, action was taken in response to the report. Follow-up is essential because there is the possibility that deficiencies revealed by the audit will continue uncorrected. (Casler & Crockett, 1982, p. 17)

Internal Auditing in Higher Education

The use of internal auditing by institutions of higher education is a relatively recent phenomenon. Although the history of internal auditing for colleges and universities goes back to the early part of 1950, it was in 1968 that it gained significant recognition (Miller, 1974). The 1968 edition of College and University Business Administration, in its statement of objectives of internal auditing for colleges and universities, defines internal auditing as

determining that the system of internal control is adequate and functioning; ensuring that institutional policies and procedures are being followed; verifying the existence of assets shown on the books of account and ensuring the maintenance of proper safeguards for their protection; preventing or discovering dishonesty;

and determining the reliability and adequacy of the accounting and reporting system and procedure. (American Counsel on Education, 1968, p. 216)

As late as 1968, internal auditing was concerned only with financial and compliance auditing. However, since then, and especially in the past decade, there have been serious attempts to expand the scope of internal auditing to cover the operational aspect of institutions of higher education. Such attempts have been dictated by the recent challenges facing higher education (e.g., demand for accountability, decreasing resources, and so forth). As the need for operational auditing emerged, the Association of College and University Auditors (ACUA), the professional association of auditors employed by colleges and universities, "responded by supplying the professional guidance which practitioners needed to improve their service to management" (ACUA, 1980, p. 1).

The ACUA was formed in 1958 by internal auditors serving institutions of higher education, in response to the need for an exchange of ideas, experience, and practices of internal auditing in such applications. Since its formation, the ACUA has taken a progressive approach towards the practice of internal auditing and has periodically updated its monograph, Internal Auditing for Colleges and Universities, to reflect the current issues and events in auditing in educational institutions.

The ACUA states the objective and scope of internal auditing as follows:

to assist all members of management in the effective discharge of their responsibilities, by furnishing them with analysis, appraisals, recommendation, and pertinent comments concerning the activities reviewed. The internal auditor is concerned with any phase of business activity where he or she can be of service to management. This involves going beyond the accounting and financial records to obtain a full understanding of the operation under review. (1980, p. 2)

While recognizing the necessity of financial and compliance auditing, the statement of objective also places emphasis on operational auditing. This emphasis is a response to the new environment surrounding higher education which centers on declining resources and the belief that the available resources must be used in the most effective and efficient manner possible (Henke, 1982). According to Drucker (1975), institutions of higher education should justify their existence not only on the basis of society's need, but also on the bases of operational effectiveness and efficiency.

Prior Research

Internal auditing within institutions of higher education has not received much attention in the literature. While many resources have been expended in developing and refining internal auditing for businesses in the past two decades, only two studies have dealt with internal auditing for use in colleges and universities. Although neither of these two studies addresses the identification of important

factors associated with internal auditors, a brief review of them is appropriate.

Miller's Study

Miller's (1974) doctoral dissertation had two purposes. The primary purpose was to determine whether internal audit functions at colleges and universities included operational auditing. The second was to determine if there were any relationships between the scope of operational auditing and (a) the size of the institution or (b) the reporting level of the organization's internal auditor. The results of Miller's study reveal that most institutions of higher education which participated in the survey were using some operational auditing techniques. However, only about half of the available techniques were being utilized. The results of Miller's study also show that there was a relationship between the size of institutions and the extent of operational auditing and that the use of operational auditing was more extensive in institutions where internal auditors reported to the vice president.

Drucker's Study

Although Drucker's (1975) study cannot be considered research in the classic sense, it provided, nonetheless, important data on some aspects of internal auditing practices in institutions of higher education. Of the 238 institutions that responded to the questionnaire, about 90%

reported having an annual external financial audit, and only 20% of these institutions reported having independent auditors engaged in operational auditing. With respect to the type of internal auditing practiced in these institutions, Drucker found that about 35% of the respondents did not have any type of internal auditing. Among the institutions that were utilizing internal auditing, 20% had limited the scope of audit to fiscal and legal compliance, and less than 50% were utilizing operational auditing as a part of internal auditing procedures. As for the implementation procedure, Drucker found that 40% of the audit departments did not have a procedural manual, that 36% of the departments audited were not required to respond to the audit report, and that 74% of the academic departments were not audited periodically. He summarized his findings as follows:

- . Education institutions lag far behind private industry in using internal auditing as a tool for controlling and improving operations.
- . Where internal auditing is used in colleges and universities, it often is not sufficiently independent of the reviewed activities to be of service to the governing body and administrative officials. (p. 63)

Summary

This chapter presents a discussion of the history and development of auditing, in general, and internal auditing, in specific. Special attention is given to the history,

nature, and current status of operational auditing--the subject of this study. This chapter also presents an overview of internal auditing in higher education, which includes a brief historical background, as well as a discussion of some previous studies in this area.

CHAPTER III

RESEARCH MODEL

Introduction

This chapter addresses construction of a descriptive research model which details and explains the parameters of factors associated with operational auditing. This model was the basic framework for the study. Identification and explanation of selected topics concerned with organizational, personal, and environmental attributes are discussed, and the importance of each attribute is substantiated by the relevant literature.

Research Model

This research proposed to construct a descriptive model to identify and analyze the parameters of selected factors associated with operational auditing for colleges and universities. This descriptive model was tested by means of a survey addressing the perceptions of college and university auditors with regard to the importance of those factors.

For the purposes of this study, factors associated with operational auditing for colleges and universities were categorized into three attribute groups: organizational, personal, and environmental. While organizational

attributes are those attributes which are directly controlled by institutions of higher education, personal attributes are those attributes indigenous to the individual internal auditors. Environmental attributes are uniquely identifiable with higher education institutions, and they are related to characteristics of educational enterprises not found in other organizations.

In this study, the identification of organizational and personal attributes was based mainly on concepts set forth in the Standards for the Professional Practice of Internal Auditing (SPPIA), published by the Institute of Internal Auditors (IIA) (1978). Identification of environmental attributes was based mainly on a review of the relevant literature and discussion with selected college and university auditors. Each attribute, whether categorized as organizational, personal, or environmental, was the basis for identification of detailed factors associated with operational auditing for colleges and universities. Selected factors are addressed in the questionnaire (see Appendix A).

Organizational Attributes

Organizational attributes are those variables controlled by each organization. The existence of these attributes is dependent upon the organization's policy. Thus, presence of these attributes may differ among

different institutions of higher education. This research dealt with eight organizational attributes: independence, audit plan, audit program, audit supervision, continuing education, training, audit report, and audit follow-up.

Independence

In this research, the organizational and reporting status of college and university auditors was used as a surrogate for independence of those auditors. According to the SPPIA, "Internal auditors should be independent of the activities they audit. . . . Independence permits internal auditors to render the impartial and unbiased judgments essential to the proper conduct of audits" (IIA, 1978, p. 100-1). In an internal audit, independence characterizes the auditor's ability to perform the audit functions free of restrictions that could significantly limit the scope and effectiveness of the assignment or the subsequent reporting of results and conclusions (Brink, 1982). To internal auditors, independence represents a special problem because the internal audit department is a part of the organization and receives its support from that organization. Thus, total independence becomes as elusive as the perfect vacuum (Sawyer, 1973). In the face of this adverse condition, internal auditors must strive to achieve practical independence.

Practical independence is required for effective operational auditing. Casler and Crockett (1982) took the position that

practical independence is necessary if the potential benefits of operational auditing are to be realized. It is a degree of independence which protects auditors from having to compromise their audit objectives. Such independence requires that auditors be:

- . Free of personal involvement or responsibility for operations of an audited unit;
- . Able to develop audit programs without undue influence;
- . Able to gain full access to evidential matter and operating personnel as necessary;
- . Objective in gathering and evaluating evidence; [and]
- . Able to include in an audit report all matters deemed necessary. (p. 15)

For internal auditors, practical independence needs to be constituted through both organizational status and reporting status in each organization. The argument that a high level of independence is associated with high levels of organizational and reporting status for internal auditors is well-supported in the literature (Casler & Crockett, 1982; Manahan, 1976; Sawyer, 1973, Smith, 1970).

Audit Plan

Planning is a focal point in any operational auditing assignment. An audit plan is necessary to guide audit efforts in accordance with organizational policies.

Planning may be defined as a managerial activity which deals with identification, analysis, and evaluation of different tactics and programs available within an audit assignment.

Audit planning takes into account quantifiable considerations, such as cost benefits, as well as qualitative considerations, such as organizational priorities (Casler & Crockett, 1982).

The benefits of audit planning are many. Sawyer (1981) identified some of the benefits to be the auditor's guide, a support for budget requests, a way of involving management in the audit process, a way of obtaining management's commitment to the scope of the audit, and finally, a standard for measuring the auditor's performance.

Section 520 of the SPPIA states that "the director of internal auditing should establish plans to carry out the responsibilities of the internal auditing department" (IIA, 1978, p. 500-1). According to the standards, the planning process should include identification of audit goals, preparation of an audit work schedule, preparation of staffing plans and financial budgets, and preparation of activity reports.

Audit Program

"An audit program is like a road map. It shows the route the internal auditor intends to take" (Sawyer, 1981, p. 143). A good audit program serves as a means of self-control, and while assisting auditors to stay on course, it also alerts them to make necessary modifications in the audit procedures.

Some of the benefits of an audit program are that (a) it establishes a systematic plan for accumulation of evidence, (b) it establishes the basis for assignment of audit tasks, (c) it permits the comparison of work planned with work performed, (d) it assists in the training of internal audit staff, and (e) it reduces the amount of direct supervision (Sawyer, 1981). An audit program represents only the minimum level of planning required for an effective operational audit (Critin, 1977).

Audit Supervision

Supervision of any audit engagement not only ensures compliance with the audit program, but it also renders credibility to the audit. Section 230 of the SPPIA states that "the internal auditing department should provide assurance that internal audits are properly supervised" (IIA, 1978, p. 200-1).

Professional, experienced auditors are likely to turn out professional audits; inexperienced auditors are not. Yet, an auditing department's products must be consistently and equally high. The equalizer is good supervision. A competent supervisor can warn of pitfalls, help in audit planning, provide unbiased perspectives on audit findings, ensure the preparation of professional working papers, help maintain auditor-auditee relations, monitor budget and schedule and help reverse adverse trends, review audit reports, and see [that] the essential elements are not missing from the audit project. (Sawyer, 1981, p. 643)

Audit supervision must begin with the planning phase and end with the closing of the project and must also

cover all phases which occur in between (e.g., preliminary survey, audit program, field work, exit interview, audit report, and so forth).

Continuing Education

Internal auditing is a dynamic profession which is expanding constantly. This expansion is in response to the everchanging business environment. In a dynamic business environment, the concept of internal audit staff development and related programs becomes of crucial importance. The importance of a staff development program for those employed in internal auditing has been recognized by the IIA, and two standards which deal with continuing education and training have been devoted to this concept (IIA, 1978).

Continuing education is a must for internal auditors. Section 270 of the SPPIA states that "internal auditors should maintain their technical competence through continuing education" (IIA, 1978, p. 200-3). The need for perpetual training has been necessitated by the rapid technological changes that have significantly impacted all phases of business operations (Lembke, Smith, & Tidwell, 1974). Failure to keep current with changes (technological or otherwise) will adversely affect the usefulness of internal auditors.

Continuing education is particularly important to operational auditing because technical skills required for

success are subject to rapid obsolescence. A well designed and effective continuing education program should allow internal auditors to keep pace with state-of-the-art audit techniques, management concepts, and the like.

Training

To assume that one's education is substantially complete upon graduation from college or that colleges and graduate schools equip individuals with all necessary tools for successful employment is unjustified thinking (Rabinowitz, 1985). Rather, colleges and universities provide individuals with the basic tools needed to effectively complete training programs.

The need to train internal auditors has been recognized. Section 540.3 of the SPPIA specifically calls for training opportunities. Internal auditing departments need to establish formal training programs for their internal auditors.

Training programs may be either internal or external in origin. Internal training programs are typified by inhouse workshops, audit simulations, and conferences. External training programs are conducted through various professional organizations, such as the IIA (Choi, 1971). The management of each audit department must decide on the suitability of a given training program and require successful completion as a criterion for both hiring and promoting internal auditors.

Audit Reports

Section 260.02 of the SPPIA reads, "Internal auditors should be skilled in oral and written communication so that they can clearly and effectively convey such matters as audit objectives, evaluations, conclusions, and recommendations" (IIA, 1978, p. 200-2). There is no dispute over the necessity of an internal audit report. Indeed, no operational audit is considered complete unless it provides a report explaining findings, conclusions, and recommendations.

The main purpose of operational audit reports is to influence management to take action (Fitzgerald, 1973). Information present in an operational audit report must lead to improved effectiveness, efficiency, and economy of operation. It is in this context that audit disclosure becomes of paramount importance in operational auditing. A good audit report must positively impact the auditee and encourage acceptance of audit findings. It must also encourage compliance with audit recommendations.

Disclosure in operational auditing is somewhat unique. This distinctiveness is due to the fact that operational audit reports are less structured than are financial audit reports and that no disclosure concept (what and how to report) can be designated for operational audit reports (Brown, 1976). To date, much has been written on the characteristics of a good operational audit report (Bradt, 1969,

Ciavell, 1970; Dew, 1971; Higgins, 1973; May, 1971; Smith, 1971). Nevertheless, the issue remains as to what constitutes a report that contributes to the success of operational auditing.

Audit Follow-Up

In most views, the operational audit is incomplete until action is taken to correct deficiencies noted in the audit report (Berryman, 1977; Hallinan, 1974; Newton, 1979; Sawyer, 1974). It is management's responsibility to demand a written response to the audit report, as well as to require corrective action from operating personnel.

Although organizational policy should establish guidelines for the timing and method of written response to audit findings and for the propriety of corrective actions in any circumstance, an effective follow-up procedure is essential to assure that the need for corrective action is not overlooked. The SPPIA, Section 440, states that "internal auditors should follow-up to ascertain that appropriate action is taken on reported audit findings" (IIA, 1978, p. 400-2).

Personal Attributes

Personal attributes (or qualifications) are those variables which are identifiable with each college and university auditor. For the most part, these attributes are acquired through education or through work experience.

Often, they are products of each auditor's personality or mental status. Personal attributes play an important role in the performance of operational auditing. The personal attributes addressed by this study are objectivity, education, experience, professional certification, and interpersonal skills.

Objectivity

Objectivity is a basic requirement of any audit. Without it, the process of auditing is subject to different degrees of bias and is rendered useless. Frank De Marco (1982) defined objectivity as a "mental trait enhancing the ability to maintain a detached approach from a task despite personal feelings" (p. 24). He further noted that despite the practical difficulties in maintaining objectivity, internal auditors must exercise judgment based on professional opinions--not on personal views. If such separation cannot be achieved, they must disqualify themselves from a particular engagement.

The concepts of independence and objectivity are closely related. Nonetheless, they are distinct. From a theoretical standpoint, one can be objective and not be independent. Or, one can be independent and not be objective. Without objectivity, independence is of no significance and is fruitless (De Marco, 1982).

To improve objectivity, internal auditors must (a) refrain from any personal involvement in the operation of any organizational unit, (b) maintain a high degree of integrity and professionalism, (c) remain relatively free from routine tasks, and (d) have a staff function position (as opposed to a line function position).

Education and Experience

Section 250 of the SPPIA reads, "Internal auditors should possess the knowledge, skills, and disciplines essential to the performance of internal audit" (IIA, 1978, p. 200-2). If internal auditors are to be successful in performing their tasks, they must possess a certain level of professional competence. Professional competence is achieved through education and related work experience.

Definition of the most appropriate type of education and experience for internal auditors is the subject of much controversy. Some experts believe that the knowledge of accounting or equivalent related work experience is the prerequisite educational requirement for the internal audit staff (Dumm, 1971). And, these requirements may be sufficient for internal auditors who work extensively with financial records (Sawyer, 1981).

However, some researchers are convinced that the educational requirements and work experience of internal auditors should extend beyond a mere knowledge of accounting.

Pattern (1971) predicts that if internal auditors expect to respond successfully to new demands for audit services, they must gain deeper knowledge and understanding of such areas as computer techniques, behavioral science, management science, and quantitative methods. In the same vein, Seiler (1972) recommends broadening the educational base of internal auditors to enable them to cope with the increasing computerization, the greater application of mathematics in business problems, and the increasing use of quantitative techniques which tend to dominate tomorrow's business environment.

Recognizing the wide range of activities involved in operational auditing, Brinks (1982) has made some general recommendations for the education and experience of operational auditors.

[Auditors] need to have technical qualifications of the broadest possible application. These technical qualifications pertain to both education and experience. For education, the current trend is for a college degree in an established school of business. For experience, there needs to be previous involvement in operational activities, or at least reasonable exposure to them. (p. 132)

Professional Certification

Certification offers many advantages to professional accountants and auditors, as well as to the organizations that employ them. Whether intended for internal auditors or their counterparts in public accounting, certification programs offer substantially the same benefits. For example:

- . It identifies and tests the common body of knowledge and the work experience which forms the basis for professional qualification in the fields of accounting and auditing.
- . It stimulates and encourages the self-development of those engaged in the practice of accounting and auditing.
- . It defines the qualifications for professional recognition of accountants and auditors.
- . It develops a generally accepted examination program which will measure the candidate's knowledge and ability in respect to the qualification established.
- . It provides the professional satisfaction of knowing that one has attained a recognized and accepted degree of competency in his/her chosen profession. (Smith, 1971, p. 11)

McKee (1986) noted that when individuals become aware of a professional's certification, they are reassured that the individual has demonstrated a level of knowledge which exceeds the average. This realization may be an important factor in how people deal with others. Finally, certification for accountants and auditors calls for study programs and other requirements (such as continuing education) that encourage members to strive for higher levels of proficiency and competence.

Human Relations

Human relations occupy a central position in the internal auditing literature. The reason for this recognition is twofold: (a) auditees, in general, have negative attitudes towards internal auditors because internal auditing, by its very nature, creates a certain degree of negative

perception and (b) because operational auditing deals mainly with people, its effectiveness depends on the existence of a positive, constructive relationship between internal auditors and auditees.

Negative attitudes (and in some cases, even animosity or hostility) of auditees towards internal auditors were first documented by Churchill and Cooper (1965). Findings of their research study reveal that only 25% of the respondents had positive attitudes towards auditors, whereas 58% viewed internal auditors as "policemen." Similar results were later reported by Mints (1972) and by Clancy, Collins, and Real (1980).

Mint's (1972) research provides abundant evidence in support of the assertion that a positive, constructive relationship between auditees and internal auditors affects the quality of the audit. His 1972 study included test audits in which some of the auditors used a superior and impersonal approach. In other tests, auditors used a participative, personal, and teamwork approach. After each audit test, auditees were asked to evaluate the auditors in terms of their audit style. The audit ratings of the internal auditors were correlated with the actions later taken by the auditees to correct the deficiencies found by the audit. The results of the study show that in cases in which auditors were rated highly, auditees took action to correct virtually all deficiencies and that in cases in which

auditors were unfavorably rated, few or, in some instances, no actions were taken to correct the deficiencies.

The results of Mint's (1972) study clearly indicate that a poor relationship with auditees detracts from audit effectiveness. Conversely, a good relationship promotes audit effectiveness. The importance of human relations on the effectiveness of internal auditing underscores the need for internal auditors to improve their image by adopting proper audit approaches to effect a change in auditee's perceptions, as well as to improve relationships.

Environmental Attributes (Knowledge and Understanding)

For the purposes of this research, environmental attributes are defined to be those elements uniquely identifiable with institutions of higher education. These attributes deal mainly with characteristics of educational enterprises not present in other organizations. The process of identifying relevant environmental attributes centers mainly around the review of relevant literature, in addition to discussion with some practicing college and university auditors. These methods unveiled the revelation that knowledge and understanding of the higher education environment are the only relevant attributes in this category. Because knowledge is antecedent to understanding, and furthermore, because the concepts of knowledge and understanding are

closely related, they are presented as one topic in the following discussion.

Effective operational auditing requires a complete knowledge and understanding of the audit environment, including, but not limited to, the history, current status, method of management, production process, strengths and weaknesses, and other characteristics unique to the organization and the industry. With regard to the importance of knowledge and understanding of the environment in operational auditing, Casler and Crockett (1982) stated that

knowledge of the industry and the firm's input markets, production technology, output markets, and applicable government controls and regulations is essential, as well as to understand the unique characteristics of the organization's and management's style and values, organizational structure, geographic distribution of facilities, production processes, and major planning and control system. This knowledge should be reasonably complete before an operational audit is attempted in any function area or organizational unit. (p. 16)

While most experts in the field recognize the importance of environmental knowledge in operational auditing, some do not accept the notion that auditors, in general, and college and university auditors, in particular, possess the necessary knowledge and understanding of the higher education environment to competently engage in the performance evaluation of institutions of higher education. They argue that the higher education environment is characterized by goal diversity and uncertainty, diffuse decision-making

processes, poorly understood production technology, and lack of profit motives (Lindsay, 1981). Lindsay offered the following characteristics that distinguish higher education from other entities governed by profit motives:

- . Complexity and intangibility of the inputs and especially the outputs of higher education means that available measures do not adequately quantify the concepts.
- . The "public good" nature of some outputs of higher education precludes the operation of a free-market and market determined prices in higher education.
- . Poorly understood production process in higher education prevents determination of an efficient conversion process of inputs to outputs.
- . Lack of incentive and reward structure limits efficiency.
- . And finally, staff rigidities due to specialization and tenure as well as the number of decisions made by faculty and students, limits managerial control in higher education. (1981, p. 688)

The foregoing discussion of the unique characteristics of higher education raises two challenges. The first has to do with certain efficiency and effectiveness measures widely used in business and how they apply to higher education (Carlson, 1977; Kirschling & Staaf, 1975; Levin, 1971; Magrath, 1972). The second challenge concerns the ability of internal auditors to evaluate performance in higher education.

In response to the first challenge, some writers argue that institutions of higher education, like other nonprofit organizations, can, and should, be subjected to independent

evaluation of their financial and operational activities (Drucker, 1975; Manahan, 1975). For those who question an internal auditor's right to evaluate, comment, and make recommendations concerning an organization's operation without technical knowledge, Phyrre (1969) provided the following response:

- . He [the internal auditor] does not claim to be an expert or technician in the operating areas he audits. He uses operating personnel and current literature to supply the information he needs.
- . He [the internal auditor] need be an expert only at auditing, since it is the business aspect of the operation that he is most interested in. (p. 10)

Summary

This chapter presents a model of parameters which typify and describe successful performance in operational auditing. Identification and description of the attributes are made in three categories: organizational attributes, personal attributes, and environmental attributes.

CHAPTER IV

RESEARCH METHODOLOGY

Introduction

The descriptive model developed in Chapter III was used as the basic framework to survey the perceptions of college and university auditors regarding the importance of selected factors associated with operational auditing. This chapter describes the research methodology of this study.

Research Design

The extent of prior knowledge about an issue is an important consideration in planning a research design. While operational auditing has received some attention in the profession's practitioner-oriented literature in recent years, this attention has, for the most part, seldom gone beyond an intuitive discussion of the issue. Specifically, evidence related to the perceptions of college and university auditors regarding the importance of factors associated with operational auditing is virtually non-existent.

However, every perception study which this researcher reviewed employed a field survey design. The widespread use of the field survey is indicative of its pertinence for perception studies. The current study used a field survey to accomplish its objectives: (a) measurement and

description of perceptions of college and university auditors and (b) discovery of certain relationships between those perceptions and the professional certification status of respondents.

Population

The population for this study consisted of those individuals who were employed as internal auditors at American colleges and universities and was limited further to internal auditors who were members of the Association of College and University Auditors (ACUA). Justifications for this limitation were that (a) auditors employed by colleges and universities with internal auditing departments were likely to be members of this association and (b) an accurate mailing list of members was available from the ACUA (Miller, 1974).

In addition, a subject's responses were included only if that respondent had at least one year of experience in college or university operational auditing. This selection criterion ensured that each respondent included was an internal auditor who had been exposed to operational auditing and, consequently, had gained some appreciation for the importance of those factors associated with operational auditing.

The names and addresses of college and university auditors were obtained from the ACUA membership directory. The

ACUA's membership included approximately 350 internal auditors who were employed at the staff, senior, and director levels. This research included auditors from all three levels. This comprehensive inclusion provided population diversity, which is advocated by Campbell and Pritchard (1976).

The Questionnaire

Justification for the Mailed Questionnaire

This study used a mailed questionnaire for the following reasons. A mailed questionnaire could be sent to people in widely scattered locations for a relatively low cost (Clover & Balsley, 1974). Because college and university auditors were located in every geographical region of the United States, and because funding for this study was limited, this method was determined to be the most appropriate way to collect data for this study. In addition, the greater coverage offered by the mailed questionnaire yielded greater external validity. Due to the fact that the questionnaires for this study were mailed, this method was free from interviewer bias. Finally, mailed questionnaires offered greater reliability than did personal or telephone interviews because respondents could take more time to think through their answers (Clover & Balsley, 1974).

Disadvantages of the Mailed Questionnaire

The major disadvantage of the mailed questionnaire was the problem of nonresponse. Any survey bears an element of risk, due to the opinions of nonrespondents. To cope with this problem, El-Badry (1956) suggested that successive waves of questionnaires be sent to survey participants in an effort to achieve a higher response rate. This research followed El-Badry's method, and two successive waves of questionnaires were mailed to the survey participants.

To further the possibility of a high response rate, a separate cover letter encouraging the subjects to respond, signed by the Chairperson of Publication and Research for the ACUA, accompanied each questionnaire. The extensive nature of this approach, together with the assumption that college and university auditors had a professional interest in responding to a study of this nature, resulted in a 58% response rate (see Table I, Chapter V).

In addition to the problem of nonresponse, three other problems are sometimes associated with the mailed questionnaire.

1. Mailed questionnaires are commonly sent only to those who can read and write.
2. Certain questions may be answered incorrectly or not at all because they are misunderstood by the respondents.

3. An up-to-date address list for the target population may be difficult or expensive to obtain (Clover & Balsley, 1974).

College and university auditors are expected to have college level educations; therefore, the problem of illiteracy was not applicable to this study. The problem of omitted answers was addressed by requesting that respondents answer every question. Exact and clear wording of the questions (achieved through the pilot study) decreased the incidence of misunderstanding. Current mailing labels were available from the ACUA at a modest cost--a major advantage for this study.

Reliability of the Questionnaire

Another major methodological issue related to survey studies is the reliability of the measurement instrument. By definition, reliability of a measurement instrument concerns the degree to which the same results can be obtained from repeated measurement of the same objects. A questionnaire is considered reliable if the same scores result from repeated measures of the same or comparable phenomenon.

This research addressed two aspects of reliability: the consistency of measurement results for all items or groups of items and the consistency of subjects' responses to similar items (Grove & Savich, 1979). Consistency of measurement results can be tested statistically through the

split-half technique. This method entails splitting the sample responses into two equal groups and correlating the responses of the two groups. Consistency of subjects' responses can be tested through a test-retest approach. This approach may require that several differently worded questions or statements which test for the same object be included in the questionnaire. A high correlation between the answers indicates reliability.

In this study, the split-half method was used to test the consistency of the measurement instrument. This statistical procedure involves splitting the responses into halves (odd/even) and correlating the responses of one half to the other. Using the Pearson Product Moment Correlation Coefficient (r), a reliability coefficient of 0.88 was obtained. This coefficient of reliability was significant at $p > .99$.

A test-retest statistical procedure was used to evaluate the consistency of subjects' responses. To keep the questionnaire at a manageable length, only a selected number of questions were subjected to test-retest. Using r , reliability coefficients of the responses to the questionnaire items measuring four factors ranged from 0.19 to 0.55. The reliability coefficient for each of these factors was significant at $p > .99$.

Validity of the Questionnaire

Validity is another major methodological issue in survey studies.

The validity of a measuring instrument may be defined as the extent to which differences in scores on it reflect true differences among individuals on the characteristic that we seek to measure, rather than constant or random error. (Sellitz, Wrightsman, & Cook 1976, p. 168)

Bernard Philips (1971) defined a valid measure as one that "successfully measures the phenomenon" (p. 197). A measurement is valid if (a) it accurately tests for the established criterion to be measured and (b) it measures it accurately.

Content Validity

There are three types of instrument validity which are usually of concern to researchers. Content (face) validity addresses the questions of whether the instrument actually measures the intended objective and whether it does so adequately. Because no statistical procedures are available to test for content validity, it is determined exclusively by a judgmental or subjective process. The reason for this discernment is to ensure the inclusion of adequately representative numbers of important bits of knowledge in the areas surveyed (Lyman, 1971). Content validity is inferred to exist by the procedure of "reading over a test to see if the items look satisfactory and if the content appears to be appropriate" (Helmstadter, 1964, p. 89).

Content validity for the measurement instrument used in this study was evaluated in the pilot phase of questionnaire development by asking subjects to evaluate and comment on those items included in the instrument which appeared to lack relevance to the area of research. No comment was received. In the absence of any comment concerning the irrelevance of any of the items and, furthermore, due to the close relationship of the items to the SPPIA published by the IAA, a relatively high content validity was assumed for the measurement instrument.

Construct Validity

Construct validity is concerned with the issue of constructs, concepts, or traits measured by the instrument (Churchill, 1976). Construct validity involves understanding of the underlying factors of an obtained measurement and pertains to traits that are not directly observable. Thus, determination of the presence of construct validity is more difficult and complex than is the determination of the existence of content validity.

Comparison approach. One approach to test for construct validity involves the comparison of research findings with the results of similar studies. If the results of independent, but similar, studies are close, the presence of construct validity is corroborated. However, if serious differences in research findings are shown to exist, a lack

of construct validity is confirmed (Oppenheim, 1966). Because this study pursued a new area of research, this approach to construct validation could not be used.

Group difference approach. Another approach to testing construct validity is the "group difference" method.

Helmstadter (1964) described the basis for this method as follows:

Many traits are postulated in such a way that persons in different groups are conceived to possess different amounts of the characteristics involved. Thus, men as a group would be expected to perform differently from women as a group in any valid test of mechanical ability or clerical ability; persons of different age groups (at least through the early years) would be expected to perform differently on any valid test of intellectual development; persons who have had specific training should do better on any valid measure of achievement in the area than persons not having such training. . . . To be sure, some overlap would be anticipated, and in many circumstances a positive finding would not add greatly to the degree of confidence in the test; but a finding of no difference at all would certainly lead to real doubt about the validity of the test in question. (p. 139)

On the same issue, Lundberg (1941) stated

Certain small groups may, in the judgment of competent persons, be expected to have certain biases. The ability of the test to reveal these attitudes is some indication of the validity of the tests. (p. 243)

This study utilized the group difference approach to establish construct validity. On a priori, it was postulated that college and university auditors who hold professional certification perceive such certification to be more important to operational auditing than do those auditors who are not certified.

Utilizing a t -statistic, mean scores of the two groups were compared operationally. The test showed that a difference existed between perceptions of certified and non-certified auditors concerning the importance of professional certification. The difference was significant at $p > .95$. The ability of the instrument to reveal such a difference in perceptions of the two groups is some indication of the construct validity of the instrument (Lundberg, 1941).

Additionally, most items included in the questionnaire were based on the SPPIA or auditing literature. Thus, to the extent that the final questionnaire resembles these sources, it can be considered to be valid (Ibrahim, 1985).

Concurrent Validity

Concurrent or criterion-related validity is concerned with the ability of the measures of independent variables to predict the dependent variable(s). Because this study did not attempt to measure any relationship between independent and dependent variables, concurrent validity was not applicable.

Development of Questionnaire Procedures

After deciding upon the mailed questionnaire approach for this study, the researcher developed a preliminary questionnaire (see Appendix B). The procedures which were

followed to develop the questionnaire are outlined in Appendix D.

During the preliminary stages of questionnaire development, 8 organizational attributes, 5 personal attributes, and 2 environmental attributes were identified. The selection of organizational and personal attributes was largely based on the SPPIA, whereas the identification of environmental attributes relied upon a review of relevant literature and discussions with college and university auditors. (See Chapter III for a detailed explanation of attribute categories.)

Using the selected organizational, personal, and environmental attributes as the basic framework, a total of 72 questions and statements were developed. These questions and statements constitute Part I of the questionnaire. Part II of the questionnaire requests responses to 23 questions and statements dealing with the current status of operational auditing in United States institutions of higher education. Responses to questions in Part II will be analyzed, and the results will be disseminated in a later study. Sixteen demographic questions are asked in Part III of the questionnaire.

After approval of the preliminary questionnaire by the doctoral advisory committee, the instrument was mailed to a sample of 18 college and university auditors for pilot testing. Each respondent in the pilot sample was asked to

make suggestions and recommendations regarding the preliminary questionnaire. Pilot test responses (as well as suggestions and recommendations made by the pilot test respondents) were reviewed carefully by the researcher and a member of the research advisory committee. Items were then added, deleted, or modified according to the results of the pilot test. The resulting instrument (Appendix A) was used to solicit information from the sample population.

Questionnaire Distribution Procedure

The key to success for any survey centers around a high rate of response. The procedure for administration of the questionnaire used in this study was designed to solicit the highest possible response rate (see Appendix C).

Official mailing labels for all members of the ACUA were obtained from the ACUA. Three hundred and twenty-eight internal auditors employed by United States' colleges and universities were identified from this source. Then, two successive mailings of complete questionnaire packets were sent to qualified auditors on May 6 and May 14, 1988. Packet contents included: (a) a cover letter (Appendix E), (b) the questionnaire (Appendix A), (c) a letter from the ACUA encouraging participation, and (d) a stamped return envelope. On May 25, 1988, a third packet which included (a) a final request (Appendix F), (b) the same questionnaire, (c) a letter from the ACUA, and (d) a stamped return

envelope was mailed to each of the nonrespondents. Non-respondents were identified through the use of preassigned numbers written on the last page of the questionnaires.

Data Analysis

To determine and analyze the perceived importance of various factors associated with operational auditing for colleges and universities, accepted descriptive statistical procedures were used to provide the following output:

(a) the mean rating, the standard deviation of the ratings, the lowest rating, and the highest rating for each factor for total response; (b) the factor rankings for total response, by ranking each factor according to its mean rating; and (c) the attribute rankings for total response, by ranking each attribute according to the mean ratings of factors within the attribute.

Use of Factor Ratings

The mean ratings of the research factors were used to identify the relative importance of each factor as perceived by the respondents in the study. Factors with relatively high mean ratings were perceived to have greater importance to respondents' present work experience in operational auditing than were those factors with relatively low mean ratings.

The standard deviation of the ratings was used to identify the extent of agreement for the ratings of individual

factors among the respondents. A relatively small standard deviation indicated a higher degree of agreement for importance of a factor than did a relatively large standard deviation.

Use of Factor Rankings

The rankings of various factors within each attribute were made, based on the mean rating of each factor for all respondents. That is, the first factor listed is the one which achieved the highest mean rating, and the last factor listed is the one which achieved the lowest mean rating.

Use of Attribute Rankings

The rankings of various attributes were made, based on the average of mean ratings for factors within each attribute for all respondents. Attributes were ranked in two ways: (a) for all attributes and (b) for all attributes within their respective domains (i.e., organizational, personal, or environmental).

T-Test

In addition to these descriptive statistical procedures, a t-statistic was used to test the research hypotheses in order to determine whether a significant difference existed between perceptions of certified and noncertified college and university auditors. The t-test was conducted at $p = .05$. To test the research hypotheses, the score for

each of the 14 attributes was calculated for each individual respondent, using an average score on factors within each attribute. Mathematically, the score of each attribute is stated as

$$A_z = \frac{\sum_{i=1}^n F_i}{n}$$

where:

- A = score of each attribute
- z = index of attributes, where Z = 1 through 14
- F = each factor with index i
- n = number of factors within each attribute
- i = factor number

Furthermore, a series of independent t-tests were run for each factor in order to discover any significant differences that existed between the perceptions of the two groups. These tests were conducted at $p = .05$.

Summary

This chapter explains the methodology to be used to accomplish the objectives of this study. Included are discussions of research design, population, advantages and disadvantages of the questionnaire, reliability and validity of the measurement instrument, questionnaire development procedures, questionnaire distribution procedures, and statistical procedures for analysis of responses.

CHAPTER V

DATA ANALYSIS AND FINDINGS

This chapter reports the findings of the research. The data presentation is divided into two major sections:

- (a) results of survey responses concerning the importance of selected factors associated with operational auditing and
- (b) results of the hypothesis testing. Selected demographics are presented in Appendix G.

Survey Response

As noted in Chapter IV, questionnaires were mailed to 328 college and university auditors. A total of 204 questionnaires were returned by the deadline (June 2, 1988). Seventeen questionnaires received after that date were not included in the survey. Although 204 questionnaires were received by the deadline, not all of them were usable for the analysis (see Table 1).

As shown in Table 1, three respondents were not university auditors, and 22 others had less than 1 year of college and university operational auditing experience. Based on the selection criteria for the study, these respondents failed to meet one or more of those requirements and were, consequently, excluded. Additionally, six respondents indicated that they did not wish to participate in the study,

and 16 respondents returned incomplete questionnaires. As indicated in the table, an overall usable response rate of 48% was achieved; the nonresponse rate was 32%.

Table 1

Responses to the Final Questionnaire

Category	<u>N</u>	%
Usable responses	157	48
Received too late for analysis	17	5
Desired not to participate	6	2
Less than 1 year of college/university operational auditing experience	22	7
Not university auditors	3	1
Incomplete responses	16	5
No response	107	32
Total	328	100

Results of Response Analysis

Organizational Attributes

The mean ratings and their standard deviations for the importance of factors within each attribute are presented in Tables 2 through 9. The factors within each attribute are listed in order of their perceived importance. That is, the first factor listed is the one which achieved the highest

mean rating, and the last factor listed is the one which achieved the lowest mean rating.

Statistical measures used to analyze the response data are discussed in Chapter IV. As mentioned there, respondents were requested to rate the importance of selected factors associated with operational auditing on a scale of 1 (no importance) to 5 (extreme importance). The factors associated with operational auditing were divided into 14 attributes (8 organizational, 5 personal, and 1 environmental) and are presented in that order.

Independence

Perceived importance of independence was measured through the auditors' reporting status (i.e., its surrogate). Mean ratings and standard deviations of the ratings for factors within the independence attribute are presented in Table 2. Among the four reporting hierarchies, the respondents perceived direct reporting to the audit committee to be the most important factor ($\bar{X} = 4.14$). Forty-eight percent of the respondents rated this factor as being extremely important, whereas 45% rated it as being of either average or above average importance.

Reporting directly to the president and reporting directly to the board of trustees ranked 2nd and 3rd, respectively. About 60% of the respondents ranked these two

factors as having either average or above average importance. Reporting to a vice-president was ranked last ($\bar{X} = 2.89$).

Table 2

Means and Standard Deviations of Ratings for Importance of Each Factor within the Organizational Attribute Domain: All Responses

Rank of Factor	Factor	\bar{X}_a	<u>SD</u>
Independence			
1	Report to the audit committee	4.140	1.009
2	Report to the president	3.877	1.047
3	Report to the board of trustees	3.695	1.110
4	Report to a vice-president	2.897	1.275
Audit Plan			
1	Establishing the objective(s)	4.554	0.804
2	Establishing the areas, timing, and estimated time needed	4.089	0.850
3	Providing background information	3.853	0.956
4	Establishing number of auditors, knowledge, skills, and expertise needed	3.650	0.953

(table continues)

Table 2--(continued)

Rank of Factor	Factor	\bar{x}_a	<u>SD</u>
Audit Program			
1	Establishing steps for evidence accumulation	4.115	0.940
2	Establishing steps for evidence evaluation	3.841	0.997
3	Establishing steps for sampling	3.611	1.020
Audit Supervision			
1	Review of audit reports	4.618	0.656
2	Review of working papers	4.586	0.680
3	Adequate supervision during audit	4.346	0.808
4	Adequate instruction at beginning	3.955	0.986
Continuing Education			
1	Professional conferences and seminars	4.223	0.781
2	Inhouse programs	3.631	0.956
3	Formal courses offered by colleges and universities	3.516	0.965

(table continues)

Table 2--(continued)

Rank of Factor	Factor	\bar{X}_a	<u>SD</u>
Training			
1	Training in operational auditing for colleges and universities	4.064	0.830
2	External training programs	3.732	0.880
3	Inhouse training programs	3.433	0.894
4	Training in operational auditing for nonprofit entities	3.344	0.998
Audit Report			
1	Accurate and unequivocal communication of material facts	4.707	0.497
2	Supporting conclusions with findings	4.701	0.525
3	Discussing report with auditee	4.701	0.615
4	Good communication skills	4.643	0.588
5	Providing practical and cost-effective recommendations	4.561	0.673
Audit Follow-Up			
1	Auditee's timely written response to the audit report	4.427	0.691
2	Audit follow-up to ensure corrective action is taken	4.333	0.773

1 = no importance; 2 = below average importance;
 3 = average importance; 4 = above average importance;
 5 = extreme importance.

Audit Plan

With respect to factors within the audit plan attribute, establishing audit objective(s) ($\bar{X} = 4.55$) was perceived to be the most important factor; 76% of the respondents rated it as having extreme importance (see Table 2). The factor dealing with audit areas, the timing of the audit, and the time required to perform the audit was ranked 2nd ($\bar{X} = 4.08$). As for the remaining factors, (a) providing background information about the activities to be audited and identifying areas for audit emphasis and (b) establishing the number of auditors and the knowledge, skills, and expertise required to perform the audit were ranked 3rd and 4th, respectively.

Audit Program

The audit program attribute comprises three factors which are concerned with (a) establishing the steps necessary for evidence accumulation, (b) evidence evaluation, and (c) sampling techniques. According to Table 2, the respondents perceived evidence accumulation to be the most important element of the audit program. Forty-three percent of the respondents rated it as having extreme importance, and 32% perceived it as having above average importance. Between evidence evaluation and sampling techniques, the former factor was ranked 2nd ($\bar{X} = 3.84$), and the latter was perceived as the least important factor ($\bar{X} = 3.61$).

Audit Supervision

The results of the analysis of factors within the audit supervision attribute are concerned with (a) giving complete instruction at the beginning of the audit engagement, (b) providing adequate supervision during the audit, (c) reviewing audit working papers, and (d) reviewing the audit report. Sixty-nine percent of the respondents perceived review of the audit report to ensure objectivity, clarity, constructiveness, and timeliness to be of extreme importance (see Table 2). This factor was ranked first ($\bar{X} = 4.61$). As Table 2 illustrates, review of audit working papers ($\bar{X} = 4.58$), adequate supervision during the audit ($\bar{X} = 4.34$), and complete instructions at the beginning of the audit engagement ($\bar{X} = 3.95$) were ranked 2nd, 3rd, and 4th, in that order. Close to 80% of the respondents perceived these three factors to be of above average or extreme importance.

Continuing Education

The continuing education attribute comprises three factors that concern different methods of pursuing continuing education. Participation in external professional conferences and seminars was perceived most favorably among respondents ($\bar{X} = 4.22$) (see Table 2). Inhouse continuing education programs ($\bar{X} = 3.63$) was ranked 2nd. Whereas 90% of the respondents rated participation in

external professional conferences and seminars to be of extreme or above average importance, only about 50% shared the same level of perceived importance for inhouse programs. Attending formal courses offered by colleges and universities was perceived least favorably and was ranked last ($\bar{X} = 3.51$).

Training

While two of the four factors concerning training deal with the specific content of training programs, the other two address the type of programs. A review of Table 2 reveals that the programs which deal with training in operational auditing for colleges and universities were perceived by the respondents to be more important than those programs which deal with training in operational auditing for non-profit entities. Whereas 32% of the respondents rated training in operational auditing for colleges and universities as extremely important; only about 12% of the respondents rated the same training for nonprofit entities as extremely important. As for the type of program, the mean score for the external operational auditing program ($\bar{X} = 3.73$) was slightly higher than the mean score for the inhouse training program ($\bar{X} = 3.43$). The external training program was ranked 2nd; the inhouse training program was ranked 3rd.

Audit Report

The audit report attribute is subdivided into five factors. Seventy-three percent of the respondents rated accurate and unequivocal communication of material facts as being extremely important; this factor was ranked first ($\bar{X} = 4.707$) (see Table 2). Supporting conclusions with relevant findings and discussing the report with the auditee before its submission both had mean scores of 4.701. However, due to a smaller standard deviation, supporting conclusions with relevant findings was ranked 2nd. The mean scores for the three factors mentioned above were extremely close, and it appears that for all practical purposes, their perceived importance was the same. Good communication skills was ranked 4th ($\bar{X} = 4.64$), and the factor dealing with providing practical and cost-effective recommendations was ranked last ($\bar{X} = 4.56$). The standard deviations of ratings for all of these factors ranged from 0.497 to 0.673, which indicates a relatively high agreement among respondents on ratings for these factors.

Audit Follow-Up

Audit follow-up, the last of the organizational attributes, includes two factors: (a) the follow-up of the audit to ensure that deficiencies are corrected and (b) whether organizational policy should require the auditee to provide a timely written response to the audit report. The mean

scores of 4.333 and 4.427, respectively, (see Table 2) suggest that both of these factors were perceived to have above average importance. However, the timely written response to the audit report achieved a higher mean score ($\bar{X} = 4.427$) and was ranked first.

Personal Attributes

Objectivity

Objectivity, the first of the personal attributes, contains three factors--namely freedom of auditors from operating responsibilities, periodic rotation of auditors among assignments, and reassignment of auditors in situations in which a conflict of interest is present (in fact or in appearance). As shown in Table 3, freedom from operating responsibilities was perceived to be the most important factor ($\bar{X} = 4.58$). Reassignment of auditors was ranked 2nd ($\bar{X} = 4.55$), and rotation of auditors among assignments was ranked last ($\bar{X} = 3.77$).

Table 3

Means and Standard Deviations of Ratings for Importance of Each Factor within the Personal Attribute Domain:
All Responses

Rank of Factor	Factor	\bar{x}_a	<u>SD</u>
Objectivity			
1	Freedom from operating responsibilities	4.580	0.777
2	Reassignment in certain situations	4.554	0.910
3	Rotation among assignments	3.777	0.796
Technical Competence			
1	Proficiency in computer information systems	3.834	0.706
2	Proficiency in financial and cost accounting	3.822	0.820
3	Proficiency in external auditing techniques	3.801	0.986
4	Proficiency in quantitative methods and techniques	3.669	0.850
5	Proficiency in nonprofit accounting	3.618	0.924
Experience			
1	Financial and compliance auditing experience	3.732	0.943
2	Managerial work experience	2.987	0.987
3	Public accounting work experience	2.688	1.049

(table continues)

Table 3--(continued)

Rank of Factor	Factor	\bar{x}_a	<u>SD</u>
Professional Certification			
1	Encouraging attainment of CIA certification	3.936	0.978
2	Encouraging attainment of CPA certification	3.338	1.200
3	Requiring CIA certification as a condition of employment	3.103	1.230
4	Requiring CPA certification as a condition of employment	2.679	1.186
Interpersonal Skills			
1	Encouraging auditees to develop and recommend solution for deficiencies	4.323	0.664
2	Avoiding negative language	3.898	0.907

a1 = no importance; 2 = below average importance;
 3 = average importance; 4 = above average importance;
 5 = extreme importance.

Technical Competence

The technical competence attribute covers the following five areas of proficiencies which are applicable to operational auditing: (a) knowledge of external audit techniques, (b) knowledge of computer information systems,

(c) knowledge of nonprofit accounting, (d) knowledge of quantitative methods and techniques, and (e) knowledge of both financial and cost accounting principles. Sixty-seven percent of the respondents perceived the knowledge of computer information systems to be of either extreme or above average importance, and this factor was ranked first ($\bar{X} = 3.83$) (see Table 3). Both proficiency in applying financial and cost accounting principles and proficiency in applying external audit techniques were rated closely to proficiency in computer information systems, with slightly lower mean scores (3.82 and 3.80). They were ranked 2nd and 3rd, respectively.

Two other areas of knowledge received close ratings. However, due to marginal differences in their respective mean scores, knowledge of quantitative methods and techniques was ranked 4th, and proficiency in nonprofit accounting was ranked last. The overall closeness of mean scores for all of these factors suggests that the perceived importance of the five proficiency areas is substantially equal.

Experience

The experience attribute concerns different types of work experience which could be considered to be prerequisite to operational auditing. Respondents were asked to rate their perceived importance of three types of experience to

operational auditing. Financial and compliance audit work experience ($\bar{X} = 3.73$) was perceived as the most important factor, and 62% of the respondents rated it as either extremely important or of above average importance (see Table 3). Public accounting experience was ranked last ($\bar{X} = 2.68$). Whereas 41% of the respondents perceived this factor as having no importance or below average importance, 38% of those surveyed rated it as having average importance.

Professional Certification

The professional certification attribute concerns auditors' perceived importance of professional certification. The attribute is divided into four factors. Two factors deal with whether auditors should be required to have or attain professional certification as a condition of employment or whether they should be encouraged to attain professional certification after employment. The other two factors concern the type of certification which should be required (i.e., CIA or CPA).

Most of the respondents (about 60%) favored encouraging the attainment of professional certification after employment over its requirement prior to employment (see Table 3). As Table 3 shows, encouraging attainment of the CIA certification was ranked 1st ($\bar{X} = 3.94$), whereas encouraging attainment of the CPA certification was ranked 2nd

($\bar{X} = 3.33$). Factors dealing with requirement of either the CIA or CPA certification as a condition of employment were ranked 3rd and 4th, respectively. Interpretation of these results, of course, should be made in light of the respondents' certification status, which might have biased their ratings (see Table 4).

Table 4

Certification Status of Respondents

Certification	<u>N</u>	%
CIA only	22	14
CPA only	69	44
CIA and CPA	15	10
Neither CIA nor CPA	51	32
Total	157	100

Interpersonal Skills

Interpersonal skills, the last of the personal attributes, concerns two areas: (a) avoiding negative language in the audit report and (b) encouraging auditees to develop and recommend solutions for deficiencies revealed during operational audits. An overwhelming 91% of the respondents perceived the encouragement of auditees to develop and recommend solutions to be of either extreme importance (43%) or above average importance (48%), and this factor was

ranked 1st ($\bar{X} = 4.32$) (see Table 3). As for avoidance of negative language in the audit report, almost 29% of those surveyed perceived this factor to have extreme importance, and 38% rated it as having above average importance. This factor achieved a mean score of 3.89 and was ranked 2nd.

Environmental Attribute

The knowledge and understanding of the higher education environment attribute covers four factors which are presumed to offer different degrees of familiarity with the higher education environment. Although two of these factors (prior higher education administration experience and college degree in higher education administration) would seem to provide the most familiarity with the environment, 80% of the respondents rated these factors as having only average importance (40%), below average importance (30%), or no importance (10%) (see Table 5).

Table 5

Means and Standard Deviations of Ratings for Importance of Each Factor within the Environmental Attribute
Domain: All Responses

Rank of Factor	Factor	\bar{X}^a	<u>SD</u>
1	College degree in accounting	3.917	0.865
2	College degree with emphasis in both higher education administration and accounting	3.000	1.054

(table continues)

Table 5--(continued)

Rank of Factor	Factor	\bar{x}_a	<u>SD</u>
3	Prior higher education administration work experience	2.845	1.001
4	College degree in higher education administration	2.737	0.997

a₁ = no importance; 2 = below average importance;
 3 = average importance; 4 = above average importance;
 5 = extreme importance.

When the factor dealing with college degree in higher education administration was modified to include emphasis in both higher education administration and accounting, however, 67% of the respondents rated it as having above average importance, and it was ranked 2nd. A college degree in accounting, which appears not to offer any familiarity with a higher education environment per se, achieved a mean score of 4.323 and was ranked 1st. Ninety-one percent of those surveyed perceived the importance of this factor as either of above average importance (48%) or extreme importance (43%). This result, however, might have been biased because 128 of 157 respondents hold degrees in accounting and, naturally, might have been more inclined to perceive such a degree as being more important (see Table 6).

Table 6

Respondents' Major Area of Study

Major	<u>N</u>	%
Accounting	128	81.5
Business (other than accounting)	24	15.3
Education	2	1.3
Other	3	1.9

Ranking of Attributes

In order to develop an understanding of the relative importance of the attributes studied, they were ranked in the order of their perceived importance. The ranking was done according to the average of mean score ratings on all factors within each attribute. These rankings are presented in Table 7.

Table 7

 Ranking of All Attributes Based on Mean Rating of Importance and Standard Deviation of Ratings:
 All Responses

Rank of Factor	Attribute	\bar{X}_a	<u>SD</u>
1	Audit Report	4.662	0.398
2	Audit follow-up	4.378	0.558
3	Audit supervision	4.375	0.577

(table continues)

Table 7--(continued)

Rank of Factor	Attribute	\bar{x}_a	<u>SD</u>
4	Objectivity	4.304	0.608
5	Interpersonal skills	4.110	0.643
6	Audit plan	4.046	0.585
7	Audit program	3.856	0.831
8	Continuing education	3.790	0.675
9	Technical competence	3.749	0.621
10	Independence	3.654	0.557
11	Training	3.643	0.647
12	Professional certification	3.252	0.852
13	Experience	3.136	0.748
14	Knowledge and understanding of environment	3.122	0.678

a1 = no importance; 2 = below average importance;
 3 = average importance; 4 = above average importance;
 5 = extreme importance.

As shown in Table 7, 6 of the 14 attributes studied achieved a mean score of more than 4.00. These attributes are audit report, audit follow-up, audit supervision, objectivity, interpersonal skills, and audit plan, ranked 1st through 6th, respectively. Whereas 4 of the 6 attributes mentioned are within the organizational domain, the other 2 attributes belong to the personal domain.

The other 8 attributes, with mean scores between 3.00 and 4.00, are audit program, continuing education, technical competence, independence, training, professional certification, experience, and knowledge and understanding of environment. These attributes are ranked 7th through 14th, respectively. Five of these attributes are within the personal domain; of the remaining 3, 2 are part of the organizational domain, and 1 belongs to the environmental domain.

Ranking of attributes by individual domain is presented in Table 8. The mean score and standard deviation for each attribute within each domain is given.

Table 8

Ranking of Attributes by Domain Based on Mean Ratings and Standard Deviations: All Responses

Rank of Factor	Attribute	\bar{x}_a	<u>SD</u>
Organizational Domain			
1	Audit report	4.662	0.398
2	Audit follow-up	4.378	0.558
3	Audit supervision	4.375	0.577
4	Audit plan	4.046	0.585
5	Audit program	3.856	0.831
6	Continuing education	3.790	0.675

(table continues)

Table 8--(continued)

Rank of Factor	Attribute	\bar{x}_a	<u>SD</u>
Organizational Domain			
7	Independence	3.654	0.557
8	Training	3.643	0.647
Personal Domain			
1	Objectivity	4.304	0.608
2	Interpersonal skills	4.110	0.643
3	Technical competence	3.749	0.621
4	Professional certification status	3.252	0.852
5	Experience	3.136	0.748
Environmental Domain			
1	Knowledge and understanding of environment	3.122	0.678

a1 = no importance; 2 = below average importance;
 3 = average importance; 4 = above average importance;
 5 = extreme importance.

Organizational Domain

The ranking of organizational attributes shown in Table 8 reveals that audit report is ranked 1st ($\bar{X} = 4.66$). Audit follow-up, audit supervision, and audit plan are ranked 2nd, 3rd, and 4th, respectively. Audit program,

continuing education, independence, and training, with mean ratings ranging from 3.85 to 3.64, are ranked 5th through 8th, respectively.

Personal Domain

As for personal attributes, objectivity of auditors was ranked 1st and prior work experience was ranked last (see Table 8). Auditors' interpersonal skills, technical skills, and professional certification status were ranked 2nd, 3rd, and 4th, respectively.

Environmental Domain

The environmental domain consists of only one attribute. The low rating on this attribute suggests its perceived importance to be the lowest among all of the attributes (see Table 8).

Results of Hypothesis Testing

As noted in Chapter I, another purpose of the current research was to explore possible relationships between the perceptions of respondents and their professional certification status. Specifically, it was hypothesized that there would be no significant difference between the perceptions of certified auditors and those of noncertified auditors concerning the importance of the 14 attributes studied.

As indicated in the previous chapters, a t-test was used to compare the mean scores of the two groups (certified

versus noncertified auditors). To test the research hypotheses, the score for each of the 14 attributes was calculated for each respondent, using an average score of factors within each attribute. The test was conducted at the .05 confidence level. Results are reported in Table 9.

Table 9

T-Values and Associated Two-Tailed Probabilities
for All Attributes

Hypothesis	Attribute	Means		Pooled Variance Estimates	
		Certified Auditors	Non-Certified Auditors	T-Value	Two-Tailed Probabilities
1	Independence	14.54	14.80	-0.86	0.393 ns
2	Audit plan	20.90	19.82	1.21	0.227 ns
3	Audit program	12.23	11.74	-0.62	0.536 ns
4	Audit supervision	17.62	17.00	1.90	0.059 ns
5	Continuing education	11.86	11.35	0.07	0.944 ns
6	Training	15.10	14.80	-0.77	0.441 ns
7	Audit report	23.91	22.84	2.07	0.040 *
8	Audit follow-up	8.63	8.69	0.55	0.586 ns
9	Objectivity	13.45	12.67	1.17	0.246 ns
10	Technical competence	18.14	19.12	-1.04	0.300 ns
11	Prior work experience	9.00	9.37	0.14	0.892 ns

(table continues)

Table 9--(continued)

Hypothesis	Attribute	Means		Pooled Variance Estimates	
		Certified Auditors	Non-Certified Auditors	T-Value	Two-Tailed Probabilities
12	Professional certification	13.85	11.38	4.35	0.000 *
13	Interpersonal skills	8.32	8.75	-0.24	0.810 ns
14	Knowledge and understanding of environment	12.90	13.34	-2.76	0.006 *

In addition to testing the research hypotheses, a series of independent t-tests was conducted for each factor in order to discover any significant differences that existed between the perceptions of certified and noncertified auditors. These tests were conducted at the .05 confidence level. The t-values and associated two-tailed probabilities for all factors tested are presented in Table 11 (Appendix H) and are highlighted throughout this section.

As shown in Table 9, the null hypothesis of no significant difference between perceptions of certified and noncertified auditors cannot be rejected for attributes 1-6, 8-11, and 13. An examination of Table 11 (Appendix H) also reveals that with the exception of the factors dealing with review of audit report and review of working papers, no

significant difference exists between the perceptions of the two groups concerning the importance of factors within these attributes. The two exceptions noted above are discussed more fully in Chapter VI.

With regard to the remaining null hypotheses dealing with audit report, professional certification, and knowledge and understanding of environment, significant differences were observed between the perceptions of certified and noncertified auditors. These hypotheses are discussed below.

Research Hypothesis Seven

The seventh research hypothesis deals with the perceived importance of the audit report attribute. It states that "No significant difference exists between certified and noncertified auditors regarding the perceived importance of audit report in operational auditing."

An examination of Table 9 reveals a t -value of 2.07 and a two-tailed probability of 0.040 for this attribute. Using a 95% confidence level, the appropriate conclusion is that a significant difference does exist between certified and noncertified auditors regarding the perceived importance of audit report. Therefore, the hypothesis is rejected. Certified auditors perceived the importance of this attribute more favorable than did noncertified auditors.

Additionally, an examination of items 23-27 in Table 11 (Appendix H) reveals that a significant difference exists between the perceptions of the two groups concerning the importance of the factor dealing with good communication skills. Certified auditors perceived the importance of this factor more favorably than did noncertified auditors. The perceived importance of the remaining four factors in this attribute are not significantly different between the two groups.

Research Hypothesis Twelve

The twelfth research hypothesis deals with the perceived importance of the professional certification attribute. It states that "No significant difference exists between certified and noncertified auditors regarding the perceived importance of professional certification in operational auditing."

An examination of Table 9 reveals a t -value of 4.35 and a two-tailed probability of 0.000 for this attribute. Using a 95% confidence level, the appropriate conclusion is that a significant difference does exist between certified and noncertified auditors regarding the perceived importance of professional certification. Therefore, the hypothesis is rejected. Certified auditors perceived the importance of this attribute more favorably than did noncertified auditors.

Additionally, an examination of items 41-44 in Table 11 (Appendix H) reveals that a significant difference exists between the perceptions of the two groups concerning the importance of each of each factor within this attribute. Certified auditors perceived the importance of each of the factors more favorably than did noncertified auditors.

Research Hypothesis Fourteen

The fourteenth research hypothesis deals with the perceived importance of the knowledge of the environment attribute. It states that "No significant difference exists between certified and noncertified auditors regarding the perceived importance of knowledge of the environment in operational auditing."

An examination of Table 9 reveals a t -value of -2.76 and a two-tailed probability of 0.006 for this attribute. Using a 95% confidence level, the appropriate conclusion is that a significant difference does exist between certified and noncertified auditors regarding the perceived importance of professional certification. Therefore, the hypothesis is rejected. Noncertified auditors perceived the importance of this attribute more favorably than did certified auditors.

Additionally, an examination of Table 11 (Appendix H) reveals that a significant difference exists between the perceptions of the two groups concerning the importance of the factor dealing with a college degree in higher education

administration. Noncertified auditors perceived the importance of this factor more favorably than did their certified counterparts. The perceived importance of any of the remaining three factors in this attribute is not significantly different between the two groups.

Summary

The results of this research and related discussions are presented in this chapter. Chapter V contains two major sections. The first represents the mean ratings of importance and the standard deviation of ratings on each factor within the 14 attributes. This section also includes rankings of factors within each attribute, ranking of all attributes, and ranking of attributes according to domain (organizational, personal, or environmental).

The second major section of this chapter contains the results of the testing of hypotheses and reports the association between the respondents' professional certification status on the various attribute ratings. The testing of hypotheses reveals that significant differences exist between the perceptions of certified and noncertified auditors concerning the importance of audit report, professional certification, and knowledge and understanding of the environment. No significant differences exist between the perceptions of the two groups regarding the importance of any of the remaining 11 attributes.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Conclusions

The primary purpose of this study was to identify and analyze the perceptions of college and university auditors concerning the importance of selected factors associated with operational auditing. The secondary purpose of the study was to determine whether the perceptions of certified auditors differ significantly from those of noncertified auditors.

To accomplish the objectives of this study, a measurement instrument was developed and tested for reliability and validity. The procedures followed to develop and administer the instrument are discussed in Chapter IV. Usable data received from the participants were analyzed, using statistical methods described in Chapter IV. Results of data analysis for both research objectives are presented in Tables 2 through 9 in Chapter V.

Selected factors associated with operational auditing for colleges and universities were categorized in three attribute groups--organizational, personal, and environmental. The identification of organizational and personal attributes was based mainly on concepts set forth in the

Standards for the Professional Practice of Internal Auditing (1978) published by the Institute of Internal Auditors. Identification of environmental attributes was based on a review of the relevant literature, as well as on discussions with selected college and university auditors. Each attribute, whether categorized as organizational, personal, or environmental, was used as a basis for identification of detailed factors associated with operational auditing. Respondents were asked to rate their perceived importance of each factor as follows: 1 = no importance, 2 = below average importance, 3 = average importance, 4 = above average importance, and 5 = extreme importance.

Primary Purpose of Research

The findings of this study reveal that the factors dealing with organizational attributes (i.e., variables controlled by each institution) were perceived as considerably more important by the respondents than were factors dealing with personal or environmental attributes. For example, while the mean score for 16 of 29 organizational factors (55%) was in excess of 4.00, indicating a perceived importance ranging from above average to extreme, only 3 of 17 (18%) personal factors achieved the same mean ratings. Environmental factors were perceived to be the least important among all of the factors.

In light of these findings, it appears that institutions of higher education may need to allocate their limited resources among the variables in the order of their perceived importance (i.e., organizational factors could receive a larger share of available resources for their development and implementation). Likewise, personal factors could receive more emphasis than environmental factors. It should be noted, however, that any decision concerning development and implementation of factors examined in this study should be made in light of the additional considerations discussed later in this chapter.

In Tables 2, 3, and 5 are statistics which report the perceptions of college and university auditors regarding the importance of selected factors associated with operational auditing. Forty-four of 50 factors studied had a mean score of between 3.00 and 5.00, indicating an overall perceived importance that ranges from average to extreme. The remaining six factors (reporting to a vice-president, prior public accounting work experience, prior managerial work experience, requirement of professional certification as a condition of employment, prior higher education administration work experience, and a college degree in higher education administration) achieved a mean score of less than 3.00, indicating an overall perceived importance of below average for these factors.

Chapter V also includes rankings of all attributes and rankings of attributes according to their respective domains (organizational, personal, or environmental). As discussed in that chapter, a total of six attributes achieved means scores of more than 4.00, indicating an overall perceived importance that exceeds above average importance. The remaining eight attributes achieved mean scores ranging from 3.00 to 3.99, indicating an overall perceived importance ranging from average to above average.

Some of the factors examined in this study deal with auditing methodology and, in that sense, are technical. For example, in the area of audit program, the three factors examined deal with auditing methodology concerning (a) evidence accumulation, (b) evidence evaluation, and (c) sampling, which are all technical in nature. To the extent that the factors studied in this research are technical, their importance may be evaluated using the mean scores achieved and implemented according to the perceived importance indicated in the respective tables. Their interpretation requires no further elaboration. However, other areas examined in this study are conceptual in nature, and their interpretation may require further elaboration.

With respect to independence, as discussed in Chapter V, this study used the reporting status of auditors as a surrogate for independence. In that context, reporting directly to the audit committee is perceived to enhance

independence the most. Reporting to a vice-president is, on the other hand, perceived as the least favorable reporting status. This finding is especially interesting in view of the fact that 62% of the auditors surveyed currently report to a vice-president (see Table 10, Appendix G). Based on this finding, institutions of higher education may wish to consider changing the reporting status of their auditors from reporting to a vice-president to reporting to the audit committee, where possible. In the absence of an audit committee at some institutions, the auditors may need to report directly to the president [which was perceived to be the second-most favorable reporting level (see Table 2)]. This change in reporting status is perceived to improve auditors' independence.

In the area of continuing education, attendance at professional conferences and seminars appears to be superior to attendance at inhouse programs or formal courses offered by colleges and universities. One possible explanation may lie in the educational quality of professional conferences and seminars. Of course, an alternative explanation for this preference is that auditors may welcome opportunities to escape from their usual surroundings for a short period of time. Whatever may be the reason for such preference, it seems that institutions of higher education may need to consider the auditors' preferences in planning for continuing education programs.

As for the type of training, it appears that auditors perceive external training programs in operational auditing for colleges and universities to be superior to inhouse training programs or training programs in operational auditing for nonprofit entities. To that extent, institutional resources may need to be allocated in greater amounts for training programs in operational auditing at colleges and universities, especially for those programs that are offered by professional organizations or other independent entities.

With respect to maintaining the objectivity of auditors, those surveyed perceived both freedom from operating responsibilities, as well as reassignment of auditors in situations in which a conflict of interest (whether in fact or appearance) is present to be more important than the periodic rotation of auditors among assignments. The lesser perceived importance of the latter may be a response to the lack of human resources and the fact that most internal audit departments do not have a sufficient number of auditors to achieve a periodic rotation of auditors among assignments. However, to insure the objectivity of auditors, institutions of higher education may need to prevent their audit staff from accepting operating responsibilities and arrange for reassignment in situations of conflict of interest.

In the area of technical competence of auditors, the different areas of expertise covered were perceived to have relatively equal importance among those surveyed. Proficiency in computer information systems and proficiency in nonprofit accounting achieved the highest and lowest scores of importance, respectively. However, none of the proficiency areas studied achieved a score high enough to indicate a perceived importance ranging from above average to extreme. One possible explanation of the relatively average perceived importance of the proficiency areas covered in this research may be the existence of other topics with more relevance to the practice of operational auditing. This possibility, of course, may be explored by a survey of perceptions of college and university auditors regarding the importance of selected topics in meeting their professional responsibilities. In the meantime, however, institutions of higher education may require their auditors to be proficient in the areas identified in this study.

As for the importance of prior work experience in operational auditing, financial and compliance audit work experience was perceived to be superior to other alternatives, such as public accounting work experience or prior managerial experience. The favorable perceptions of auditors toward the relevance of financial and compliance audit work experience may be explained as follows: (a) many areas of operational auditing overlap financial and compliance

auditing and (b) in most cases, the same auditors responsible for operational auditing are also responsible for financial and compliance auditing and, consequently, may view all these types of audit as interrelated. Considering this finding, institutions of higher education may need to emphasize financial and compliance auditing work experience over other alternatives.

With respect to the importance of professional certification in operational auditing, although 68% of the respondents held professional certification, their perceived importance favored attainment of professional certification after employment over its requirement as a condition of employment. This favorable perception may be explained in light of the fact that unlike public accounting, in which certification is a license to practice, the practice of internal auditing does not require such licensing. With respect to the choice between CPA or CIA certification, the latter was perceived more favorably, even though 44% of the respondents were CPAs (compared to only 22% who were CIAs). The implication of this perception may be that CIA certification is more appropriate for internal auditing. The mean scores on all factors associated with professional certification are less than 4.00, indicating their relative perceived importance to be less than above average. Based on these findings, it may be concluded that institutions of higher education may not be taking additional risk in hiring

noncertified auditors, as long as they encourage their auditors to attain professional certification.

With regard to interpersonal skills, findings of this research suggest that respondents perceived both of the factors aimed at improving human relations to be of relatively high importance. One possible explanation of this favorable perception may lie in the proposition that auditees, in general, have negative attitudes toward internal auditors and that the effectiveness of operational auditing depends upon the existence of a positive, constructive relationship between auditors and auditees (see Chapter III, p. 47). Whatever may be the explanation, a positive attitude seems to improve the auditee-auditor relationship. Auditors may need to encourage auditees to develop and to recommend solutions for deficiencies revealed during the audit, as well as to avoid negative language in the audit report.

Finally, regarding the importance of the knowledge and understanding of a higher education environment in operational auditing, this study measured the relative importance of specific items that were presumed to provide different degrees of familiarity with the environment of higher education. Most of the subjects surveyed perceived the items which were assumed to provide the highest degree of familiarity with the environment of higher education (e.g., a college degree in higher education administration) to be the

least important. Paradoxically, a college degree in accounting (i.e., one that may provide the least familiarity with the higher education environment) was perceived to be the most important. The reason for this response may be twofold. First, most of the auditors surveyed had accounting education backgrounds, which might have biased their answers. Secondly, a knowledge and understanding of environment may be obtained through means other than a college degree in higher education administration, such as training programs and the like, and gaining such a knowledge may not require any specialized degree or prior specialized work experience. Based on these findings, colleges and universities may need to familiarize their auditors with the unique characteristics of the higher education environment through training programs or other types of short-duration educational programs, rather than seeking individual auditors with a college degree in higher education administration or similar fields.

Secondary Purpose of Research

Regarding the secondary purpose of this research, a total of 14 hypotheses were developed and tested to determine whether perceptions of certified auditors differ significantly from those of noncertified auditors. Of the 14 hypotheses tested, there were no significant differences between perceptions of the two groups concerning the

importance of 11 attributes: independence, audit plan, audit program, audit supervision, continuing education, training, audit follow-up, objectivity, technical competence, prior work experience, and interpersonal skills. Additionally, the independent t-test of the individual factors within these attributes did not reveal any significant difference between the perceptions of the two groups, with the exception of two of the factors under the supervision attribute which are discussed below.

With respect to the importance of audit supervision in operational auditing (see Table 9), there was a strong relationship between the professional certification status of the respondents and the perceived importance of this attribute. Certified auditors perceived the importance of audit supervision more favorably than did noncertified auditors. The result of independent t-tests on factors within this attribute reveal that certified auditors perceived the importance of reviewing audit reports and audit working papers more favorably than did noncertified auditors.

One possible explanation for this significant difference between the two groups may be that the certified auditors might have evaluated the importance of these factors in a context of an independent audit environment, in which case the review of audit report and audit working papers may have a considerable effect on auditors' legal liabilities.

Another possible explanation may be that the review of audit report, as well as the review of audit working papers, may have equal applicability to operational auditing, even in the absence of auditors' potential legal liability considerations. A more definitive answer to this issue requires further investigation. In the meantime, institutions of higher education may wish to rely on auditing, as well as internal auditing, literature (both of which emphasize the importance of these factors) to determine the need for audit review in particular applications.

The consensus among certified and non-certified auditors may be explained by the following reasons:

1. The auditors surveyed were well educated (53% with a bachelor's degree and 43% with either a master's degree or a doctorate). Almost 87% of these degrees were in accounting (see Table 10, Appendix G).

2. Almost 75% of the respondents had more than 3 years of college and university auditing experience (see Table 10, Appendix G).

Whatever may be the reason(s) behind the consensus, these findings imply that both certified and noncertified auditors are equally aware of the importance of the attributes mentioned above.

As for attributes that deal with audit report and professional certification (see Table 9), certified auditors

perceived these attributes to be more important to operational auditing than did their noncertified counterparts. The certified group's favorable perceptions are to be expected, considering the emphasis placed on both audit report and professional certification by the professional organizations (see Chapter III, pp. 41-45, for a detailed discussion).

With respect to audit report, the results of independent t-tests on individual factors within this attribute reveal that certified auditors perceived the importance of good communication skills more favorably than did noncertified auditors. The importance of effective communication should be obvious to professionals, and accordingly, auditors surveyed in this study perceived its importance to be relatively high (see Table 2).

However, as noted earlier, the perceived importance of this factor was significantly different between certified and noncertified auditors. It appears that the more favorable perception of certified auditors toward the importance of effective communication may be due to the emphasis that is placed on this area by their professional organizations, namely, the American Institute of Certified Public Accountants, and the Institute of Internal Auditors. Thus, institutions of higher education may need to further emphasize the importance of effective communication skills, especially among their noncertified auditors.

With respect to professional certification, the results of independent t-test on individual factors within this attribute reveal that certified auditors perceived the importance of all factors in this category more favorably than did noncertified auditors. However, as discussed previously, the overall perceived importance of these factors among all respondents was relatively low (with the possible exception of the factor dealing with encouraging attainment of CIA certification status, which achieved a rating close to above average importance). Notwithstanding that one exception, it may be concluded that the relatively low ratings on factors in this area may indicate the lack of relevance of professional certification to operational auditing. Thus, any significant difference between certified and noncertified auditors may be attributable to the prejudice of certified auditors in favor of professional certification.

With regard to the importance of a knowledge and understanding of the higher education environment (i.e., knowledge of characteristics uniquely identifiable with institutions of higher education) to operational auditing, certified auditors perceived this attribute less favorably than did noncertified auditors. The less favorable perceptions of certified auditors concerning the importance of this attribute support the general position of auditors [as advocated by Phyrre (1969), see Chapter III] that because

internal auditors audit the business aspect of the operation, they need to be experts only in auditing.

The results of independent t -test on individual factors within this attribute reveal that noncertified auditors perceived the importance of a college degree in higher education administration more favorably than did certified auditors. One possible explanation for this result may be that the certified auditors believe that the knowledge of a higher education environment may be obtained through means other than obtaining a college degree in higher education administration. Therefore, as discussed previously, a college degree in higher education administration may not be necessary in operational auditing.

The results of independent t -tests on the individual factors are generally consistent with the results of the tests of the hypotheses on their respective attributes. While, when tested independently, some of the individual factors do not show a significant difference between the perceptions of the certified and noncertified auditors, their variances pooled together with the variances of other factors in the same attribute produce a significant difference in the attribute level.

Independent t -tests of individual factors did not reveal any instances in which the differences in the perceptions of the two groups were significant at the factor level and not significant at the respective attribute level.

This lack of difference is consistent with the proposition that the factors for each attribute are valid measures of that attribute.

Recommendations

For Institutions of Higher Education

As discussed in Chapter I, perceptions are individual mental processes which determine both the actual and potential responses of college and university auditors in the field. Thus, institutions of higher education should use the findings of this study and their interpretations as a basis for modification or reinforcement of the perceptions of their own auditors. The modification of perceptions is particularly important for noncertified auditors in areas in which their perceived importance was significantly different from that of certified auditors (such as audit supervision and audit report). This modification of perception may require institutions of higher education to inform their auditors of the importance of those areas according to the professional literature.

Additionally, the results of this study can be used to develop and implement those conditions that are perceived to be important by college and university auditors, thus enhancing effectiveness and efficiency of operation. However, the limited availability of resources may prohibit institutions of higher education from developing and

implementing all importantly perceived conditions. In such a case, a choice should be made based on the relative importance of each condition, as evidenced by its mean rating.

The development and implementation of these conditions should be pursued in light of a cost-benefit analysis. That is to say, the costs of such implementation should not exceed its potential benefits. For example, in the area of professional certification, the surveyed respondents perceived encouraging the attainment of professional certification to be more important than its requirement as a condition of employment (see Table 3). Thus, it seems logical that institutions of higher education may wish to hire certifiable auditors at a lower cost and encourage them to attain certification after employment, rather than insisting on paying higher salaries to auditors who are already certified.

Furthermore, it should be noted that implementation of some of the conditions studied in this research (e.g., changing the reporting status of the auditors) may have pervasive organizational or political ramifications. Therefore, such organizational or internal political issues should also be carefully evaluated before any condition is implemented.

For Further Research

The current research was the first study of its kind in the area of the identification and analysis of conditions perceived to be important in operational auditing for institutions of higher education. Therefore, it was exploratory research. Due to the limited scope of this research, it appears that there are two lines of research that are logical extensions of this study.

First, even though the results of this study represent the perceptions of college and university auditors concerning the importance of various factors associated with operational auditing, they do not determine the actual impact of these factors on performance. It is believed that one future extension of this study should center around building a quantitative model to measure the impact of factors perceived as important in this research on actual performance in operational auditing.

Another extension of this research should center around studying the current practice of operational auditing in colleges and universities in order to identify which of the conditions addressed in this study are actually used. The identification of the current status of operational auditing is a necessary condition for determination of its future direction. Both of these studies would make positive contributions, not only to the operational auditing literature,

but also to society at large, through enhancing effectiveness and the efficient use of resources.

APPENDIX A

FINAL QUESTIONNAIRE

PERCEPTIONS OF COLLEGE AND UNIVERSITY AUDITORS

QUESTIONNAIRE PART I

INSTRUCTIONS: Please circle the number to the left of each statement which indicates your opinion of how important that item is to operational auditing assignments. For the purpose of completing this questionnaire "operational auditing" is defined as a systematic evaluation technique to promote effectiveness, efficiency, and economy of operation. And "operational auditor" is any college and university internal auditor performing operational auditing tasks. The following guideline is presented to aid you in your rating.

- 1 No importance
2 Below average importance
3 Average importance
4 Above average importance
5 Extreme importance

No
Importance
1 2 3 4 5
Extreme
Importance

INDEPENDENCE

Operational auditors should report directly to:

- 1 2 3 4 5 1. the Audit Committee, where possible.
1 2 3 4 5 2. the Board of Trustees or equivalent.
1 2 3 4 5 3. a vice president.
1 2 3 4 5 4. the president.
1 2 3 4 5 5. operational auditors should be able to report all matters of significance.

AUDIT PLAN

The operational audit plan should:

- 1 2 3 4 5 6. establish the objective(s) of the audit.
1 2 3 4 5 7. establish the areas, the timing of the audit, and the estimated time required to perform the audit.
1 2 3 4 5 8. establish the number of auditors and the knowledge, skills, and expertise required to perform the audit.
1 2 3 4 5 9. provide the background information about the activities to be audited and identify areas for audit emphasis.
1 2 3 4 5 10. encourage auditee's participation and include their relevant recommendations.

AUDIT PROGRAM

Each operational audit program should establish the detailed steps for:

- 1 2 3 4 5 11. evidence accumulation.
1 2 3 4 5 12. evidence evaluation.
1 2 3 4 5 13. sampling techniques.

AUDIT SUPERVISION

Operational auditors should:

- 1 2 3 4 5 14. receive complete instructions at the beginning of each audit assignment.
1 2 3 4 5 15. be adequately supervised to ensure that assignments are carried out according to the operational audit programs.

Operational auditors':

- 1 2 3 4 5 16. working papers should be reviewed to ensure that they support the audit findings.
1 2 3 4 5 17. reports should be reviewed for objectivity, clarity, constructiveness, and timeliness.

CONTINUING EDUCATION

To remain informed about current operational auditing procedures and techniques, operational auditors should periodically participate in:

- 1 2 3 4 5 18. in-house continuing education programs.
1 2 3 4 5 19. formal courses (on site or correspondence) offered by a college or a university.
1 2 3 4 5 20. external professional conferences and seminars.

TRAINING

Operational auditors should participate in:

- 1 2 3 4 5 21. training programs in operational auditing for colleges and universities.

- | No
Importance | Extreme
Importance | |
|------------------|-----------------------|--|
| 1 2 3 4 5 | | 22. training programs in operational auditing for not-for-profit entities. |
| 1 2 3 4 5 | | 23. in-house operational auditing training programs. |
| 1 2 3 4 5 | | 24. external operational auditing training programs. |

AUDIT REPORT

An operational audit report should:

- | | | |
|-----------|-----|---|
| 1 2 3 4 5 | 25. | accurately and unequivocally communicate material facts. |
| 1 2 3 4 5 | 26. | support conclusions with relevant audit findings. |
| 1 2 3 4 5 | 27. | include practical and cost-effective recommendations. |
| 1 2 3 4 5 | 28. | discuss the audit report with the auditee before it is formally submitted. |
| 1 2 3 4 5 | 29. | have good communication skills including grammar, style, organization, and logic. |

AUDIT FOLLOW-UP

- | | | |
|-----------|-----|---|
| 1 2 3 4 5 | 30. | Operational auditors should follow-up audits to ensure that deficiencies revealed in the operational audit reports are corrected as deemed necessary by management. |
| 1 2 3 4 5 | 31. | Organizational policy should require that auditees provide timely written response to the operational audit reports. |

OBJECTIVITY

Operational auditors should be:

- | | | |
|-----------|-----|---|
| 1 2 3 4 5 | 32. | free from operating responsibilities. |
| 1 2 3 4 5 | 33. | rotated among assignments periodically. |
| 1 2 3 4 5 | 34. | reassigned in situations where a conflict of interest is present, in fact or in appearance. |

TECHNICAL COMPETENCE

Operational auditors should be proficient in applying the following to operational auditing assignments:

- | | | |
|-----------|-----|--|
| 1 2 3 4 5 | 35. | appropriate audit techniques consistent with those of external audits. |
| 1 2 3 4 5 | 36. | oral and written communication skills. |
| 1 2 3 4 5 | 37. | computerized information systems techniques. |
| 1 2 3 4 5 | 38. | not-for-profit accounting principles. |
| 1 2 3 4 5 | 39. | quantitative methods and techniques. |
| 1 2 3 4 5 | 40. | both financial and cost accounting principles. |

EXPERIENCE

At least one year of the following type of experience is prerequisite to operational auditing:

- | | | |
|-----------|-----|---|
| 1 2 3 4 5 | 41. | financial and compliance auditing experience. |
| 1 2 3 4 5 | 42. | operational auditing experience. |
| 1 2 3 4 5 | 43. | public accounting experience. |
| 1 2 3 4 5 | 44. | managerial experience. |

PROFESSIONAL CERTIFICATION

Operational auditors should be required, as a condition of employment, to have or attain within a reasonable length of time certification as a:

- | | | |
|-----------|-----|------------------------------|
| 1 2 3 4 5 | 45. | Certified Internal Auditor. |
| 1 2 3 4 5 | 46. | Certified Public Accountant. |

Operational auditors should be encouraged to attain certification as a:

- | | | |
|-----------|-----|-----------------------------|
| 1 2 3 4 5 | 47. | Certified Internal Auditor. |
| 1 2 3 4 5 | 48. | Certified Public Auditor. |

INTERPERSONAL SKILLS

- Operational auditors should:
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
49. avoid negative language in audit reports.
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
50. encourage auditees to develop and recommend solutions for deficiencies revealed during operational audits.

KNOWLEDGE AND UNDERSTANDING OF ENVIRONMENT

- Operational auditors should:
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
51. possess a college degree with emphasis in higher education administration.
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
52. have a formal training program in higher education administration.
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
53. possess a college degree with emphasis in accounting.
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
54. have prior higher education administration work experience.
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
55. possess a college degree with emphasis in both higher education administration and accounting.
- | | | | | |
|------------------|-----------------------|---|---|---|
| No
Importance | Extreme
Importance | | | |
| 1 | 2 | 3 | 4 | 5 |
56. complete a formal training program in auditing not-for-profit entities.

GENERAL ATTRIBUTES

INSTRUCTIONS: Please circle the number to the left of each statement which indicates the extent of your agreement/disagreement with the statement. The following guideline is presented to aid you in your rating.

- 1 Strongly Disagree
 2 Disagree
 3 Neither Agree or Disagree
 4 Agree
 5 Strongly Agree

- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
57. Operational auditors' practical independence is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
58. The operational audit plan is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
59. The operational audit program is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
60. Operational audit supervision is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
61. Continuing education of operational auditors is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
62. Formal training programs are of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
63. The operational audit report is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
64. Operational audit follow-up is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
65. Operational auditors' objectivity is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
66. Operational auditors' education is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
67. Operational auditors' experience is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
68. Operational auditors' professional certification is of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
69. Operational auditors' interpersonal skills are of extreme importance to operational auditing.
- | | | | | |
|----------------------|-------------------|---|---|---|
| Strongly
Disagree | Strongly
Agree | | | |
| 1 | 2 | 3 | 4 | 5 |
70. Operational auditors' knowledge and understanding of higher education environment are of extreme importance to operational auditing.

Part II

Concerning the Scope of Operational Auditing in Your Institution

INSTRUCTIONS: Please circle the number to the left of each item below which indicates your opinion of how important review of each activity is in terms of enhancing operational efficiency and effectiveness. To the right please check (✓) whether the internal auditing department of your institution currently reviews each activity. The following guideline is presented to aid you in your rating.

- 1 No importance
 2 Below average importance
 3 Average importance
 4 Above average importance
 5 Extreme importance

No Importance	Extreme Importance			
1	2	3	4	5

	Yes	No
1. Budgeting		
2. Capital budgeting		

No Importance		Extreme Importance			Yes	No	
1	2	3	4	5	3.	Purchasing	
1	2	3	4	5	4.	Management of insurable risks	
1	2	3	4	5	5.	Investment	
1	2	3	4	5	6.	Physical plant utilization	
1	2	3	4	5	7.	Preventive maintenance	
1	2	3	4	5	8.	Security	
1	2	3	4	5	9.	Personnel	
1	2	3	4	5	10.	Enrollment (Planning, etc)	
1	2	3	4	5	11.	Stores (Bookstore, cafeteria, etc.)	
1	2	3	4	5	12.	Marketing (Student recruiting, etc.)	
1	2	3	4	5	13.	Academic departments	
1	2	3	4	5	14.	Academic programs	
1	2	3	4	5	15.	Faculty teaching load	
1	2	3	4	5	16.	Faculty research	
1	2	3	4	5	17.	Faculty development	
1	2	3	4	5	18.	Faculty promotion and tenure	
1	2	3	4	5	19.	Computing services	
1	2	3	4	5	20.	Athletic	
1	2	3	4	5	21.	Health services	
1	2	3	4	5	22.	Alumni relations	
1	2	3	4	5	23.	Student services (placement, counseling, etc.)	

INSTRUCTIONS: Please list any other operational activity that is currently reviewed but was not mentioned. Circle the number to the left of each activity which indicates your opinion of how important the review of that activity is in terms of enhancing operational efficiency and effectiveness. The following guideline is presented to aid you in your rating.

					1	.....	No importance
					2	.....	Below average importance
					3	.....	Average importance
					4	.....	Above average importance
					5	.....	Extreme importance

No Importance		Extreme Importance		1.	_____	
1	2	3	4	5	2.	_____
1	2	3	4	5	3.	_____
1	2	3	4	5	4.	_____
1	2	3	4	5	5.	_____

INSTRUCTIONS: Please list any other operational activity that is not currently reviewed but in your opinion should be reviewed. Circle the number to the left of each activity which indicates your opinion of how important the review of that activity would be in terms of enhancing operational efficiency and effectiveness. The following guideline is presented to aid you in your rating.

					1	.....	No importance
					2	.....	Below average importance
					3	.....	Average importance
					4	.....	Above average importance
					5	.....	Extreme importance

No Importance		Extreme Importance		1.	_____	
1	2	3	4	5	2.	_____
1	2	3	4	5	3.	_____
1	2	3	4	5	4.	_____
1	2	3	4	5	5.	_____

PART III

Concerning Your Institution

INSTRUCTIONS: Please select the best answer for each of the following items.

1. Student enrollment in your institution
 - a. Less than 5,000
 - b. 5,001 to 10,000
 - c. 10,001 to 15,000
 - d. 15,001 to 20,000
 - e. 20,001 to 25,000
 - f. 25,001-30,000
 - g. More than 30,000
 2. Title of person to whom the director of internal auditing reports
 - a. Controller
 - b. Vice President, please identify _____
 - c. President
 - d. Board of Trustees
 - e. Audit Committee
 - f. Other, please identify _____
 3. Number of professional staff in your internal auditing department
 - a. One
 - b. Two or three
 - c. Four or five
 - d. More than five
 4. Does your institution evaluate the success of operational auditing assignments?
 - a. Yes
 - b. No
 5. How often does your institution evaluate the success of operational auditing assignments?
 - a. Not applicable
 - b. Per assignment
 - c. Twice a year
 - d. Once a year
 - e. Other, please identify _____
 6. Is your institution audited by external auditor(s)? Please respond to one or more of the following:
 - a. Yes, by a public accounting firm
 - b. Yes, by state auditors
 - c. Yes, by others, please identify _____
 - d. No
 7. Does your external auditor perform any operational auditing services?
 - a. Yes
 - b. No
 - c. Not applicable
 8. Type of institution
 - a. Private
 - b. Public
 9. Does your institution offer any Masters degree program?
 - a. Yes
 - b. No
 10. Does your institution offer any Doctoral degree program?
 - a. Yes
 - b. No
- Concerning You**
11. Your most advanced educational experience beyond high school
 - a. Some college
 - b. College degree
 - c. Masters degree
 - d. Doctorate
 - e. Other, please identify _____

12. Your major area of study
 - a. Accounting
 - b. Business (other than accounting)
 - c. Education
 - d. Other, please identify _____
13. Are you a CPA?
 - a. Yes
 - b. No
14. Are you a CIA?
 - a. Yes
 - b. No
15. Years of higher education administration (other than auditing) experience
 - a. None
 - b. Some but less than one year
 - c. One year to three years
 - d. Three years to five years
 - e. More than five years
16. Years of audit experience
 - a. None
 - b. Some but less than one year
 - c. One year to three years
 - d. Three years to five years
 - e. More than five years
17. Years of public accounting experience
 - a. None
 - b. Some but less than one year
 - c. One year to three years
 - d. Three years to five years
 - e. More than five years
18. Years of college and university auditing experience
 - a. None
 - b. Some but less than one year
 - c. One year to three years
 - d. Three years to five years
 - e. More than five years
19. Years of college and university operational auditing experience
 - a. None
 - b. Some but less than one year
 - c. One year to three years
 - d. Three years to five years
 - e. More than five years
20. Your position title
 - a. Director of internal audit department or equivalent
 - b. Audit senior or equivalent
 - c. Audit staff or equivalent
 - d. Other, please identify _____
21. Approximate percentage of your department's time spent on operational auditing tasks
 - a. Less than 25%
 - b. 25% to 50%
 - c. 51% to 75%
 - d. 76% to 100%

Thank you very much for your participation. Please use the self-addressed envelope to return the questionnaire.

APPENDIX B

PRELIMINARY QUESTIONNAIRE

QUESTIONNAIRE

PART I

Instructions: Please circle the number to the left of each statement which indicates your opinion of how important that item is to successful performance in operational auditing assignments. For the purpose of completing this questionnaire "operational auditor" is any college and university internal auditor performing operational auditing tasks. The following guideline is presented to aid you in your rating.

No importance	Extreme importance	1	.....	No importance
		2	.....	Below average importance
		3	.....	Average importance
		4	.....	Above average importance
		5	.....	Extreme importance

INDEPENDENCE

- | | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 1. Operational auditors must be free to develop audit programs without excessive influence from auditees. |
| 1 | 2 | 3 | 4 | 5 | 2. Operational auditors must be allowed to obtain access to relevant confidential matters. |
| 1 | 2 | 3 | 4 | 5 | 3. Operational auditors must be able to report all matters of significance. |
| 1 | 2 | 3 | 4 | 5 | 4. Operational auditors must report directly to the Audit Committee, where possible. |
| 1 | 2 | 3 | 4 | 5 | 5. Operational auditors must report directly to the Board of Trustees or equivalent. |
| 1 | 2 | 3 | 4 | 5 | 6. Operational auditors must report directly to high level management, e.g. Vice President or above. |

AUDIT PLAN

- | | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 7. The operational audit plan must establish the objective(s) of the audit. |
| 1 | 2 | 3 | 4 | 5 | 8. The operational audit plan must establish what areas to be audited, the timing of the audit, and the estimated time required to perform the audit. |
| 1 | 2 | 3 | 4 | 5 | 9. The operational audit plan must establish the number of auditors and the knowledge, skills, and expertise required to perform the audit. |
| 1 | 2 | 3 | 4 | 5 | 10. The operational audit plan must provide the background information about the activities to be audited and identify areas for audit emphasis. |

- | | | | |
|---------------|-----------|--------------------|---|
| No importance | 1 2 3 4 5 | Extreme importance | 11. The operational audit plan should encourage auditee's participation and include their relevant recommendations. |
|---------------|-----------|--------------------|---|
- AUDIT PROGRAM**
- | | |
|-----------|---|
| 1 2 3 4 5 | 12. Each operational audit program must establish the detailed steps for evidence accumulation. |
| 1 2 3 4 5 | 13. Each operational audit program must establish the detailed steps for evidence evaluation. |
| 1 2 3 4 5 | 14. Each operational audit program must establish the detailed steps for sampling techniques. |
- AUDIT SUPERVISION**
- | | |
|-----------|--|
| 1 2 3 4 5 | 15. Operational auditors must receive complete instructions at the beginning of each audit assignment. |
| 1 2 3 4 5 | 16. The work of operational auditors must be adequately supervised to ensure that assignments are carried out according to the operational audit programs. |
| 1 2 3 4 5 | 17. The working papers of operational auditors must be reviewed to ensure that they support the audit findings. |
| 1 2 3 4 5 | 18. Reports prepared by operational auditors must be reviewed for objectivity, clarity, constructiveness, and timeliness. |
- CONTINUING EDUCATION**
- | | |
|-----------|--|
| 1 2 3 4 5 | 19. Operational auditors must regularly participate in in-house continuing education programs to ensure they remain informed about current operational auditing procedures and techniques. |
| 1 2 3 4 5 | 20. Operational auditors must periodically participate in a formal course (on site or correspondence) offered by a college or a university to ensure that they remain informed about current operational auditing procedures and techniques. |
| 1 2 3 4 5 | 21. Operational auditors must regularly attend professional conferences and seminars to ensure they remain informed about current operational auditing procedures and techniques. |
- TRAINING**
- | | |
|-----------|---|
| 1 2 3 4 5 | 22. Operational auditors must participate in formal training programs in all phases of college and university operational auditing. |
|-----------|---|

- | No importance | Extreme importance | |
|---------------|--------------------|--|
| 1 2 3 4 5 | 1 2 3 4 5 | |
| 1 2 3 4 5 | | 23. Operational auditors must participate in formal training programs in all phases of operational auditing for not-for-profit entities. |
| 1 2 3 4 5 | | 24. Operational auditors must participate in formal in-house operational auditing training programs such as workshops and operational audit simulations. |
| 1 2 3 4 5 | | 25. Operational auditors must participate in external operational auditing training programs such as seminars and conferences offered by various professional organizations. |

AUDIT REPORT

- | | | |
|-----------|--|--|
| 1 2 3 4 5 | | 26. An operational audit report must accurately and unequivocally communicate material facts and support conclusions with relevant audit findings. |
| 1 2 3 4 5 | | 27. An operational audit report must include practical and cost-effective recommendations. |
| 1 2 3 4 5 | | 28. Operational auditors must discuss the audit report with the auditee before it is formally submitted. |
| 1 2 3 4 5 | | 29. Operational auditors must have good communication skills including grammar, style, organization, and logic. |

AUDIT FOLLOW-UP

- | | | |
|-----------|--|--|
| 1 2 3 4 5 | | 30. Operational auditors must follow-up an audit to ensure that deficiencies revealed in the operational audit report are corrected as deemed necessary by management. |
| 1 2 3 4 5 | | 31. Organizational policy must require that auditees provide timely written response to the operational audit report. |

OBJECTIVITY

- | | | |
|-----------|--|--|
| 1 2 3 4 5 | | 32. Operational auditors must be free from operating responsibilities. |
| 1 2 3 4 5 | | 33. Operational auditors must be rotated among assignments periodically. |
| 1 2 3 4 5 | | 34. Operational auditors must be reassigned in situations where a conflict of interest is present, in fact or in appearance. |

TECHNICAL COMPETENCE

- | | | |
|-----------|--|---|
| 1 2 3 4 5 | | 35. Operational auditors must be proficient in applying appropriate audit techniques to operational auditing assignments. |
|-----------|--|---|

No Importance	1	2	3	4	5	Extreme Importance	
	1	2	3	4	5		36. Operational auditors must be proficient in applying oral and written communication skills to operational auditing assignments.
	1	2	3	4	5		37. Operational auditors must be proficient in applying computerized information systems techniques to operational auditing assignments.
	1	2	3	4	5		38. Operational auditors must be proficient in applying non-for-profit accounting principles to operational auditing assignments.
	1	2	3	4	5		39. Operational auditors must be proficient in applying quantitative methods and techniques to operational auditing assignments.
	1	2	3	4	5		40. Operational auditors must be proficient in applying both financial and cost accounting principles to operational auditing assignments.

EXPERIENCE

	1	2	3	4	5		41. At least one year of financial and compliance auditing experience is a prerequisite to successful performance in operational auditing.
	1	2	3	4	5		42. At least one year of operational auditing experience is a prerequisite to successful performance in operational auditing.
	1	2	3	4	5		43. At least one year of public accounting experience is a prerequisite to successful performance in operational auditing.
	1	2	3	4	5		44. At least one year of managerial experience is a prerequisite to successful performance in operational auditing.

PROFESSIONAL CERTIFICATION

	1	2	3	4	5		45. Operational auditors must be required, as a condition of employment, to have or attain within a reasonable length of time certification as a Certified Internal Auditor.
	1	2	3	4	5		46. Operational auditors must be required, as a condition of employment, to have or attain within a reasonable length of time certification as a Certified Public Accountant.
	1	2	3	4	5		47. Operational auditors should be encouraged to attain certification as a Certified Internal Auditor.
	1	2	3	4	5		48. Operational auditors should be encouraged to attain certification as a Certified Public Accountant.

No importance
1 2 3 4 5
Extreme importance

INTERPERSONAL SKILLS

- 1 2 3 4 5 49. Operational auditors must understand the human-relations aspect of operational auditing and show empathy for how the auditees feel.
- 1 2 3 4 5 50. Operational auditors must avoid negative language in operational audit reports.
- 1 2 3 4 5 51. Operational auditors must encourage auditees to develop and recommend solutions for deficiencies revealed during operational audits.

KNOWLEDGE AND UNDERSTANDING OF ENVIRONMENT

- 1 2 3 4 5 52. Operational auditors must have a thorough knowledge and understanding of operational aspects of the higher education environment and its administration.
- 1 2 3 4 5 53. Operational auditors must possess a college degree with emphasis in higher education administration.
- 1 2 3 4 5 54. Operational auditors must have a formal training program in all aspects of higher education administration.
- 1 2 3 4 5 55. Operational auditors must possess a college degree with emphasis in accounting or auditing.
- 1 2 3 4 5 56. Operational auditors must have prior higher education administration work experience.
- 1 2 3 4 5 57. Operational auditors must possess a college degree with emphasis in both higher education administration and accounting or auditing.
- 1 2 3 4 5 58. Operational auditors must complete a formal training program in auditing all aspects of non-for-profit entities.

GENERAL TOPICS

Instructions: Please circle the number to the left of each statement which indicates the extent of your agreement/disagreement with the statement. The following guideline is presented to aid you in your rating.

- 1 Strongly Disagree
 2 Disagree
 3 Neither Agree nor Disagree
 4 Agree
 5 Strongly Agree

Strongly Disagree

Strongly Agree

- | | | | | | | |
|---|---|---|---|---|-----|---|
| 1 | 2 | 3 | 4 | 5 | 59. | Operational auditors' practical independence is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 60. | The operational audit plan is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 61. | The operational audit program is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 62. | Operational audit supervision is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 63. | Continuing education of operational auditors is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 64. | Formal training programs for operational auditors are of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 65. | The operational audit report is of extreme importance to success of the operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 66. | Operational audit follow-up is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 67. | Operational auditors' objectivity is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 68. | Operational auditors' education is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 69. | Operational auditors' experience is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 70. | Operational auditors' professional certification is of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 71. | Operational auditors' interpersonal skills are of extreme importance to the success of operational auditing assignments. |
| 1 | 2 | 3 | 4 | 5 | 72. | Operational auditors' knowledge and understanding of higher education environment are of extreme importance to the success of operational auditing assignments. |

Part II

Concerning the Scope of Operational Auditing in Your Institution

Instructions: Please circle the number to the left of each item below which indicates your opinion of how important review of each activity is in terms of enhancing operational

efficiency and effectiveness. To the right please check (✓) whether the internal auditing department of your institution currently reviews each activity. The following guideline is presented to aid you in your rating.

No importance

Extreme importance

- 1 No importance
 2 Below average importance
 3 Average importance
 4 Above average importance
 5 Extreme importance

					Yes	No	
1	2	3	4	5	1. Budgeting activities		
1	2	3	4	5	2. Capital budgeting activities		
1	2	3	4	5	3. Purchasing activities		
1	2	3	4	5	4. Management of insurable risks		
1	2	3	4	5	5. Investment activities		
1	2	3	4	5	6. Physical plant utilization activities		
1	2	3	4	5	7. Preventive maintenance activities		
1	2	3	4	5	8. Security activities		
1	2	3	4	5	9. Personnel activities		
1	2	3	4	5	10. Enrollment activities (Planning, etc.)		
1	2	3	4	5	11. Stores activities (Bookstore, cafeteria, etc.)		
1	2	3	4	5	12. Marketing activities (Student recruiting, etc.)		
1	2	3	4	5	13. Academic departments		
1	2	3	4	5	14. Academic programs		
1	2	3	4	5	15. Faculty teaching load activities		
1	2	3	4	5	16. Faculty research activities		
1	2	3	4	5	17. Faculty development activities		
1	2	3	4	5	18. Faculty promotion and tenure activities		
1	2	3	4	5	19. Computing services activities		
1	2	3	4	5	20. Athletic activities		
1	2	3	4	5	21. Health services activities		

No importance 1 2 3 4 5	Extreme importance	22.	Alumni relations activities		
		23.	Student services (placement, counseling, etc.)		

Instructions: Please list any other operational area that is currently reviewed but was not mentioned. Circle the number to the left of each area which indicates your opinion of how important the review of that activity is in terms of enhancing operational efficiency and effectiveness. The following guideline is presented to aid you in your rating.

No importance 1 2 3 4 5	Extreme importance	1	.....	No importance
		2	.....	Below average importance
		3	.....	Average importance
		4	.....	Above average importance
		5	.....	Extreme importance

1 2 3 4 5	1.	_____
1 2 3 4 5	2.	_____
1 2 3 4 5	3.	_____
1 2 3 4 5	4.	_____
1 2 3 4 5	5.	_____
1 2 3 4 5	6.	_____
1 2 3 4 5	7.	_____
1 2 3 4 5	8.	_____
1 2 3 4 5	9.	_____
1 2 3 4 5	10.	_____

Instructions: Please list any operational area that is not currently reviewed but in your opinion should be reviewed. Circle the number to the left of each area which indicates your opinion of how important the review of that activity would be in terms of enhancing operational efficiency and effectiveness. The following guideline is presented to aid you in your rating.

- 1 No importance
- 2 Below average importance
- 3 Average importance

No importance	1 2 3 4 5	Extreme importance	4 Above average importance	5 Extreme importance	
	1 2 3 4 5				1. _____
	1 2 3 4 5				2. _____
	1 2 3 4 5				3. _____
	1 2 3 4 5				4. _____
	1 2 3 4 5				5. _____
	1 2 3 4 5				6. _____
	1 2 3 4 5				7. _____
	1 2 3 4 5				8. _____
	1 2 3 4 5				9. _____
	1 2 3 4 5				10. _____

PART III

Concerning Your Institution

Instructions: Please select the best answer for each of the following items.

1. Student enrollment in your institution

a. Less than 5,000	e. 20,001 to 25,000
b. 5,001 to 10,000	f. 25,001-30,000
c. 10,001 to 15,000	g. More than 30,000
d. 15,001 to 20,000	

2. Title of person to whom the director of internal auditing reports

a. Controller
b. Vice President for Finance
c. Vice President for Administration
d. President
e. Board of Trustees
f. Audit Committee
g. Other, please identify _____

3. Number of professional staff in internal auditing department
 - a. One
 - b. Two or three
 - c. Four or five
 - d. More than five
4. Type of institution
 - a. Private
 - b. Public
5. Does your institution offer any Masters degree program
 - a. Yes
 - b. No
6. Does your institution offer any Doctoral degree program
 - a. Yes
 - b. No

Concerning You

7. Your most advanced educational experience beyond high school
 - a. Some college
 - b. College degree
 - c. Masters degree
 - d. Doctorate
 - e. Other, please identify _____
8. Are you a CPA?
 - a. Yes
 - b. No
9. Are you a CIA?
 - a. Yes
 - b. No
10. Years of higher education administration (other than auditing) experience
 - a. Less than one year
 - b. One year to three years
 - c. Three years to five years
 - d. More than five years
11. Years of audit experience
 - a. Less than one year
 - b. One year to three years
 - c. Three years to five years
 - d. More than five years

12. Years of public accounting experience
 - a. Less than one year
 - b. One year to three years
 - c. Three years to five years
 - d. More than five years
13. Years of college and university auditing experience
 - a. Less than one year
 - b. One year to three years
 - c. Three years to five years
 - d. More than five years
14. Years of college and university operational auditing experience
 - a. None
 - b. Some but less than one year
 - c. One year to three years
 - d. Three years to five years
 - e. More than five years
15. Your position title
 - a. Director of internal audit department or equivalent
 - b. Audit senior or equivalent
 - c. Audit staff or equivalent
 - d. Other, please identify _____
16. Approximate percentage of your time spent on operational auditing tasks
 - a. Less than 25%
 - b. 25% to 50%
 - c. 51% to 75%
 - d. 76% to 100%

Thank you very much for your participation. Please use the self-addressed envelope to return the questionnaire.

APPENDIX C

OUTLINE OF QUESTIONNAIRE DISTRIBUTION PROCEDURES

Outline of Questionnaire Distribution Procedures

1. Official mailing labels for all members of the Association of College and University Auditors were obtained from the ACUA.
2. Because the current mailing list of the ACUA's membership contained names of professionals other than internal auditors employed by United States' colleges and universities, the names of those who were not so employed were eliminated. Employment status was determined by reference to position title for each member.
3. Each of the 328 remaining members was assigned an identification number to be used throughout the questionnaire distribution process.
4. On May 6, 1988, 328 packets containing a cover letter (Appendix E), a final questionnaire (Appendix A), a letter from the ACUA, and a stamped return envelope were mailed to the people selected from the mailing list.
5. Step 4 was repeated on May 14, 1988.
6. On May 25, 1988, packets containing a final request letter (Appendix F), a questionnaire, a letter from the ACUA, and a stamped return envelope were mailed to subjects who still had not responded.

APPENDIX D

OUTLINE OF QUESTIONNAIRE DEVELOPMENT PROCEDURE

Outline of Questionnaire Development Procedure

1. A list of 8 organizational attributes was developed, based mainly on the Standards for the Professional Practice of Internal Auditing (SPPIA) (IIA, 1978).

2. A list of 5 personal attributes was developed, based mainly on the SPPIA.

3. One environmental attribute was developed, based mainly on the review of relevant literature and discussions with college and university auditors.

4. Based on the 8 organizational attributes, 39 questions/statements were developed for inclusion in Part I of the preliminary questionnaire.

5. Based on the 5 personal attributes, 25 questions/statements were developed for inclusion in Part I of the questionnaire.

6. Based on the environmental attribute, 8 questions/statements were developed for inclusion in Part I of the preliminary questionnaire.

7. A list of 23 questions/statements dealing with the current status of operational auditing in United States colleges and universities was developed for inclusion in Part II of the preliminary questionnaire.

8. A list of 16 demographic questions was developed for inclusion in Part III of the preliminary questionnaire.

9. A preliminary questionnaire (Appendix B) was developed by combining (a) the list of questions/statements dealing with organizational, personal, and environmental attributes; (b) the list of questions/statements dealing with the current status of operational auditing in American colleges and universities; and (c) the list of questions/statements dealing with demographic information.

10. A final questionnaire (Appendix A) was developed after pilot testing by 18 college and university auditors. The final questionnaire consists of 70 questions and statements in Part I, 23 questions in Part II, and 21 demographic questions.

APPENDIX E

COVER LETTERS--FIRST TWO MAILINGS

May 6, 1988

Dear Auditor:

Will you please take a few minutes of your time to give me your ideas on the importance of certain factors associated with performance in operational auditing, as well as your ideas on the current status of operational auditing at your institution.

You and your fellow auditors at American colleges and universities are the only individuals who will participate in this study, so your response is extremely important to me. Your answers will help to identify important factors associated with operational auditing for colleges and universities. Your answers will also identify the current status of operational auditing, which is a necessary condition for determination of its future direction. Of course, all responses will be kept in strict confidence.

Please use the enclosed envelope to mail your completed questionnaire to me by May 13, 1988.

Sincerely,

A. N. Azad
Department of Accounting

May 14, 1988

Dear Auditor:

Will you please take a few minutes of your time to give me your ideas on the importance of certain factors associated with performance in operational auditing, as well as your ideas on the current status of operational auditing at your institution.

You and your fellow auditors at American colleges and universities are the only individuals who will participate in this study, so your response is extremely important to me. Your answers will help to identify important factors associated with operational auditing for colleges and universities. Your answers will also identify the current status of operational auditing, which is a necessary condition for determination of its future direction. Of course, all responses will be kept in strict confidence.

Please use the enclosed envelope to mail your completed questionnaire to me by May 21, 1988.

Sincerely,

A. N. Azad
Department of Accounting

APPENDIX F

COVER LETTER--FINAL MAILING

May 25, 1988

Dear Auditor:

On May 6 and May 14, I mailed copies of the enclosed questionnaire to you and some other auditors at American colleges and universities. So far, an overwhelming majority of the questionnaires have been completed and returned.

Would you please complete the questionnaire and return it to me? If not, would you please check the appropriate response below? I would appreciate hearing from you by June 2, 1988.

Sincerely,

A. N. Azad
Department of Accounting

_____ I am not an auditor at an American college or university.

_____ I am an auditor at an American college or university, but I do not wish to participate in this study.

APPENDIX G

DEMOGRAPHIC DATA

Table 10

Demographic Data

Demographic	<u>N</u>	%
Size of institution in terms of enrollment		
< 5,000 students	27	17.2
5,001 - 10,000 students	42	26.8
10,001 - 15,000 students	23	14.6
15,001 - 20,000 students	18	11.5
20,001 - 25,000 students	14	8.9
25,001 - 30,000 students	11	7.0
> 30,000 students	22	14.0
Total	100	100.0
Number of professional internal audit staff at institution		
One	53	33.8
Two or three	43	27.4
Four or five	21	13.4
More than five	40	25.5
Total	157	100.0
Practice of evaluating success of operational auditing at institution		
Does evaluate success	54	34.4
Does not evaluate success	103	65.6
Total	157	100.0
Frequency of evaluation of success		
Per assignment	40	25.5
Once a year	14	8.9
Twice a year	2	1.3
Not applicable	94	59.8
Others	7	4.5
Total	157	100.0

(table continues)

Table 10--(continued)

Demographic	<u>N</u>	%
Practice of external audit at institution		
By public accounting firm	7245.9	
By state auditors	4729.9	
By both public accounting firm and state auditors	2515.9	
By other types of external auditors	12 7.7	
No external audit	1 0.6	
Total	157	100.0
Practice of operational auditing by external auditors at institution		
Is performed	4126.1	
Is not performed	11271.4	
Not applicable	4 2.5	
Total	157	100.0
Type of institution		
Publicly funded	11975.8	
Privately funded	3824.2	
Total	157	100.0
Educational background of auditors		
Some college	5 3.2	
Bachelor's degree	8352.9	
Master's degree	6440.8	
Doctoral degree	3 1.9	
Other	2 1.2	
Total	157	100.0
Auditors' years of higher education work experience		
None	0 0.0	
Some, but < 1 year	1 0.6	
One-Three years	9 5.7	
Three-Five years	13 8.3	
> Five years	134	85.4
Total	157	100.0

(table continues)

Table 10--(continued)

Demographic	<u>N</u>	%
Auditors' years of public accounting experience		
None	69	43.9
Some, but < 1 year	9	5.8
One-Three years	36	22.9
Three-Five years	26	16.6
> Five years	17	10.8
Total	157	100.0
Auditors' years of college and university auditing experience		
None	0	0.0
Some, but < 1 year	0	0.0
One-Three years	34	21.6
Three-Five years	23	14.7
> Five years	100	63.7
Total	157	100.0
Auditors' years of college and university operational auditing experience		
None	0	0.0
Some, but < 1 year	0	0.0
One-Three years	45	28.6
Three-Five years	29	18.5
> Five years	83	52.9
Total	157	100.0
Auditors' position title		
Director of Internal Audit Department	89	56.7
Internal audit senior	28	17.8
Internal audit staff	40	25.5
Total	157	100.0

(table continues)

Table 10--(continued)

Demographic	<u>N</u>	%
Time spent on operational auditing at institution		
< 25%	46	29.5
25% - 50%	48	30.8
51% - 75%	46	29.3
> 75%	17	10.4
Total	157	100.0
Auditors' reporting status		
Controller	4	2.5
Vice-President	62	39.0
President	45	29.5
Audit committee	19	12.0
Board of trustees	6	4.0
Dual reporting	10	6.0
Others	11	7.0
Total	157	100.0

APPENDIX H

T-VALUES AND TWO-TAILED PROBABILITIES FOR
FACTORS WITHIN ALL ATTRIBUTES

Table 11

T-Values and Two-Tailed Probabilities for
Factors Within All Attributes

Hypothesis	Attribute	Means		Pooled Variance Estimates	
		Certified Auditors	Non- Certified Auditors	T-Value	Two-Tailed Probabilities
<u>Independence</u>					
1.	Report to the audit committee	4.05	4.27	-1.16	0.248 ns
2.	Report to the president	3.90	3.82	0.45	0.655 ns
3.	Report to the board of trustees	3.66	3.76	-0.50	0.615 ns
4.	Report to a vice-president	2.85	3.00	-0.70	0.482 ns
<u>Audit Plan</u>					
5.	Establishing objectives	4.85	4.49	0.69	0.491 ns
6.	Establishing the areas, timing, and estimated time needed	4.13	4.00	0.91	0.364 ns
7.	Providing background information	3.87	3.82	0.26	0.792 ns
8.	Establishing number of auditors, knowledge, skills, and expertise needed	3.71	3.51	1.28	0.203 ns
<u>Audit Program</u>					
9.	Establishing steps for evidence accumulation	4.13	4.08	0.33	0.739 ns

(table continues)

Table 11--(continued)

Hypothesis	Attribute	Means		Pooled Variance Estimates	
		Certified Auditors	Non-Certified Auditors	T-Value	Two-Tailed Probabilities
10.	Establishing steps for evidence evaluation	3.81	3.90	-0.53	0.595 ns
11.	Establishing steps for sampling	3.54	3.76	-1.30	0.197 ns
<u>Audit Supervision</u>					
12.	Review of audit reports	4.71	4.43	2.51	0.013 *
13.	Review of working papers	4.66	4.43	2.00	0.048 *
14.	Adequate supervision during audit	4.43	4.18	1.84	0.068 ns
15.	Adequate instruction at beginning of audit	3.95	3.96	-0.05	0.960 ns
<u>Continuing Education</u>					
16.	Professional conferences and seminars	4.27	4.12	1.17	0.243 ns
17.	Inhouse programs	3.59	3.76	-0.68	0.495 ns
18.	Formal courses offered by colleges and universities	3.51	3.53	-0.12	0.904 ns
<u>Training</u>					
19.	Training in operational auditing for colleges and universities	4.02	4.16	-0.98	0.331 ns
20.	External training programs	3.75	3.69	0.46	0.650 ns
21.	Inhouse training programs	3.42	3.45	-0.17	0.863 ns

(table continues)

Table 11--(continued)

Hypothesis	Attribute	Means		Pooled Variance Estimates	
		Certified Auditors	Non-Certified Auditors	T-Value	Two-Tailed Probabilities
22.	Training in operational auditing for nonprofit entities	3.27	3.51	-1.45	0.149 ns
<u>Audit Report</u>					
23.	Accurate and unequivocal communication of material facts	4.72	4.69	0.36	0.718 ns
24.	Supporting conclusions with findings	4.71	4.67	0.56	0.575 ns
25.	Discussing report with auditees	4.76	4.57	1.88	0.062 ns
26.	Good communication skills	4.73	4.47	2.60	0.010 *
27.	Providing practical and cost-effective recommendations	4.61	4.45	1.42	0.158 ns
<u>Audit Follow-Up</u>					
28.	Auditee's timely response to the audit report	4.46	4.35	0.00	1.000 ns
29.	Audit follow-up to ensure corrective action was taken	4.33	4.33	0.93	0.355 ns
<u>Objectivity</u>					
30.	Freedom from operating responsibilities	4.64	4.45	1.44	0.151 ns
31.	Reassignment in certain situations	4.61	4.43	1.34	0.181 ns
32.	Rotation among assignments	3.77	3.78	0.07	0.945 ns

(table continues)

Table 11--(continued)

Hypothesis	Attribute	Means		Pooled Variance Estimates	
		Certified Auditors	Non-Certified Auditors	T-Value	Two-Tailed Probabilities
<u>Technical Competence</u>					
33.	Proficiency in computer information systems	3.80	3.90	-0.83	0.407 ns
34.	Proficiency in financial and cost accounting	3.80	3.86	-0.43	0.665 ns
35.	Proficiency in external auditing techniques	3.77	3.86	-0.51	0.611 ns
36.	Proficiency in quantitative method and techniques	3.63	3.74	-0.78	0.437 ns
37.	Proficiency in nonprofit accounting	3.56	3.74	-1.20	0.232 ns
<u>Experience</u>					
38.	Financial and compliance auditing experience	3.69	3.82	-0.84	0.403 ns
39.	Managerial work experience	3.01	2.92	0.58	0.562 ns
40.	Public accounting work experience	2.72	2.63	0.50	0.618 ns
<u>Professional Certification</u>					
41.	Encouraging attainment of CIA certification	4.09	3.61	2.99	0.003 *
42.	Encouraging attainment of CPA certification	3.54	2.90	3.23	0.002 *
43.	Requiring CIA certification as a condition of employment	3.28	2.72	2.72	0.007 *

(table continues)

Table 11--(continued)

Hypothesis	Attribute	Means		Pooled Variance Estimates	
		Certified Auditors	Non-Certified Auditors	T-Value	Two-Tailed Probabilities
44.	Requiring CPA certification as a condition of employment	2.90	2.21	3.53	0.001 *
<u>Interpersonal Skills</u>					
45.	Encouraging auditees to develop and recommend solutions for deficiencies	4.36	4.25	0.89	0.376 ns
46.	Avoiding negative language in the audit report	3.84	4.00	-0.98	0.330 ns
<u>Knowledge and Understanding of Environment</u>					
47.	College degree in accounting	3.83	4.10	-1.84	0.068 ns
48.	College degree with emphasis in both higher education administration and accounting	2.93	3.14	-1.14	0.254 ns
49.	Prior higher education administration work experience	2.76	3.00	-1.35	0.178 ns
50.	College degree in higher education administration	2.56	3.10	-3.24	0.001 *

APPENDIX I

STANDARDS FOR THE PROFESSIONAL PRACTICE
OF INTERNAL AUDITING¹

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These consist of pages:

156-165, Appendix I Standards for the Professional Practice of
Internal Auditing

U·M·I

Standards for the Professional Practice of Internal Auditing*

Introduction

Internal auditing is an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization. The objective of internal auditing is to assist members of the organization in the effective discharge of their responsibilities. To this end, internal auditing furnishes them with analyses, appraisals, recommendations, counsel, and information concerning the activities reviewed.

The members of the organization assisted by internal auditing include those in management and the board of directors. Internal auditors owe a responsibility to both, providing them with information about the adequacy and effectiveness of the organization's system of internal control and the quality of performance. The information furnished to each may differ in format and detail, depending upon the requirements and requests of management and the board.

The internal auditing department is an integral part of the organization and functions under the policies established by management and the board. The statement of purpose, authority, and responsibility (charter) for the internal auditing department, approved by management and accepted by the board, should be consistent with these *Standards for the Professional Practice of Internal Auditing*.

The charter should make clear the purposes of the internal auditing department, specify the unrestricted scope of its work, and declare that auditors are to have no authority or responsibility for the activities they audit.

Throughout the world internal auditing is performed in diverse environments and within organizations which vary in purpose, size, and structure. In addition, the laws and customs within various countries differ from one another. These differences may affect the practice of internal auditing in each environment. The implementation of these *Standards*, therefore, will be governed by the environment in which the internal auditing department carries out its assigned responsibilities. But compliance with the concepts enunciated by these *Standards* is essential before the responsibilities of internal auditors can be met.

"Independence," as used in these *Standards*, requires clarification. Internal auditors must be independent of the activities they audit. Such independence permits internal auditors to perform their work freely and objectively. Without independence, the desired results of internal auditing cannot be realized.

In setting these *Standards*, the following developments were considered:

1. Boards of directors are being held increasingly accountable for the adequacy and effectiveness of their organizations' systems of internal control and quality of performance.
2. Members of management are demonstrat-

*This extract includes pages 1 and 100-1 to 500-3 of the *Standards*.

ing increased acceptance of internal auditing as a means of supplying objective analyses, appraisals, recommendations, counsel, and information on the organization's controls and performance.

3. External auditors are using the results of internal audits to complement their own work where the internal auditors have provided suitable evidence of independence and adequate, professional audit work.

In the light of such developments, the purposes of these *Standards* are to:

1. Impart an understanding of the role and responsibilities of internal auditing to all levels of management, boards of directors, public bodies, external auditors, and related professional organizations.

2. Establish the basis for the guidance and measurement of internal auditing performance.

3. Improve the practice of internal auditing.

The *Standards* differentiate among the varied responsibilities of the organization, the internal auditing department, the director of internal auditing, and internal auditors.

The five general *Standards* are expressed in italicized statements in upper case. Following each of these general *Standards* are specific standards expressed in italicized statements in lower case. Accompanying each specific standard are guidelines describing suitable means of meeting that standard. The *Standards* encompass:

1. The independence of the internal auditing department from the activities audited and the objectivity of internal auditors.

2. The proficiency of internal auditors and the professional care they should exercise.

3. The scope of internal auditing work.

4. The performance of internal auditing assignments.

5. The management of the internal auditing department.

The *Standards* and the accompanying guidelines employ three terms which have been given specific meanings. These are as follows:

The term *board* includes boards of directors, audit committees of such boards, heads of agen-

cies or legislative bodies to whom internal auditors report, boards of governors or trustees of nonprofit organizations, and any other designated governing bodies of organizations.

The terms *director of internal auditing* and *director* identify the top position in an internal auditing department.

The term *internal auditing department* includes any unit or activity within an organization which performs internal auditing functions.

100 INDEPENDENCE

Internal auditors should be independent of the activities they audit.

.01 Internal auditors are independent when they can carry out their work freely and objectively. Independence permits internal auditors to render the impartial and unbiased judgments essential to the proper conduct of audits. It is achieved through organizational status and objectivity.

110 Organizational Status

The organizational status of the internal auditing department should be sufficient to permit the accomplishment of its audit responsibilities.

.01 Internal auditors should have the support of management and of the board of directors so that they can gain the cooperation of auditees and perform their work free from interference.

1. The director of the internal auditing department should be responsible to an individual in the organization with sufficient authority to promote independence and to ensure broad audit coverage, adequate consideration of audit reports, and appropriate action on audit recommendations.

2. The director should have direct communication with the board. Regular communication with the board helps assure independence and provides a means for the board and the director to keep each other informed on matters of mutual interest.

3. Independence is enhanced when the board concurs in the appointment or removal of the director of the internal auditing department.

4. The purpose, authority, and responsi-

bility of the internal auditing department should be defined in a formal written document (charter). The director should seek approval of the charter by management as well as acceptance by the board. The charter should (a) establish the department's position within the organization, (b) authorize access to records, personnel, and physical properties relevant to the performance of audits, and (c) define the scope of internal auditing activities.

.5 The director of internal auditing should submit annually to management for approval and to the board for its information a summary of the department's audit work schedule, staffing plan, and financial budget. The director should also submit all significant interim changes for approval and information. Audit work schedules, staffing plans, and financial budgets should inform management and the board of the scope of internal auditing work and of any limitations placed on that scope.

.6 The director of internal auditing should submit activity reports to management and to the board annually or more frequently as necessary. Activity reports should highlight significant audit findings and recommendations and should inform management and the board of any significant deviations from approved audit work schedules, staffing plans, and financial budgets, and the reasons for them.

120 Objectivity

Internal auditors should be objective in performing audits.

.01 Objectivity is an independent mental attitude which internal auditors should maintain in performing audits. Internal auditors are not to subordinate their judgment on audit matters to that of others.

.02 Objectivity requires internal auditors to perform audits in such a manner that they have an honest belief in their work product and that no significant quality compromises are made. Internal auditors are not to be placed in situations in which they feel unable to make objective professional judgments.

.1 Staff assignments should be made so that potential and actual conflicts of interest

and bias are avoided. The director should periodically obtain from the audit staff information concerning potential conflicts of interest and bias.

.2 Internal auditors should report to the director any situations in which a conflict of interest or bias is present or may reasonably be inferred. The director should then reassign such auditors.

.3 Staff assignments of internal auditors should be rotated periodically whenever it is practicable to do so.

.4 Internal auditors should not assume operating responsibilities. But if on occasion management directs internal auditors to perform nonaudit work, it should be understood that they are not functioning as internal auditors. Moreover, objectivity is presumed to be impaired when internal auditors audit any activity for which they had authority or responsibility. This impairment should be considered when reporting audit results.

.5 Persons transferred to or temporarily engaged by the internal auditing department should not be assigned to audit those activities they previously performed until a reasonable period of time has elapsed. Such assignments are presumed to impair objectivity and should be considered when supervising the audit work and reporting audit results.

.6 The results of internal audit work should be reviewed before the related audit report is released to provide reasonable assurance that the work was performed objectively.

.03 The internal auditor's objectivity is not adversely affected when the auditor recommends standards of control for systems or reviews procedures before they are implemented. Designing, installing, and operating systems are not audit functions. Also, the drafting of procedures for systems is not an audit function. Performing such activities is presumed to impair audit objectivity.

200 PROFESSIONAL PROFICIENCY

Internal audits should be performed with proficiency and due professional care.

.01 Professional proficiency is the responsibility of the internal auditing department and

each internal auditor. The department should assign to each audit those persons who collectively possess the necessary knowledge, skills, and disciplines to conduct the audit properly.

The Internal Auditing Department

210 Staffing

The internal auditing department should provide assurance that the technical proficiency and educational background of internal auditors are appropriate for the audits to be performed.

.01 The director of internal auditing should establish suitable criteria of education and experience for filling internal auditing positions, giving due consideration to scope of work and level of responsibility.

.02 Reasonable assurance should be obtained as to each prospective auditor's qualifications and proficiency.

220 Knowledge, Skills, and Disciplines

The internal auditing department should possess or should obtain the knowledge, skills, and disciplines needed to carry out its audit responsibilities.

.01 The internal auditing staff could collectively possess the knowledge and skills essential to the practice of the profession within the organization. These attributes include proficiency in applying internal auditing standards, procedures, and techniques.

.02 The internal auditing department should have employees or use consultants who are qualified in such disciplines as accounting, economics, finance, statistics, electronic data processing, engineering, taxation, and law as needed to meet audit responsibilities. Each member of the department, however, need not be qualified in all of these disciplines.

230 Supervision

The internal auditing department should provide assurance that internal audits are properly supervised.

.01 The director of internal auditing is responsible for providing appropriate audit supervision. Supervision is a continuous process, be-

ginning with planning and ending with the conclusion of the audit assignment.

.02 Supervision includes:

.1 Providing suitable instructions to subordinates at the outset of the audit and approving the audit program.

.2 Seeing that the approved audit program is carried out unless deviations are both justified and authorized.

.3 Determining that audit working papers adequately support the audit findings, conclusions, and reports.

.4 Making sure that audit reports are accurate, objective, clear, concise, constructive, and timely.

.5 Determining that audit objectives are being met.

.03 Appropriate evidence of supervision should be documented and retained.

.04 The extent of supervision required will depend on the proficiency of the internal auditors and the difficulty of the audit assignment.

.05 All internal auditing assignments, whether performed by or for the internal auditing department, remain the responsibility of its director.

The Internal Auditor

240 Compliance with Standards of Conduct

Internal auditors should comply with professional standards of conduct.

.01 The *Code of Ethics* of The Institute of Internal Auditors sets forth standards of conduct and provides a basis for enforcement among its members. The *Code* calls for high standards of honesty, objectivity, diligence, and loyalty to which internal auditors should conform.

250 Knowledge, Skills, and Disciplines

Internal auditors should possess the knowledge, skills, and disciplines essential to the performance of internal audits.

.01 Each internal auditor should possess certain knowledge and skills as follows:

.1 Proficiency in applying internal auditing standards, procedures, and techniques is required in performing internal audits. Profi-

iciency means the ability to apply knowledge to situations likely to be encountered and to deal with them without extensive recourse to technical research and assistance.

.2 Proficiency in accounting principles and techniques is required of auditors who work extensively with financial records and reports.

.3 An understanding of management principles is required to recognize and evaluate the materiality and significance of deviations from good business practice. An understanding means the ability to apply broad knowledge to situations likely to be encountered, to recognize significant deviations, and to be able to carry out the research necessary to arrive at reasonable solutions.

.4 An appreciation is required of the fundamentals of such subjects as accounting, economics, commercial law, taxation, finance, quantitative methods, and computerized information systems. An appreciation means the ability to recognize the existence of problems or potential problems and to determine the further research to be undertaken or the assistance to be obtained.

260 Human Relations and Communications

Internal auditors should be skilled in dealing with people and in communicating effectively.

.01 Internal auditors should understand human relations and maintain satisfactory relationships with auditees.

.02 Internal auditors should be skilled in oral and written communications so that they can clearly and effectively convey such matters as audit objectives, evaluations, conclusions, and recommendations.

270 Continuing Education

Internal auditors should maintain their technical competence through continuing education.

.01 Internal auditors are responsible for continuing their education in order to maintain their proficiency. They should keep informed about improvements and current developments in internal auditing standards, procedures, and techniques. Continuing education may be obtained through membership and participation in professional societies; attendance at conferences, semi-

nars, college courses, and in-house training programs; and participation in research projects.

280 Due Professional Care

Internal auditors should exercise due professional care in performing internal audits.

.01 Due professional care calls for the application of the care and skill expected of a reasonably prudent and competent internal auditor in the same or similar circumstances. Professional care should, therefore, be appropriate to the complexities of the audit being performed. In exercising due professional care, internal auditors should be alert to the possibility of intentional wrongdoing, errors and omissions, inefficiency, waste, ineffectiveness, and conflicts of interest. They should also be alert to those conditions and activities where irregularities are most likely to occur. In addition, they should identify inadequate controls and recommend improvements to promote compliance with acceptable procedures and practices.

.02 Due care implies reasonable care and competence, not infallibility or extraordinary performance. Due care requires the auditor to conduct examinations and verifications to a reasonable extent, but does not require detailed audits of all transactions. Accordingly, the internal auditor cannot give absolute assurance that non-compliance or irregularities do not exist. Nevertheless, the possibility of material irregularities or noncompliance should be considered whenever the internal auditor undertakes an internal auditing assignment.

.03 When an internal auditor suspects wrongdoing, the appropriate authorities within the organization should be informed. The internal auditor may recommend whatever investigation is considered necessary in the circumstances. Thereafter, the auditor should follow up to see that the internal auditing department's responsibilities have been met.

.04 Exercising due professional care means using reasonable audit skill and judgment in performing the audit. To this end, the internal auditor should consider:

- .1 The extent of audit work needed to achieve audit objectives.
- .2 The relative materiality or significance

of matters to which audit procedures are applied.

.3 The adequacy and effectiveness of internal controls.

.4 The cost of auditing in relation to potential benefits.

.05 Due professional care includes evaluating established operating standards and determining whether those standards are acceptable and are being met. When such standards are vague, authoritative interpretations should be sought. If internal auditors are required to interpret or select operating standards, they should seek agreement with auditees as to the standards needed to measure operating performance.

300 SCOPE OF WORK

The scope of the internal audit should encompass the examination and evaluation of the adequacy and effectiveness of the organization's system of internal control and the quality of performance in carrying out assigned responsibilities.

.01 The scope of internal auditing work, as specified in this standard, encompasses what audit work should be performed. It is recognized, however, that management and the board of directors provide general direction as to the scope of work and the activities to be audited.

.02 The purpose of the review for adequacy of the system of internal control is to ascertain whether the system established provides reasonable assurance that the organization's objectives and goals will be met efficiently and economically.

.03 The purpose of the review for effectiveness of the system of internal control is to ascertain whether the system is functioning as intended.

.04 The purpose of the review for quality of performance is to ascertain whether the organization's objectives and goals have been achieved.

.05 The primary objectives of internal control are to ensure:

.1 The reliability and integrity of information

.2 Compliance with policies, plans, procedures, laws, and regulations.

.3 The safeguarding of assets.

.4 The economical and efficient use of resources.

.5 The accomplishment of established objectives and goals for operations or programs.

310 Reliability and Integrity of Information

Internal auditors should review the reliability and integrity of financial and operating information and the means used to identify, measure, classify, and report such information.

.01 Information systems provide data for decision making, control, and compliance with external requirements. Therefore, internal auditors should examine information systems and, as appropriate, ascertain whether:

.1 Financial and operating records and reports contain accurate, reliable, timely, complete, and useful information.

.2 Controls over record keeping and reporting are adequate and effective.

320 Compliance with Policies, Plans, Procedures, Laws and Regulations

Internal auditors should review the systems established to ensure compliance with those policies, plans, procedures, laws, and regulations which could have a significant impact on operations and reports, and should determine whether the organization is in compliance.

.01 Management is responsible for establishing the systems designed to ensure compliance with such requirements as policies, plans, procedures, and applicable laws and regulations. Internal auditors are responsible for determining whether the systems are adequate and effective and whether the activities audited are complying with the appropriate requirements.

330 Safeguarding of Assets

Internal auditors should review the means of safeguarding assets and, as appropriate, verify the existence of such assets.

.01 Internal auditors should review the means used to safeguard assets from various types of losses such as those resulting from theft, fire, improper or illegal activities, and exposure to the elements.

.02 Internal auditors, when verifying the existence of assets, should use appropriate audit procedures.

340 Economical and Efficient Use of Resources

Internal auditors should appraise the economy and efficiency with which resources are employed.

.01 Management is responsible for setting operating standards to measure an activity's economical and efficient use of resources. Internal auditors are responsible for determining whether:

- .1 Operating standards have been established for measuring economy and efficiency.
- .2 Established operating standards are understood and are being met.
- .3 Deviations from operating standards are identified, analyzed, and communicated to those responsible for corrective action.
- .4 Corrective action has been taken.

.02 Audits related to the economical and efficient use of resources should identify such conditions as:

- .1 Underutilized facilities.
- .2 Nonproductive work.
- .3 Procedures which are not cost justified.
- .4 Overstaffing or understaffing.

350 Accomplishment of Established Objectives and Goals for Operations or Programs

Internal auditors should review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.

.01 Management is responsible for establishing operating or program objectives and goals, developing and implementing control procedures, and accomplishing desired operating or program results. Internal auditors should ascertain whether such objectives and goals conform with those of the organization and whether they are being met.

.02 Internal auditors can provide assistance

to managers who are developing objectives, goals, and systems by determining whether the underlying assumptions are appropriate, whether accurate, current, and relevant information is being used, and whether suitable controls have been incorporated into the operations or programs.

400 PERFORMANCE OF AUDIT WORK

Audit work should include planning the audit, examining and evaluating information, communicating results, and following up.

.01 The internal auditor is responsible for planning and conducting the audit assignment, subject to supervisory review and approval.

410 Planning the Audit

Internal auditors should plan each audit.

.01 Planning should be documented and should include:

- .1 Establishing audit objectives and scope of work.
- .2 Obtaining background information about the activities to be audited.
- .3 Determining the resources necessary to perform the audit.
- .4 Communicating with all who need to know about the audit.
- .5 Performing, as appropriate, an on-site survey to become familiar with the activities and controls to be audited, to identify areas for audit emphasis, and to invite auditee comments and suggestions.
- .6 Writing the audit program.
- .7 Determining how, when, and to whom audit results will be communicated.
- .8 Obtaining approval of the audit work plan.

420 Examining and Evaluating Information

Internal auditors should collect, analyze, interpret, and document information to support audit results.

.01 The process of examining and evaluating information is as follows:

.1 Information should be collected on all matters related to the audit objectives and scope of work.

.2 Information should be sufficient, competent, relevant, and useful to provide a sound basis for audit findings and recommendations.

Sufficient information is factual, adequate, and convincing so that a prudent, informed person would reach the same conclusions as the auditor.

Competent information is reliable and the best attainable through the use of appropriate audit techniques.

Relevant information supports audit findings and recommendations and is consistent with the objectives for the audit.

Useful information helps the organization meet its goals.

.3 Audit procedures, including the testing and sampling techniques employed, should be selected in advance, where practicable, and expanded or altered if circumstances warrant.

.4 The process of collecting, analyzing, interpreting, and documenting information should be supervised to provide reasonable assurance that the auditor's objectivity is maintained and that goals are met.

.5 Working papers that document the audit should be prepared by the auditor and reviewed by management of the internal auditing department. These papers should record the information obtained and the analyses made and should support the bases for the findings and recommendations to be reported.

430 Communicating Results

Internal auditors should report the results of their audit work.

.1 A signed, written report should be issued after the audit examination is completed. Interim reports may be written or oral and may be transmitted formally or informally.

.2 The internal auditor should discuss conclusions and recommendations at appropriate levels of management before issuing final written reports.

.3 Reports should be objective, clear, concise, constructive, and timely.

.4 Reports should present the purpose, scope, and results of the audit; and, where appropriate, reports should contain an expression of the auditor's opinion.

.5 Reports may include recommendations for potential improvements and acknowledge satisfactory performance and corrective action.

.6 The auditee's views about audit conclusions or recommendations may be included in the audit report.

.7 The director of internal auditing or designee should review and approve the final audit report before issuance and should decide to whom the report will be distributed.

440 Following up

Internal auditors should follow up to ascertain that appropriate action is taken on reported audit findings.

.1 Internal auditing should determine that corrective action was taken and is achieving the desired results, or that management or the board has assumed the risk of not taking corrective action on reported findings.

500 MANAGEMENT OF THE INTERNAL AUDITING DEPARTMENT

The director of internal auditing should properly manage the internal auditing department.

.01 The director of internal auditing is responsible for properly managing the department so that

.1 Audit work fulfills the general purposes and responsibilities approved by management and accepted by the board.

.2 Resources of the internal auditing department are efficiently and effectively employed.

.3 Audit work conforms to the *Standards for the Professional Practice of Internal Auditing*.

510 Purpose, Authority, and Responsibility

The director of internal auditing should have a statement of purpose, authority, and responsibility.

ty for the internal auditing department.

.01 The director of internal auditing is responsible for seeking the approval of management and the acceptance by the board of a formal written document (charter) for the internal auditing department.

520 Planning

The director of internal auditing should establish plans to carry out responsibilities of the internal auditing department.

.01 These plans should be consistent with the internal auditing department's charter and with the goals of the organization.

.02 The planning process involves establishing:

- .1 Goals
- .2 Audit work schedules
- .3 Staffing plans and financial budgets
- .4 Activity reports

.03 The *goals* of the internal auditing department should be capable of being accomplished within specified operating plans and budgets and, to the extent possible, should be measurable. They should be accompanied by measurement criteria and targeted dates of accomplishment.

.04 *Audit work schedules* should include (a) what activities are to be audited, (b) when they will be audited, and (c) the estimated time required, taking into account the scope of the audit work planned and the nature and extent of audit work performed by others. Matters to be considered in establishing audit work schedule priorities should include (a) the date and results of the last audit, (b) financial exposure; (c) potential loss and risk; (d) requests by management; (e) major changes in operations, programs, systems, and controls; (f) opportunities to achieve operating benefits, and (g) changes to and capabilities of the audit staff. The work schedules should be sufficiently flexible to cover unanticipated demands on the internal auditing department.

.05 *Staffing plans and financial budgets*, including the number of auditors and the knowledge, skills, and disciplines required to perform their work, should be determined from audit work schedules, administrative activities, educa-

tion and training requirements, and audit research and development efforts.

.06 *Activity reports* should be submitted periodically to management and to the board. These reports should compare (a) performance with the department's goals and audit work schedules and (b) expenditures with financial budgets. They should explain the reasons for major variances and indicate any action taken or needed.

530 Policies and Procedures

The director of internal auditing should provide written policies and procedures to guide the audit staff.

.01 The form and content of written policies and procedures should be appropriate to the size and structure of the internal auditing department and the complexity of its work. Formal administrative and technical audit manuals may not be needed by all internal auditing departments. A small internal auditing department may be managed informally. Its audit staff may be directed and controlled through daily, close supervision and written memoranda. In a large internal auditing department, more formal and comprehensive policies and procedures are essential to guide the audit staff in the consistent compliance with the department's standards of performance.

540 Personnel Management and Development

The director of internal auditing should establish a program for selecting and developing the human resources of the internal auditing department.

.01 The program should provide for:

- .1 Developing written job descriptions for each level of the audit staff.
- .2 Selecting qualified and competent individuals.
- .3 Training and providing continuing educational opportunities for each internal auditor.
- .4 Appraising each internal auditor's performance at least annually.
- .5 Providing counsel to internal auditors on their performance and professional development.

550 External Auditors

The director of internal auditing should coordinate internal and external audit efforts.

.01 The internal and external audit work should be coordinated to ensure adequate audit coverage and to minimize duplicate efforts.

.02 Coordination of audit effort involves:

- .1 Periodic meetings to discuss matters of mutual interest.
- .2 Access to each other's audit programs and working papers.
- .3 Exchange of audit reports and management letters.
- .4 Common understanding of audit techniques, methods, and terminology.

560 Quality Assurance

The director of internal auditing should establish and maintain a quality assurance program to evaluate the operations of the internal auditing department.

.01 The purpose of this program is to provide reasonable assurance that audit work conforms with these *Standards*, the internal auditing department's charter, and other applicable standards. A quality assurance program should in-

clude the following elements:

- .1 Supervision.
- .2 Internal reviews.
- .3 External reviews.

.02 *Supervision* of the work of the internal auditors should be carried out continually to assure conformance with internal auditing standards, departmental policies, and audit programs.

.03 *Internal reviews* should be performed periodically by members of the internal auditing staff to appraise the quality of the audit work performed. These reviews should be performed in the same manner as any other internal audit.

.04 *External reviews* of the internal auditing department should be performed to appraise the quality of the department's operations. These reviews should be performed by qualified persons who are independent of the organization and who do not have either a real or an apparent conflict of interest. Such reviews should be conducted at least once every three years. On completion of the review, a formal, written report should be issued. The report should express an opinion as to the department's compliance with the *Standards for the Professional Practice of Internal Auditing* and, as appropriate, should include recommendations for improvement.

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