A SURVEY OF SECURITY ANALYSTS' AND CERTIFIED PUBLIC ACCOUNTANTS' OPINIONS ON A MANAGEMENT AUDIT ATTEST FUNCTION

By

STEPHEN ALAN MOSCOVE

Bachelor of Science
University of Illinois
Urbana, Illinois
1965

Master of Science
University of Illinois
Urbana, Illinois
1966

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FUNCTION

Thesis Approved:

Kenton E. Ross
Thesis Adviser

Wilton T. Anderson

Kent A. Mingo

[illegible] Ball

D. Durham
Dean of the Graduate College

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

Public accounting firms have long been considered an important segment of the financial community. The services provided by public accounting firms in the past have earned Certified Public Accountants the right to call themselves a professional group of individuals. This high stature of CPAs has resulted from the valuable information CPAs provide through their audit attest function. In performing the audit attest function, the auditor must adhere to generally accepted auditing standards. The American Institute of Certified Public Accountants' (1) second standard of field work of the generally accepted auditing standards requires the auditor to study and evaluate the internal control in an organization as a basis for determining the extent of his auditing procedures. Furthermore, the Committee on Auditing Procedure of the American Institute of Certified Public Accountants defines internal control as encompassing both accounting and administrative controls. Statements on Auditing Procedure No. 33 (2, p. 28), issued by the Committee on Auditing Procedure, makes the following statement concerning internal control:

> In the broad sense, internal control includes controls which may be characterized as either accounting or administrative as follows:

(a) Accounting controls comprise the plan of organization and all methods and procedures that are concerned mainly with, and relate directly to, safeguarding of assets and the reliability of the financial records. They generally include such controls as the systems of authorization and approval, separation of duties concerned with record keeping and accounting reports from those concerned with operations or asset custody, physical controls over assets, and internal auditing.

(b) Administrative controls comprise the plan of organization and all methods and procedures that are concerned mainly with operational efficiency and adherence to managerial policies and usually relate only indirectly to the financial records. They generally include such controls as statistical reports, employee training programs, and quality controls.

The official position of the AICPA states that the auditor is responsible for evaluating only accounting controls in an audit engagement. Administrative controls do not have to be evaluated unless the auditor feels that the poor quality of the administrative controls could affect the functioning of the accounting controls. However, all accountants do not agree with the official position of the AICPA. Because accounting controls relate directly to the financial aspects of an organization and the present-day audit attest function is basically a financial audit, accountants agree that the auditor is definitely responsible for evaluating accounting controls. However, confusion exists to the responsibility for considering the administrative controls.

There are some individuals in the accounting profession that say the auditor should be responsible for evaluating these administrative controls, while others say these controls are solely management's responsibility and not the auditor's. In other words, those in the accounting profession advocating a broad concept of internal control evaluation believe that the auditor should evaluate accounting and administrative controls in an audit whereas those advocating a narrow concept of internal control evaluation argue that the auditor should evaluate only accounting controls. For example, William Phillips (37) feels accounting and administrative controls are closely related; because of this close relationship, an auditor must examine both types of controls in his overall internal control evaluation. On the other hand, Meigs and Larsen (32) argue that an audit by a CPA should include a review only of accounting controls. Since the objective of an audit is to enable the CPA to express an opinion on the fairness of a client's financial statements, a review of administrative controls does not fall within the responsibility of the auditor.

Outside the accounting profession there appears to be dissatisfaction on the part of security analysts and other financial statement readers resulting from the types of information being provided in the conventional financial audit. Security analysts put pressure on management to provide information of a nonfinancial nature beyond that typically disclosed in annual corporate reports. And, this need for additional information by security analysts for investment advising purposes is the basis for the argument to expand the audit attest function beyond the conventional financial audit to the performance of a management audit. For example, Langenderfer and Robertson (26) discuss the demands of financial statement readers for additional information about management and managerial activities. They suggest that a management audit is a possible approach for satisfying the increased information needs of security analysts and other members of the financial community. On the other hand, Willingham and Carmichael (54), in their book Auditing Concepts and Methods, argue that the increased demands of security analysts for information about business organizations should be provided by management rather than the audit attest function. It appears that Willingham and Carmichael feel that the auditor has a major role to play in attesting to the financial aspects of an organization and should not be expected to increase his role to include an examination and subsequent report on nonfinancial areas of an organization.

Significance of the Problem

A dilemma of possible major consequences appears to be facing the public accounting profession. If it is true that security analysts are dissatisfied with the present scope of information attested to by CPAs, one of three possibilities exists.

First, public accounting firms can meet the challenge by attesting to the additional information desired by security analysts through enlarging the conventional audit function to the performance of a management audit. A management audit function performed by public accounting firms would provide analysts with audited nonfinancial information in addition to audited financial information.

Second, if public accounting firms refuse to expand the audit function and thereby ignore the demands of security analysts for more attested information, CPAs' roles may gradually be replaced by a more dynamic group of professionals who are willing and able to meet the analysts' needs. Mautz and Sharaf (31) feel that some other independent professional group may appear on the scene to satisfy the increased information demands of security analysts if auditors are not capable and desirous of expanding their present audit attest function. The consequences to the auditing profession of another independent group of verifiers attesting to information demanded by security analysts could be detrimental.

Third, if public accounting firms believe that the examination and subsequent reporting of nonfinancial areas of an organization are outside the scope of their work, public accounting firms must communicate their thoughts to security analysts. They must emphasize to analysts that there is a major difference between attesting to financial and nonfinancial information and that the auditor maintains his important role in the business community by attesting to financial aspects of an organization. As a result, the analysts may then direct their attentions to other sources for nonfinancial information without lessening the important role played by the auditor.

The Problem

The problem of this study is to compare the opinions of a representative sample of CPAs and security analysts concerning (1) the essentiality of financial and nonfinancial information for investment advising purposes, (2) the present sources of financial and nonfinancial information to security analysts, (3) the feasibility of the auditor to attest to the financial and nonfinancial information needed by security analysts, and (4) the desirability of the auditor to attest to the financial and nonfinancial information needed by security analysts.

The Study Hypotheses

The major hypothesis was stated in the null form as follows:

1. There is no significant difference of opinions between CPAs and security analysts with respect to the need for an expanded audit.

To help reach a decision on the rejection or acceptance of the major hypothesis, twenty-two subhypotheses were prepared to support the major hypothesis. The major hypothesis will be accepted or rejected according to the testing of the twenty-two subhypotheses. The twenty-two subhypotheses tested were as follows:*

2. There is no significant difference between analysts' and CPAs' opinions regarding the essentiality of financial information needed for investment advising purposes (Section A of the questionnaire).

3. There is no significant difference between analysts' and CPAs' opinions regarding the essentiality of nonfinancial information needed for investment advising purposes (Section A of the questionnaire).

4. There is no significant difference between analysts' and CPAs' opinions regarding the present sources of financial information needed by security analysts (Section B of the questionnaire).

5. There is no significant difference between analysts' and CPAs' opinions regarding the present sources of nonfinancial information

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* The questions asked security analysts and CPAs (See Appendix A for detailed questionnaire) were prepared to support the subhypotheses. Four sections of questions were asked about financial and nonfinancial information on the questionnaire:

Section A--Essentiality (essential information, highly needed information, etc.) of information for investment advising purposes.

Section B--Present sources of information to security analysts.

Section C--Feasible for auditor to attest to information.

Section D--Whether information should be attested to by the audit function.

needed by security analysts (Section B of the questionnaire).

6. There is no significant difference between analysts' and CPAs' opinions regarding the feasibility of the auditor to attest to financial information needed by security analysts (Section C of the questionnaire).

7. There is no significant difference between analysts' and CPAs' opinions regarding the feasibility of the auditor to attest to nonfinancial information needed by security analysts (Section C of the questionnaire).

8. There is no significant difference between analysts' and CPAs' opinions regarding the financial information that should be attested to by the audit function (Section D of the questionnaire).

9. There is no significant difference between analysts' and CPAs' opinions regarding the nonfinancial information that should be attested to by the audit function (Section D of the questionnaire).

10. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality and present sources of financial information (Sections A and B of the questionnaire).

11. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality and present sources of nonfinancial information (Sections A and B of the questionnaire).

12. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality of financial information and the audit function attesting to the financial information (Sections A and D of the questionnaire).

13. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality of nonfinancial information and the audit function attesting to the nonfinancial information (Sections A and D of the questionnaire).

14. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources

of financial information and the audit function attesting to the financial information (Sections B and D of the questionnaire).

15. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources of nonfinancial information and the audit function attesting to the nonfinancial information (Sections B and D of the questionnaire).

16. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources of financial information and feasibility of auditor attesting to financial information (Sections B and C of the questionnaire).

17. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources of nonfinancial information and feasibility of auditor attesting to nonfinancial information (Sections B and C of the questionnaire).

18. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for feasibility of auditor attesting to financial information and whether the audit function should attest to the financial information (Sections C and D of the questionnaire).

19. There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for feasibility of auditor attesting to nonfinancial information and whether the audit function should attest to the nonfinancial information (Sections C and D of the questionnaire).

20. There is no significant difference among analysts regarding the desirability that both financial information and nonfinancial information should be included in the auditor's attestation (Section D of the questionnaire).

21. There is no significant difference among CPAs regarding the desirability that both financial information and nonfinancial information should be included in the auditor's attestation (Section D of the questionnaire).

22. There is no significant difference between analysts' and CPAs' total opinions (on Sections A through D of the questionnaire) regarding the total financial information needed for investment advising purposes.

23. There is no significant difference between analysts' and CPAs' total opinions (on Sections A through D of the questionnaire) regarding the total nonfinancial information needed for investment advising purposes.

Definition of Terms

For the purposes of this research, the following definitions apply:

Security Analyst. An individual who offers his services professionally to the public to give advice on investment alternatives is a security analyst.

Auditor (CPA). The term, auditor, refers only to a licensed certified public accountant even though it is recognized that some auditors are not certified. Eric Kohler's definition of a certified public accountant is used: "an accountant who offers his services professionally to the public . . .: a registered accountant." (24, p. 404)

Audit Attest Function. The work performed by an auditor in properly meeting the responsibilities of generally accepted auditing standards for an audit engagement is the audit attest function. The definition is synonomous with the term financial audit since currently the auditor is not required to examine nonfinancial aspects of a business as part of a normal audit. The final step in the performance of the audit attest function is the opinion (unqualified opinion, qualified opinion, disclaimer of opinion, or adverse opinion) by the auditor concerning the fair presentation of the financial statements of the organization under audit.

Management Audit. Alexander Sternberg's (45, p. 14) definition of a management audit is used in this research:

> This broadened scope of audit, which concerned itself with operating controls, as well as with financial controls, became known as the operational audit or, as it is sometimes called, the management audit.

The term "nonfinancial or administrative controls" is used throughout this research to mean the same thing as "operating controls" in the above definition.

Management Published Reports. The term, management published reports, refers to all unaudited reports issued by the management of an organization for use by security analysts, stockholders, creditors, and other interested parties.

Public Relations Men. The term, public relations men, refers to those people in business organizations that communicate financial and nonfinancial information about their organizations to security analysts, stockholders, creditors, and other interested parties. A major role of the public relations men is to maintain good relationships with influential individuals in the investment community.

Delimitations of the Study

This study is limited to a sample of CPAs and security analysts from the United States cities with 450,000 population and above. It was felt that a sampling frame including only cities with populations of 450,000 and greater should result in the selection of a representative sample of CPAs and security analysts from the entire universe of CPAs and security analysts.

The study is delimited to four questions posed to CPAs and security analysts about financial and nonfinancial information:

1. The essentiality of the information for investment advising purposes; for example, highly needed information or seldom needed information.

2. The present sources of the information to security analysts; for example, the audit attest function or unaudited management published reports.

3. The feasibility of the auditor to attest to the information by means of published financial statements.

4. The desirability of the auditor to attest to the information by means of published financial statements.

Presentation of the Study

To accomplish an orderly presentation, the remainder of this research report is organized as follows:

Chapter II: The methods and procedures of this research study are discussed in depth. Among the topics covered are the methods of selecting the sample, the methods of validating the questionnaire, the data collecting procedure, and the selecting of the statistical test for evaluating the questionnaire data.

Chapter III: A discussion of the concept of internal control and its effect upon the auditor is included as background material for the research study. The broad definition of internal control is contrasted with the narrow definition of internal control by analyzing the opinions of prominent men in the accounting profession.

Chapter IV: A brief descriptive analysis is made of six administrative controls--budgeting and budgetary control, standard costs, periodic operating reports, personnel training programs, internal auditing, and time and motion studies. By considering these six administrative controls as representative of all administrative controls and briefly describing the six controls, the role of the auditor in the light of a possible expanded audit attest function can better be seen.

Chapter V: The results of the questionnaire are presented along with an analysis of the tests made on the twenty-two subhypotheses and one major hypothesis stated in the null form using the Mann-Whitney U Test. The results of testing the subhypotheses will help to indicate where any significant differences exist in the major hypothesis.

Chapter VI: The significance and implications of the research findings upon accounting education, the accounting profession, and accounting information users are presented. As a result of examining the possible significance and implications of this research study, changes are suggested that may be necessary in the future if a management audit is adapted by the accounting profession.

Chapter VII: A review of the problem and research methodology of this study are presented. Also, a summarization of the theory of internal control and the significant findings from the questionnaire sent to a representative sample of security analysts and CPAs is included. An attempt is made to tie together the empirical results of the questionnaire and to draw some valid conclusions and recommendations for the future of the accounting profession.

Summary

The present-day audit attest function is limited to an examination and opinion on the financial statements of an organization. However, based upon a review of the literature, there appears to be a growing demand by security analysts for an expansion of the conventional financial audit attest function to the performance of a management audit. A management audit would provide security analysts with audited nonfinancial as well as financial information.

This research study will test empirically the opinions of a representative sample of security analysts and CPAs on the expansion of the attest function to include a management audit. The major hypothesis was stated in the null form as follows: There is no significant difference of opinions between CPAs and security analysts with respect to the need for an expanded audit. Twenty-two subhypotheses were tested to help determine whether the major hypothesis should be rejected or accepted.

The methods and procedures used in this research are discussed in the following chapter. The methods of selecting the sample and validating the questionnaire are presented. In addition, the data collecting procedures and the statistical test used in evaluating the questionnaire data are discussed in Chapter II.

CHAPTER II

METHODS AND PROCEDURES

The research problem developed in Chapter I was to compare the opinions of Certified Public Accountants and security analysts on the performance of a management audit by public accounting firms. The purpose of this chapter is to discuss the methods and procedures utilized in implementing the research.

Sample Selection and Size

The sampling frame included those cities (see Appendix A) within the boundaries of the United States with populations of 450,000 and above. It was felt that a sampling frame including only cities with populations of 450,000 and above should result in the selection of a representative sample of CPAs and security analysts from the entire universe of CPAs and security analysts. It was determined that 28 cities in the United States qualified to be included in the sample. The telephone directories of these 28 cities were used to select the sample. The Statistical Abstract of the U.S.: 1960 published by the U.S. Bureau of the Census was used to select the 28 cities included in the sample. Since the 1970 census had not been published at the time the cities were selected, the census data for 1960 were used.

A sample size of 9 security analysts and 9 CPAs from each of the 28 cities appears to be adequate in order to obtain a sample that is representative of the actual population of security analysts and CPAs. In discussing sample size, Blalock (9) states that a normal population is required if N is not too large. However, Blalock further suggests that the normality assumption can practically always be relaxed whenever $N \geq 100$ and makes use of the law of large numbers rather than the more restrictive central-limit theorem.

As a result of Blalock's comments concerning sample size, it was felt that a sample of 9 security analysts and 9 CPAs from each city included in the sample would result in the return of more than 100 completed questionnaires from each of the two groups so that the assumption of a normal population could be made. The amount of deviation of a sample statistic from the actual population parameter decreases as the size of the sample tested increases. Thus, a point of no error in the sample statistic is never reached regardless of the sample. Therefore, once a certain large sample size is reached, increasing the size further will only reduce the sampling error immaterially.

For each city included in the sample, the total number of investment firms and public accounting firms listed in the city's telephone directory was determined. Each total was then divided by the number to be sampled in that particular city to determine the value of every _n_th item for the systematic sample. A random number table was used to determine the starting point for each systematic sample.

The use of current telephone directories provided a sampling frame reasonably close to the true total population of investment firms and public accounting firms in each city. The only possible firms missed in the sample would be new firms not yet listed in the directory. Also, some firms included in the sampling frame possibly could no longer be in business but still listed in the telephone directory. However, any biases introduced into the samples from the above causes appeared to be minor in terms of drawing a representative sample from the populations of investment firms and public accounting firms in each city selected.

Validation of Questionnaire

The survey of literature indicated that there was no standard questionnaire suitable for gathering the empirical data desired in this study. A questionnaire was designed based upon the review of literature and personal interviews with eight security analysts and nine CPAs. For the purpose of gathering the needed data, the summated rating method introduced by Likert, as reported by Van Dalen (49), seemed appropriate. The method arbitrarily gives a weight of 1 to 5 to the alternative answers and the same numerical values are always given to the responses that show the greatest favorableness toward the phenomena.

Following the initial preparation, the questionnaire was mailed to thirty investment advising firms and thirty public accounting firms for pretesting purposes. Responses were received from thirteen public accounting firms and twelve investment advising firms with a number of excellent suggestions that were eventually incorporated into the final instrument. These suggestions refined the orginal survey instrument.

The original questionnaire (before pretesting) had thirteen separate categories within the nonfinancial information category. The suggestion was made in the pretesting phase to condense the nonfinancial information questions from the thirteen categories to one major category. This suggestion was incorporated into the final draft of the questionnaire.

During the week of March 23 through March 27, 1970, four public accounting firms and four investment advising firms in the Los Angeles, California, area were personally visited in order to obtain further suggestions and recommendations on the questionnaire. The major purpose of these visits was to ascertain security analysts' and CPAs' reactions to the questions and the clarity of the questionnaire in general. The questionnaire was further validated by having selected doctoral students in accounting at Oklahoma State University examine and complete the questionnaire and make comments regarding clarity and intent of the questionnaire.

The final draft of the questionnaire included one major category of financial information and one major category of nonfinancial information. In addition, the questions asked about the financial and nonfinancial information on the questionnaire were limited to the following four: (1) the essentiality of the information for investment advising purposes; for example, highly needed information or seldom needed information, (2) the present sources of the information to security analysts; for example, the audit attest function or unaudited management published reports, (3) the feasibility of the auditor to attest to the information by means of published financial statements, and (4) whether or not the information should be attested to by the auditor.

Data Collection

The questionnaire and transmittal letter were mailed to the 9 investment firms and 9 public accounting firms in each of the 28 cities on April 13, 1970. Two weeks later, April 27, 1970, a second mailing, consisting of the questionnaire and follow-up transmittal letter, was also sent. An addressed, stamped envelope for the return of the completed questionnaire was included in each of these two mailings. On May 11, 1970, a postcard was sent to the firms in the sample in a final attempt to obtain additional responses to the questionnaire.

At the time of the mailing of the follow-up letter and questionnaire, completed questionnaires had been received from 98 public accounting firms, representing a 39 percent response from the sample of public accounting firms. Also, completed questionnaires had been received from 87 investment advising firms at the time of the second mailing, representing a 35 percent response from the sample of investment advising firms.

After the second mailing, completed questionnaires had been received from 138 public accounting firms, a 55 percent response, and 130 investment advising firms, a 52 percent response.

No additional attempt was made to contact the firms beyond the postcard sent on May 11, 1970. On May 26, 1970, completed questionnaires had been received from 149 public accounting firms, a 59 percent response, and 142 investment advising firms, a 56 percent response. No additional returned questionnaires were received after May 26, 1970.

Statistical Analysis

The data from the questionnaire was quantifiable into ordinal categories; and the Mann-Whitney U Test for two independent samples, the CPAs and the security analysts, was used in analyzing the data. Sidney Siegel (41, p. 116) describes the applicability of the Mann-Whitney U Test as follows:

> When at least ordinal measurement has been achieved, the Mann-Whitney U test may be used to test whether two independent groups have been drawn from the same population. This is one of the most powerful of the nonparametric tests, and it is a most useful alternative to the parametric *t* test when the researcher wishes to avoid the *t* test's assumptions, or when the measurement in the research is weaker than interval scaling.

Because the measurement in the research was not interval data and the assumptions related to interval data in a parametric test were not met, the U test was appropriate for the analysis of the two independent samples and was the proper statistical test to apply to the data. The Mann-Whitney U Test enables the researcher to identify significant differences of opinions between the CPAs and the security analysts at the .05 significance level on the sections of the questionnaire. An overall comparison of the differences of opinions on the entire questionnaire can be made and analysis can be performed on any combination of items or sections deemed important.

Summary

Twenty-eight cities in the United States with populations of 450,000 and above were included in the sample. It was determined that 9 investment advising firms and 9 public accounting firms would be sampled from each of the 28 cities. The current telephone directories of the 28 cities were used to select a systematic sample.

A review of literature and personal discussions with security analysts and CPAs led to the development of a questionnaire that was mailed to the security analysts and CPAs included in the sample on April 13, 1970. On May 26, 1970, after two additional attempts were made to obtain responses from security analysts and CPAs, completed questionnaires had been received from 149 public accounting firms, a 59 percent response, and 142 investment advising firms, a 56 percent response.

The Mann-Whitney U Test for ordinal measurement was selected for analyzing the data from the two independent samples, the CPAs and the security analysts. Also, the ordinal data from the questionnaire were tested at the .05 level of significance.

The following chapter discusses the concept of internal control and its effect upon the auditor. The broad definition of internal control, accounting and administrative controls, is contrasted with the narrow definition of internal control, accounting controls only, by analyzing the opinions of prominent men in the accounting profession. By examining the internal control concept, a better basis should be established for the later conclusions to be made in this research concerning the auditor's responsibilities in evaluating internal control.

CHAPTER III

THE CONCEPT OF INTERNAL CONTROL

Chapter I defined the American Institute of Certified Public Accountants' broad concept of internal control (see page 1) as encompassing accounting and administrative controls. It was further pointed out that generally accepted auditing standards require the auditor to only evaluate accounting controls in the course of an audit engagement. However, some accountants advocate an expansion of the auditor's role to include an evaluation of administrative as well as accounting controls in an audit. The purpose of this chapter is to discuss the broad concept of internal control (accounting and administrative controls) versus the narrow concept of internal control (accounting controls only) by presenting the opinions of prominent individuals in the accounting profession on this controversial issue. As a result of examining both concepts of internal control, a better basis should be established for drawing a conclusion in later parts of this research concerning the auditor's responsibilities in evaluating internal control.

First, however, before discussing the broad versus narrow concept of internal control, a brief analysis of the effect of internal control upon the auditor is made. Examining the effect of internal control upon the auditor is an important prerequisite to better understanding the arguments of those accountants favoring a broad as opposed to a narrow concept of internal control.

How Internal Control Effects the Auditor

The second standard of field work of the generally accepted auditing standards of the AICPA (2, p. 27) states:

> There is to be a proper study and evaluation of the existing internal control as a basis for reliance thereon and for the determination of the resultant extent of the tests to which auditing procedures are to be restricted.

This standard appears to result in the necessity for the auditor to exercise a degree of judgment when evaluating internal control. It is a known fact that every business organization and its structure is different. As a result, the auditor faces different situations and problems in every company. In fact, due to the dynamic nature of present-day business, situations and problems in the same company are constantly changing.

Continuous change in a company places a burden upon the auditor. First, due to the cost factor, the auditor cannot examine everything that might have an effect, direct or indirect, on internal control. As a result, the auditor accepts the principle of sampling to alleviate this problem. By examining what appears to be a representative sample of the whole, the auditor makes a series of judgments as to the reliance he can place on the various areas of internal control. Second, the dynamic nature of business has required the auditor to be a more imaginative and resourceful man. Realizing that things are not always what they appear to be on the surface, the auditor has to develop a sense of "digging for facts." A situation may change from one year to the next affecting internal control in a company the auditor has audited for several years. Moreover, the auditor may not discover this change unless he goes beyond the surface in the internal control evaluation. These two opposing forces, the cost consciousness of the client regarding the audit fees and the necessity for the auditor to look beyond the surface in many areas, place the auditor in a difficult position. Since the auditor bases his audit program upon the evaluation of internal control, an incorrect decision by him in various areas of internal control can result in the entire audit being performed inefficiently and unwarranted conclusions being made.

The extreme importance of the auditor's evaluation of internal control in an audit engagement is emphasized extensively in the accounting literature. For example, Meigs and Larsen (32) discuss at length the effect of internal control upon the auditor's subsequent examination of a company's financial operations. They emphasize that the stronger a company's system of internal control, the less extensive are the auditor's testing procedures.

Thus, it appears that the auditor, in order to carry out a proper evaluation of internal control on which to base the subsequent audit program, must play the role of a "professional detective." The auditor's sampling of various areas of operations in a company should be done as effectively and efficiently as possible. The auditor should hesitate to accept anything without reasonable proof. His final decision on internal control will necessitate the use of judgment, but if the auditor is adequately qualified and has used his professional "know-how" throughout the evaluation, his final judgment on the adequacy of internal control should be reliable.

The AICPA (2) has clearly emphasized that the purpose of an ordinary audit examination is to enable the auditor to give an opinion on a client's financial statements and cannot be relied upon to disclose fraud, although fraud may be discovered in the course of an examination. In addition, the AICPA (2) states that an auditor can be held liable for failure to detect fraud only when he does not follow generally accepted auditing standards in the course of the examination. Even though the official position of the AICPA limits the auditor's responsibility for fraud detection, it logically follows that the auditor provides an important service to his client when he does uncover a defalcation during the course of the audit examination. Furthermore, the auditor should be continually aware of the fact that a strong system of internal control is an effective device in preventing fraud from occurring in an organization. Moore and Jaedicke (34) argue that an effective internal control system is an important preventive against theft of physical properties in an organization. And, the AICPA's (2) position is that an accounting system with effective internal control is a positive factor toward the prevention and detection of fraud.

A question that results from the above discussion is: Can the auditor fulfill his responsibility for evaluating internal control more efficiently and effectively (in terms of preparing a better audit program, discovering fraud in an organization, etc.) if he is required to also examine administrative controls? This question is discussed in later parts of this research where it is hoped that some valid conclusions can be reached.

Broad Versus Narrow Concept of Internal Control

Having examined the importance of the auditor's evaluation of internal control as a basis for the extent of his subsequent tests of a client's accounting records in an audit and the importance of good internal control as a preventive device against fraud, this section of the chapter explores directly the breadth of the internal control concept. The literature indicates a controversy among accountants as to whether the auditor should limit his evaluation of internal control to only the accounting controls or broaden his evaluation to also include the administrative controls. Therefore, the views of both groups (those favoring a broad versus those favoring a narrow concept of internal control) are presented in order to develop a better understanding of the controversial nature of the internal control evaluation debate.

Advocates of a Narrow Internal Control Concept

As discussed at the beginning of this chapter and in Chapter I, the official position of the AICPA (2) is that the auditor is responsible for evaluating only accounting controls in a normal audit engagement. Since administrative controls relate only indirectly to the accounting records, they do not require the auditor's evaluation unless the auditor feels that certain administrative controls have an important effect on the reliability of the accounting records. Thus, the AICPA is basically advocating a narrow concept of internal control evaluation by the auditor encompassing only the accounting aspects of internal control.

Another proponent of a narrow concept of internal control evaluation is Gilbert Byrne. He suggests there are three kinds of internal control: internal administrative control, internal accounting control, and internal check. The definitions given by Byrne for internal administrative control and internal accounting control conform to the definitions given on page 1 of this research by the AICPA. Regarding internal check, Byrne describes this aspect of internal control as encompassing all procedures utilized by a company in safeguarding its assets against theft or other similar irregularities. Byrne's (10) examples of internal check are fences around the plant facilities, watchmen, and inspection of outgoing material. Byrne goes on to say that there is a great difference between these three types of internal control and that the auditor has a different responsibility for each. Regarding internal administrative control, Byrne feels the auditor has basically no responsibility. The presence or absence of internal administrative control (except in unusual circumstances) has no effect on the audit program because of the indirect relationship of the control to the accounting aspects of a business. As to internal check, the auditor has little or no responsibility since the objective of an audit is not to discover fraud or other types of defalcation. However, regarding internal accounting control, Byrne (10) argues that the auditor has a great responsibility. Since internal accounting control has an effect on the fair presentation of a company's financial statements, the auditor must evaluate this control as a prerequisite to developing the audit program to carry out the attest function.

Thus, Byrne definitely favors a narrow concept of the auditor's responsibility for evaluating internal control. That is, Byrne feels the auditor should be required to evaluate only accounting controls because of their direct relationship to the financial statements. Byrne's opinion conforms to the American Institute of Certified Public Accountants' position on the auditor's responsibility for evaluating internal control. The administrative controls in an organization do not have to be evaluated as part of the audit attest function except in circumstances where the auditor feels that certain administrative controls significantly effect the reliability of the accounting records. In addition, Byrne recognizes that management services work is an important part of an auditor's work and is the area where administrative controls should be evaluated. However, this evaluation of administrative controls takes place only on special requests of the auditor's client.

Saul Levy, in writing on internal control and its legal aspects, also favors a narrow concept of internal control evaluation by the auditor. Levy (27) argues that the major objective of the auditor's evaluation of internal control is to aid in planning the audit program. And, the execution of the audit program enables the auditor to express an opinion on a company's financial statements. Since an audit is not equivalent to a management survey, the auditor's responsibility should encompass only those controls directly related to the accounting records.

Thus, Levy appears to reach the same basic conclusion as Gilbert Byrne and the AICPA: the auditor should be responsible for evaluating only accounting controls in the evaluation of internal control. Levy, Byrne, and the AICPA base their conclusion on the fact that only accounting controls are related to the financial activities of a business; and consequently, accounting controls are the only controls the auditor should be required to evaluate in an audit engagement.

Advocates of a Broad Internal Control Concept

One of the strong advocates of a broad concept of internal control is Paul Grady. Grady feels that the auditor should have a good knowledge of a company's administrative controls and internal check in order to prepare an adequate audit program. An effective internal control system, Grady (16) argues, necessitates a degree of independence between the operating, custodial, and accounting functions. In addition, close coordination and cooperation in the performance of these functions is necessary to efficient operations of a business. This close coordination and cooperation is necessary because many decisions that affect the handling of accounting transactions originate outside of the accounting department.

Grady believes there is a close relationship between accounting and administrative controls and that good accounting controls are dependent upon good administrative controls. In other words, if the administrative controls are inadequate, it would be difficult for the accounting controls to be adequate. Therefore, on the basis of this close interrelationship between accounting and administrative controls, Grady feels that an auditor should be required to evaluate both types of controls. For example, in discussing the interrelationship between accounting controls and administrative controls, Grady (16, p. 39) emphasizes the importance of a broad concept of internal control evaluation in the following quotation:

> Certainly it would be the height of futility for the auditor to spend his time checking the clerical aspects of accounting records when the validity of the basic information shown in them is dependent on the controls exercised and the decisions made in other departments.

James Cashin and Walter Kamp, in their general discussion of internal control, appear to also advocate a broad concept of internal control evaluation by an auditor. Cashin and Kamp (12) feel that an important part of internal control is the means available to management to ascertain whether its policies are being carried out. And, as a result of the importance to management of information concerning policy action, an effective company-wide internal control system (encompassing accounting and administrative controls) is a trademark of successful management. Kamp and Cashin thus argue that it is impossible to separate administrative from accounting controls in an effective company-wide internal control system. They feel, as Paul Grady does, that internal control definitely extends beyond the accounting department and that adequate administrative controls are just as important to the reliability of the financial information of a company as are adequate accounting controls.

An additional advocate of a broad concept of internal control evaluation is Sternberg. In his writings in the U.S. Army Audit Agency Bulletin, Sternberg (45) recommends an examination of accounting and administrative controls by the auditor as a necessary prerequisite to meeting the demands of readers of the auditor's report for additional attested information. Thus, Sternberg basically feels that the auditor can satisfy the information needs of security analysts, creditors, and other financial statement readers only by expanding the scope of the attest function beyond the financial aspects of a business.

A Middle Ground Concept of Internal Control Evaluation

Having discussed the opinions of various individuals in the accounting profession on the broad versus narrow concept of internal control evaluation, one additional approach to internal control evaluation that has been suggested in the past should be mentioned. The American Institute of Accountants' early report on internal control emphasized the importance of administrative controls in an audit engagement. However, rather than attempting to examine all administrative controls in any one audit, the AIA recommended complete coverage of the controls over a period of years. And, due to the extreme importance of the controls (accounting controls) that relate directly to the accounting records, the AIA (1) felt the auditor should examine all accounting controls each year.

Based upon the above paragraph, it appears that the special report of the American Institute of Accountants took a position in the middle between those advocates of a narrow concept of internal control and those favoring a broad concept of internal control evaluation by the auditor. Perhaps there is a good deal of merit in this early recommendation of the AIA. A gradual evaluation of administrative controls over the years could save the auditor time in each annual audit and as a result, save the client from larger audit fees.

Summary

The evaluation of internal control in an organization is an important responsibility of the auditor. The accounting profession presently requires the auditor to evaluate only the accounting controls and not the administrative controls in an audit engagement. The adequacy of a company's internal control has a major effect on the degree of detailed testing by the auditor in the audit program. The stronger the internal control in a company, the less risk of errors and irregularities, and the less detailed testing of the client's records by the auditor.

A good internal control system in an organization is important to guard against fraud. The primary purpose of an audit is not to discover fraud. However, it was argued that the auditor would be providing a better service to his client if he did uncover a defalcation during the course of an audit. And, the question was raised concerning the more efficient service the auditor could provide (in terms of uncovering frauds, preparing better audit programs, etc.) to his client if a broad concept of internal control examination, including accounting and administrative controls, was accepted by the accounting profession as part of the audit procedure.

The conflicting views regarding the auditor's responsibility for evaluating internal control were next presented in this chapter. The narrow views of internal control (accounting controls only) advocated by the AICPA, Gilbert Byrne, and Saul Levy were discussed. Their consensus was that the auditor should be responsible for only evaluating accounting controls in the evaluation of internal control. Since administrative controls relate only indirectly to the client's accounting records, they do not have to be examined except in extreme circumstances where inefficient administrative controls might affect the proper functioning of the accounting controls.

Next, the views of a selected number of individuals who advocate a broad concept of internal control evaluation (accounting and administrative controls) were presented. Paul Grady argues that due to the close interrelationship between accounting and administrative controls, the auditor should also be required to examine the latter controls in the attest function. Kamp and Cashin, although not stating specifically, appear to also advocate a broad concept of internal control. They feel it is impossible to separate administrative controls from accounting controls in an effective company-wide internal control system. An additional advocate of a broad concept of internal control evaluation is Sternberg. He argues that the auditor should expand his function in the internal control area to include an evaluation of administrative controls in order to meet the increased information needs of financial statement readers.

Following the presentation of the viewpoints of those in the accounting profession favoring narrow and broad concepts of internal control evaluation, the American Institute of Accountants' early position was illustrated as another possible approach to internal control evaluation. Their position represented a sort of middle ground between the narrow and broad concepts of internal control. The AIA suggested that administrative controls be evaluated over a period of several years with the accounting controls evaluated in their entirety each year. However, as discussed previously, the current position of the American Institute of Certified Public Accountants, which superseded the early special report of the AIA, is that the auditor is responsible for evaluating only accounting controls except in certain circumstances when it may be desirable for him to also evaluate administrative controls.

The writer realizes that there are other well-known and respected accountants who have expressed their positions regarding either a narrow or a broad concept of internal control. However, it is felt that the various opinions expressed in this chapter are of sufficient breadth to represent the opposing points of view that presently exist in the accounting profession regarding the auditor's responsibility for evaluating internal control. Both sides (those advocating a narrow concept versus those advocating a broad concept) appear to have good arguments for their conclusions.

In order to have a better understanding of what administrative controls encompass, the next chapter will be devoted to a discussion of relevant characteristics of six areas of administrative control. Since this research is concerned with whether there is a need for an expanded audit attest function necessitating an examination of administrative controls by the auditor, it is important to devote a separate chapter to a discussion of various administrative controls. The six administrative controls discussed in the following chapter are considered representative of all administrative controls.

CHAPTER IV

ANALYSIS OF RELEVANT CHARACTERISTICS OF ADMINISTRATIVE CONTROLS

Administrative controls were defined in Chapter I by the American Institute of Certified Public Accountants as controls which are indirectly related to the accounting records of an organization. As a result of this indirect relationship of administrative controls to the accounting aspects of an organization, the AICPA (2) states that the auditor is not required to examine these nonfinancial controls in an audit.

Chapter III examined the effect of internal control upon the auditor and the broad versus the narrow concept of internal control. The basic argument given by those who advocate a broad concept of internal control evaluation centers around the interrelationship between accounting and administrative controls and the importance of the auditor in evaluating both types of controls. In addition, advocates of a broad internal control evaluation concept argue that the auditor can better meet the increased information demands of financial statement readers by examining administrative controls. On the other hand, advocates of a narrow concept of internal control evaluation feel that the auditor's function of giving an opinion on the fairness of an organization's financial statements does not necessitate an examination of administrative controls.

The purpose of this chapter is to examine the relationship of administrative controls to the financial aspects of an organization. Those in the accounting profession, who oppose an expansion of the audit attest function to include an examination of administrative controls, argue that administrative controls do not directly relate to the financial aspects of a business and are thus outside the scope of the auditor's work. A brief investigation of administrative controls in this chapter is important in order to determine if the argument given by accountants opposed to an examination of administrative controls in an audit is justified. As a result, the discussion of administrative controls centers around whether these controls have a close relationship to the financial activities in an organization. If a close relationship is shown to exist between administrative controls and the financial activities in an organization, the major argument of those accountants disfavoring the evaluation of administrative controls in the audit attest function is weakened.

In a study reported in the CPA Handbook (50), the following six administrative controls were considered to be representative of all administrative controls: (1) budgeting and budgetary control, (2) standard costs, (3) periodic operating reports, (4) personnel training programs, (5) internal auditing, and (6) time and motion studies. Because these six administrative controls are representative of all administrative controls as reported in the CPA Handbook, a brief analysis of the relationship of each of these controls to the financial activities in an organization is made in the following pages of this chapter.

Analysis of Representative Administrative Controls

Budgeting and Budgetary Control

The first of the six administrative controls discussed is concerned with the budgetary activities in an organization. Niswonger and Fess (36) view a budget as a formal written statement of future managerial plans expressed in financial terms. Furthermore, budgetary control involves comparing actual results with the budget and isolating variances, either favorable or unfavorable.

Thus, it appears that budgeting is, in itself, a management function. Definite goals must be established at the various managerial levels; and by developing a budget, the goals have quantitative force. However, management goals are of little value unless adequate follow up of actual operational control takes place. By comparing actual results with predetermined budget figures and computing variances, areas in a company performing inadequately will be pointed out for corrective action.

Two important points are recognized in studying budget systems. One, the predetermined budget figures must be determined as accurately as possible. This does not imply accuracy in the sense of "accurate precise figures," but accuracy based on estimates determined by sound procedures. Since the budget is an estimate of the future, completely accurate determinations are impossible. But, in determining budget figures, past operating results, the current market condition, and the future potential of the company and the economy should be evaluated as soundly as possible. Unless the budget figures have some reality in them, the later comparisons with actual operating results and the resultant budget reports will have little value. Second, budget control is the area where the accounting department makes an additional important contribution to budget systems. Accepting the basic notion that the accounting department accumulates the quantitative data concerning a company's operations, it appears to follow that the accounting department should also prepare the budget reports comparing actual results with predetermined budget figures and compute the budget variances. In fact, Knight and Weinwurm (23) state that close coordination between the accounting system and the budget system is a necessary prerequisite for the preparation of meaningful budget variance reports. Through variance reports, the accounting department brings to management's attention the areas needing corrective action. Knight and Weinwurm (23) argue further that accounting departments in organizations must expand their responsibilities beyond merely recording historical data. A modern accounting system in a large organization must be oriented toward planning and control objectives in order for a budget system to be effective.

When business was small and lacked complexity, budget systems were not essential. The owner of the business had control over all the operations and usually knew when changes were taking place and what areas of the business were not keeping pace. However, the situation is different today. Management cannot know everything that is happening in a business, and it must look for help from someone to supply needed information about areas of inefficiency. And, it appears that the accounting department, due to its unique understanding of the quantitative aspects of the budget, should provide the information needed by management to control operations in a business. The accounting department's important role in budget systems is shown in the following statement by Knight and Weinwurm (23, p. 306):

> In the up-to-date and decentralized company, however, much more reliance will be put on the accounting department to provide important information as a basis for action, and budget planning and control will form an essential part of its work.

Thus, from the preceding discussion of budgeting and budgetary control, it appears that this management function is definitely an important concern of any forward-looking accounting department. As business expands and grows more complex, an accounting department which functions only as a "recorder of historical data" will lose its significance and importance to a company. Just as new scientific management techniques such as linear programming, queing theory, and other mathematical techniques are becoming important for decision making in the complex business world, an understanding and proper application of the budget techniques by accountants appears a necessity.

Standard Costs

The second administrative control included in this study is standard costs. Matz, Curry, and Frank (30) indicate that standard costs are scientifically predetermined costs for a specified period in the immediate future. Also, standard costs are based on normal or ideal conditions of efficiency and volume in an organization. Matz, Curry, and Frank (30) go on to say that, in a well-managed business, actual costs should constantly approach predetermined, current, normal, standard costs for the estimated volume of business.

A business system with standard costs included appears to be an effective managerial control device. However, to have an effective standard cost system for managerial control purposes, the standards must be established as accurately as possible by the various sectors of an organization. With reliable standards incorporated into the accounting system, the principle of "management by exception" can be facilitated; that is, only operating results which are out of line with predetermined standards are brought to the attention of department supervisors for corrective action. Instead of various personnel receiving excessive financial data on operations every month with the important information often overlooked because of the massive data reported, the use of standard costs points out the areas of an organization that should be given further attention. The reports incorporating standard costs, and the resultant variances, either favorable or unfavorable, are shown in a separate column. Thus, the areas needing corrective action are pointed out clearly.

It should be stated at this point that pre-established standards should be flexible. Since standards are estimates of future costs, conditions may develop at a later time which invalidate certain pre-established standards. When this happens, the standards, to still be useful control devices, should be revised in the light of the changed conditions. In determining who should be responsible for establishing and revising standards, Schlatter and Schlatter (40) argue that the accounting department should not set all the standards. Rather, the work of establishing and revising standards should be divided among those individuals who are best qualified to do so based upon the positions they hold in an organization. However, due to the accountant's unique position of being at the focal point where all data concerning standards converge, the accounting department should plan and coordinate the company-wide standard cost system.

From the discussion in the previous paragraph, it appears that the accounting department is the major influence in the success or failure of a standard cost system in an organization. True, individuals in departments such as sales and production will take part in establishing standards to be used. But, for the system of standards to fulfill its potential, the accounting department must accept responsibility for the majority of the work. The accounting department collects the actual cost data, compares it with pre-established standard costs, and computes the variances from standard. Unless the accounting department makes this information available to the proper people on a meaningful time basis, the standard cost system will be of little value to anyone. Thus, good communication is necessary for an effective standard cost system. Experts in various sectors of a company establish standards of performance for their particular activity, and these experts must communicate the standards to the accounting department. The accounting department must then accumulate the actual cost data, compare it with standard, and communicate the information back to the sector of the company affected.

In addition, a standard cost system can be an effective control and decision making device only if the standards are soundly determined and revised when necessary to meet changing business conditions. If the standards are carelessly prepared, they can do more to hinder a company than help. An improper standard compared with an actual cost gives an inaccurate variance. And, this inaccurate variance may result in management action which is actually harmful to operating activities.

This brief discussion of standard costs has illustrated the importance to an organization of an effective standard cost system for control and decision making purposes. And, if a standard cost system is to achieve its objective of providing meaningful information to management, it appears that the accounting department must play a major role in the establishment and subsequent operation of the standard cost system.

Periodic Operating Reports

Report systems in organizations constitute the third type of administrative control to be discussed in this chapter. The term operating reports is used in a broad sense in this discussion, ranging from cost reports from various departments in a company to year-end financial statements issued on an entire company's operations.

The high cost of preparing a report is often overlooked. George Terry (46), writing in the area of office management, indicates that a simple twenty-five page report may cost in excess of $15,000 to prepare. And, Terry goes on to say that most executives underestimate this high cost of preparing a report.

A report distribution system is part of the overall control system in an organization. A control system is established in an attempt to achieve efficient and effective operations that will aid in meeting managerial objectives. A report distribution system, that is carefully planned, administered, and reviewed periodically so that reports are received only by those recipients who actually need the information, is a positive control device in an organization. Regarding control procedures over report distribution systems, Terry (46) argues that many companies maintain poor control over their report distribution systems. This poor control is often caused by the fact that many reports are prepared and distributed to individuals in an organization who make no use of the reports.

The preceding paragraph appears to indicate a major problem to an organization with an inefficient report distribution system. If various personnel in an organization receive certain operating reports which are not needed in performing their particular functions, the important information actually needed for decision making by these individuals may be buried in the excessive amount of data that crosses their desks. Thus, even when the cost factor in preparing a report is not considered, the impact of an inefficient report distribution system can have a negative effect on the financial success of an organization. A delay by management in making various business decisions because of the mass of operating reports that must be examined before the relevant information is found can result in inferior decisions. And, inferior decisions by management adversely affects the financial position of an organization.

With the size and complexity of modern-day business, management must have timely operating reports in order to make effective decisions. Through internal reports, management is informed of the results of operations, and by comparison of these results with budgets and standards, it can take corrective action where inefficiencies exist. However, for internal operating reports to be useful for control and decision making, the reports must be received by the proper personnel on a meaningful time basis; that is, reports on operations are of little value to management unless received in time to take any necessary action. For example, Heckert and Kerrigan (20) say that timely internal operating reports prepared by accountants for management are essential for effective managerial decision making and the financial growth of an organization. Unless management can keep abreast on what is happening, it will be operating, so to speak, in "darkness" with the possible adverse affects on the financial standing of the organization. Often timeliness of reporting is more important than <u>exact</u> precision in the reported data.

The accounting department plays a major role in management receiving timely operating reports. With less personal contact in an organization, the management must depend more upon information that has been developed through the accounting system. Management relies upon the accounting department to provide reports comparing actual and standard operating results within a short time after the operating activities have taken place. However, if timely operating reports are not received from the accounting department, management will have less opportunity for effective control and decision making. Backer and Jacobsen (8) argue that effective cost control by management necessitates the receipt of timely operating reports from the accounting system of an organization. With the increased use of the computer in business today, the accounting department has the opportunity to provide meaningful operating reports to management on a timely basis. And, with timely operating reports in hand, management has the potential for making more efficient and effective business decisions.

Personnel Training Programs

Personnel training programs are the next administrative control to be examined briefly. Training, as discussed by Steinmetz (44) and used in this study, encompasses all the forms of knowledge, skill, and attitudinal development which adults need to keep pace with accelerating life involvement and the enlarging concept of man's capabilities. The rapid technological changes that have occurred in the past ten years and that are expected to continue in the future have made the personnel training function an important part of an organization's system.

Just as management is responsible for utilizing the assets invested in a company to the best of its ability, management is also responsible for coordinating and directing its employees to the best of its ability. Employees are, in a sense, assets. They fulfill most of the requirements for being classified as an asset. An employee is definitely a service potential with his value resulting from the future benefits he can give to an organization. And, if management is not successful in getting the full value out of its service potentials, management is failing in its stewardship function.

Employee salary expenses have been and will continue to be a large cost to business organizations. It has been fairly well established that a human being has more desires in life than just making money; that is, in just being an "economic man." He has other goals such as love, self-esteem, and self-realization. In other words, for a human being employed in an organization to carry out his assigned functions in order to contribute to the organization's policies and goals, he needs more than just an economic award. Human beings must be motivated in order to work up to their full potential. This motivation involves, in part, providing people with an understanding of what they are doing. People should not merely be told to do something without also being told why they are doing it and how their particular job fits into the whole company scheme. Without this understanding the average employee will not be stimulated to perform up to his full potential; consequently, he will often perform inefficiently. And, inefficiency will cause unneeded waste to take place and resultant excess expenses to an organization. The American Society of Training and Development (3) believes that organized personnel training programs should have as their major objective the more effective use of people. As a result of achieving this objective, training programs in an organization should help to alleviate many of the excess expenses resulting from employee inefficiencies.

In writing on some of the problems of training programs, Victor Vroom (51, p. 82) says:

> . . . we have argued that the effectiveness of a role occupant is a function of his capacity to discriminate among patterns of stimulations which require different responses . . . training, both formal and informal, can be used to increase the degree to which organization members can make the discriminations required by their roles.

Most activities in an organization are programmed; that is, based on some stimulus that is perceived by an employee, he is expected to respond to the stimulus by executing some pre-established program. Difficulties may arise because the employee cannot differentiate one stimulus from another and consequently not respond in the desired manner. However, adequate training should better prepare an employee to respond correctly to a particular stimulus which he is confronted with.

Chris Argyris (7) feels that "the needs of employees versus the demands of management" can cause considerable conflict in an organization if ignored. Management has certain goals it wishes to accomplish and its goals might not be in harmony with the particular goals an employee brings to the work environment. In a departmentalized organization, an employee is attached to a particular work group. The work group within a department will establish goals of its own which may be either in harmony or in conflict with the overall goals of the organization. And, if an employee feels that the goals of his work group are more in line with his own personal goals, he will probably develop a strong attachment to the work group.

The objective of management should be to understand the needs of its employees and attempt to coordinate the goals of the various work groups with the goals of the organization. If this objective is achieved by management, the various goals of the work groups would become true subgoals of the overall organization's broad goals. Furthermore, effective training programs can possibly achieve this coordination of goals. If employees are properly trained in the roles they are to perform, and if they see the value and relationship of their jobs to the total organizational structure, the employees may become receptive to management's goals and objectives. This writer feels that a major function of a training program is to make the employees feel they are a part of the organization's goals so that conflict can be minimized. This also increases overall operating efficiency within the company.

Personnel training programs are definitely part of an organization's internal control system. The importance of competent individuals in an organization is highlighted in the following statement by the Committee on Auditing Procedure of the AICPA (2, p. 31):

> A properly functioning system of internal control depends not only on effective organization planning and the adequacy of the procedures and practices, but also on the competence of officers, department heads and other key employees to carry out prescribed procedures in an efficient and economical manner.

People are involved in every phase of a company's operations. Top management is responsible for establishing the broad policies and goals of the organization. Various middle and lower level management people in coordination with top management are responsible for developing procedures to carry out the policies and goals of top management. And, nonmanagerial employees are responsible for carrying out the procedure in order to contribute toward achieving the company policies and goals. Unless people are properly trained to carry out their assigned functions, inefficiencies are likely to develop in an organization's system. And, these inefficiencies will not contribute positively to the advancement of an organization's financial position. The budgets, standards, and report systems established by management with the aid of accounting department personnel will not achieve their objectives unless personnel in the organization are capable of understanding and contributing toward the successful operation of these management systems. Moreover, it appears that properly established personnel training programs make a positive contribution toward the efficient and effective functioning of employees in an organization.

Internal Auditing

Internal auditing is the fifth of the six administrative controls to be analyzed. The Institute of Internal Auditors (25, p. 84) has defined internal auditing as follows:

> Internal auditing is the independent appraisal activity within an organization for the review of the accounting, financial, and other operations as a basis for protective and constructive service to management. It is a type of control which functions by measuring and evaluating the effectiveness of other types of control. It deals primarily with accounting and financial matters but it may also properly deal with matters of an operating nature.

The internal auditor is responsible for reviewing the many accounting and financial activities that have taken place and reporting the results of the review to management. The various departments of an organization also prepare reports for management on actual operations by comparing actual results with such useful control devices as budgets and standards. But, the operating personnel preparing these reports are directly connected with the specific departments they are reporting on and do not have the degree of independence that the internal auditor possesses. Thus, the internal auditor is an extremely useful control instrument in any organization. By his reviewing and reporting on company operating activities with which he is not directly connected, the internal auditor serves, so to speak, as a "check on a check." That is, the management people responsible for their specific department check on their employees' performance activities, and the internal auditor serves as a re-check on the employee functionings and also as a check on management itself.

With the increased size and complexity of business, the internal audit function has been expanded in many companies. Internal auditors are going beyond the financial and accounting affairs in an organization and are concerning themselves with reviews of nonfinancial activities. As discussed in Chapter I, Sternberg (45) uses the term operational audit or management audit to define an audit that includes an evaluation of nonfinancial as well as financial activities in an organization. Furthermore, this operational audit requires a much broader approach by the internal auditor. He must keep informed on all activities in an organization, not just the financial operations. In recent years a trend has developed for internal auditors not to concern themselves with financial activities which will be reviewed by a public accounting firm. For example, William Phillips (37), in an article in The Internal Auditor, argues that the traditional concept of the internal auditor's job of checking inventory, auditing accounting records, and examining various other financial records must change. Phillips says that a modern internal auditor must have the viewpoint of a full-fledged businessman and be concerned about all financial and nonfinancial operating activities in an organization.

From the discussion in the preceding paragraph, it appears that the internal auditor must take a systems approach in his review and evaluation. He must first look at the total organization in the same perspective as top management does in order to comprehend the broad policies and goals set by top management. Next, the internal auditor must review the work of the various departmental employees to determine if their work contributes to the objectives of top management. Also, the internal auditor determines whether the various operating divisions are properly coordinated with all other divisions to enable a smooth flow throughout the entire organization. In addition, he becomes responsible for evaluating such things as the forms, reports, personnel, and mechanization in an organization in the same respect as a systems analyst would.

Sternberg (45) argues that the internal auditor, throughout his review, should be cost conscious and look for all possible places to cut costs. This cost consciousness of the internal auditor ties in with the previous discussion of the operational audit. The internal auditor, in the broad type of audit, will not limit himself to discovering possible cost savings in just the financial areas of an organization. Rather, he will be concerned with eliminating excess costs in all areas, financial and nonfinancial, of a company. And, if the internal auditor succeeds in eliminating many of the excessive costs, he will, in a manner of speaking, "pay his own way." That is, it is an undeniable fact of business that the development of an internal audit division is an "extra" cost that many managements feel they can do without. But, if the internal auditors, through their review of operations, can show management how to eliminate certain unnecessary, wasteful cost, the expense of an internal audit division will not be felt.

Time and Motion Studies

The final administrative control analyzed in this chapter is time and motion study. Marvin Mundel (35) in his book *Motion and Time Study*, says that time study is useful for determining standards of performance for human activity. These standards, once established, provide a valuable basis for measuring actual performance of employees. As a result, time studies form an integral part of an organization's control system.

Motion study seeks to analyze present work methods of human beings and to develop more efficient and effective methods of performing the same job. In any activity or occupation, motion study can help find a preferred way of doing the work. It may be used to provide a means for cooperative activity between the various divisions of an organization in selecting, planning, or designing and controlling the proper integration of materials, design of product or work achieved, and hand and body motion patterns.

Time and motion studies are closely related to the system of budgets and standards previously discussed in this chapter. Whereas the development of budgets and standards is not specifically related to actual human activity, time and motion study concerns itself with human activity only. Since time and motion studies deal with evaluating human beings at work, the methods used in making these studies have to be planned and carried out tactfully in order to avoid conflicts. Employees have to be made to feel they are a part of the studies and they must understand the purposes of them. With a lack of understanding, the employees may feel they are only being "spied upon" by the time and motion study men with the resultant possibilities of them losing their jobs.

Properly executed time and motion studies can accomplish three results. First, they can result in a favorable psychological effect on the personnel in an organization. Time and motion studies can be used, for example, to establish piece rate wages for employees. A good time and motion study man will appeal to the normal competitive spirit found in most people. He will emphasize to the employees the value of good time studies and the pride of accomplishment the employees can feel in meeting the standards, once the standards are established. A properly motivated group of employees will thus be eager to take part in the time studies, and the employees will see the opportunities for them to appear favorable in the eyes of management if they are able to later perform at better than standard. Incentive pay systems can also be established to offer increased wages for employees who perform over standard.

Second, supervisory control can result from properly executed time and motion studies. Each supervisor knows the standards of his department and is able to compare actual results with these standards. Assuming the standards have been adequately determined, the supervisor is in a position to take immediate corrective action when actual performance fails to meet the standard. This will serve to eliminate waste and inefficiency that exists.

Third, higher level management controls can be maintained as a result of incorporating time and motion studies into an organization. Since higher level management cannot have direct contact with the various departments in its company, it needs some sort of feedback that will allow an evaluation of the success or lack of success of the employees in helping to meet company objectives. Since most organizations have as one of their objectives the earning of satisfactory profits and since inefficient employee output would serve to lower profits, management is extremely interested in its employees' functionings. If management receives periodic reports from its various department supervisors comparing standards of employee performance determined by time and motion studies against actual results, management will have a useful device for evaluating contributions of its employees to profit realization. Wherever actual performance fails to meet standard, the supervisors of the departments affected should be able to explain to top management the possible reasons for the inadequate performance. Furthermore, these supervisors should also be prepared to suggest to top management any steps to be taken to alleviate the problems and also listen to any suggestions from top management itself.

Lamperti and Thurston (25) suggest that management can expect substantial cost reductions from properly incorporated time and motion studies. More efficient use of employee time through improved operating procedures resulting from time and motion studies can have the effect of reducing operating costs in an organization. And, a reduction in operating costs will naturally have a positive effect on an organization's financial position.

Summary

This chapter presented an analysis of the relevant characteristics of six administrative controls: (1) budgeting and budgetary control, (2) standard costs, (3) periodic operating reports, (4) personnel training programs, (5) internal auditing, and (6) time and motion studies.

The objective of analyzing the administrative controls was to determine if these controls have a close relationship to the financial activities in an organization. The six administrative controls examined in this chapter appear to play an important role in the financial success or failure of an organization. Just as inefficient accounting controls can adversely affect the financial position of an organization, it appears that inefficient administrative controls can also have a negative effect on the financial position of an organization. Since management makes many of its financial decisions on the basis of feedback regarding the functioning of administrative controls, ineffective administrative controls can lead to incorrect financial decisions. Thus, based upon the close relationship of administrative controls to the financial operations of an organization, the need appears to exist for an expansion of the present-day conventional audit attest function to include an examination of administrative controls. The question of an expanded audit attest function will be examined in greater depth in later parts of this research.

The following chapter presents the findings from the questionnaire sent to a representative sample of security analysts and Certified Public Accountants regarding the expansion of the audit attest function to include an examination of the administrative controls of an organization.

CHAPTER V

FINDINGS RELATED TO SECURITY ANALYSTS' AND CERTIFIED PUBLIC ACCOUNTANTS' OPINIONS ON AN EXPANDED AUDIT ATTEST FUNCTION

Twenty-two subhypotheses related to the question of expanding the audit attest function were stated in Chapter I. This chapter utilizes the empirical data collected from the responses of the security analysts and CPAs (see Appendix A for the entire questionnaire) in order to test each of the twenty-two subhypotheses for acceptance or rejection. Based upon the testing of the twenty-two subhypotheses, the major hypothesis will be accepted or rejected. The major null research hypothesis stated in Chapter I is:

> There is no significant difference of opinions between CPAs and security analysts with respect to the need for an expanded audit.

Summary of Plan for Gathering and Analyzing Data

The methods used in gathering and reporting the data were discussed extensively in Chapter I. A questionnaire concerning four aspects of financial and nonfinancial information was developed after interviewing CPAs and security analysts and after reviewing related literature. The questionnaire was mailed to security analysts and CPAs in 28 cities with populations of 450,000 or greater. The data gathered from the respondents are descriptively reported in this chapter's percentage and frequency tables supplemented by discussion. The Mann-Whitney U Test with a .05 significance level is used to test the data statistically.

The following sections of this chapter includes discussions of specific questionnaire sections. The purposes of each of the questionnaire sections are presented with the subhypothesis testing each section. Next, the security analysts' and CPAs' detailed responses for each section are presented. The subhypotheses resulting in significant differences of opinions are grouped and discussed. These are followed by a discussion of the subhypotheses resulting in insignificant differences of opinions. The results of testing the less important, cross-comparison subhypotheses, numbers 10-21, are summarized briefly because they involve information that is secondary to the information contained in the important subhypotheses.

Presentation of Subhypotheses with Significant Differences

The results of testing the subhypotheses indicating significant differences of opinion between security analysts and CPAs are presented in this chapter section. For a significant difference to exist in a subhypothesis, the obtained $\underline{z}$ score must be 1.96 or greater with a probability of .05 or less.

In general, there are three major areas where security analysts and CPAs have significant differences of opinion. Furthermore, these three areas are all concerned with nonfinancial information. First, security analysts consider nonfinancial information more important information needed for investment advising purposes than do CPAs. Second, security analysts think it is feasible for the auditor to examine and attest to nonfinancial information. However, CPAs do not have this same positive attitude on the feasibility of the auditor expanding the attest function to include an opinion on nonfinancial aspects of an organization. Third, security analysts favor nonfinancial information being examined and attested to in the audit function. However, CPAs do not favor this process. The following discussions concern the major areas resulting in significant differences of opinion between the two groups.

<u>Essentiality of Nonfinancial Information for Investment Advising Purposes</u>

> Subhypothesis 3: There is no significant difference between analysts' and CPAs' opinions regarding the essentiality of <u>nonfinancial</u> information needed for investment advising purposes.

The purpose of Subhypothesis 3 is to determine whether security analysts and CPAs consider nonfinancial information important information needed by analysts in performing their investment advising functions. Analysts and CPAs checked one questionnaire response, on a scale of five, describing the nonfinancial information's importance for investment advising use. The analysts' and CPAs' detailed responses are presented in Table I.

<u>Results of Statistical Test</u>. Table II summarizes the analysts' and CPAs' responses. The obtained *z* score of 2.42 with a probability less than .05 indicates rejection of Subhypothesis 3. Therefore, there is a significant difference between security analysts' and CPAs' opinions concerning nonfinancial information's essentiality for investment advising.

TABLE I

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON THE ESSENTIALITY OF NONFINANCIAL INFORMATION FOR INVESTMENT ADVISING PURPOSES

5--Essential 4--Highly Needed 3--Frequently Needed 2--Seldom Needed 1--Unnecessary

	Section A: Essentiality of Information for Advising									
	5		4		3		2		1	
Nonfinancial Information	C*	A**	C	A	C	A	C	A	C	A
1. Sales forecast:										
A. Subsequent year	15	35	23	65	87	35	19	6	5	1
B. Five-year projection	13	30	25	51	71	32	24	15	16	14
2. Earnings forecast:										
A. Subsequent year	14	32	20	75	74	32	35	2	6	1
B. Five-year projection	11	29	18	58	67	30	33	15	20	11
3. Competitive position in market	12	32	15	72	59	23	41	10	22	5
4. Future plans for new products	14	3]	16	60	58	25	46	15	15	11
5. When new products will be commercially available	13	31	14	57	54	24	40	15	28	15
6. Efficiency and effectiveness of standard cost system	11	32	13	66	47	21	55	12	23	11
7. Research projects in progress in R & D Department	13	41	16	69	51	25	44	5	25	2
8. Future research plans of R & D Department	12	91	15	34	53	12	49	5	20	0
9. R & D Department's success or failure	13	39	16	69	56	28	40	4	24	2
10. Future plans--capital expenditure	9	35	12	66	52	26	41	9	35	6
11. Description of "management team"	10	34	11	67	59	34	39	4	30	3
12. Description of management problems and steps to alleviate problems	13	37	16	60	60	38	38	3	22	4
13. Estimate of foreseeable problems and management solutions	12	41	16	72	59	26	41	2	21	1
14. Efficiency and effectiveness of personnel training program	9	38	11	60	39	24	49	8	41	12
15. Efficiency and effectiveness of management information system through written and oral communication	11	25	15	66	42	31	46	11	35	9
16. Overall evaluation of managerial efficiency and effectiveness	11	87	16	31	56	20	40	3	26	1
Totals	216	720	288	1098	1044	486	720	144	414	108

* C: CPAs' responses

**A: Security Analysts' responses

TABLE II

ESSENTIALITY OF NONFINANCIAL INFORMATION NEEDED FOR INVESTMENT ADVISING PURPOSES

	Security Analysts		CPAs	
Essentiality of Information	No.	Percent of Total Responses	No.	Percent of Total Responses
Essential	720	28	216	8
Highly Needed	1098	43	288	11
Frequently Needed	486	19	1044	39
Seldom Needed	144	6	720	27
Unnecessary	108	4	414	15
Totals	2556*	100	2682	100

Obtained z 2.42 Probability .02

Required z 1.96 Probability .05

z 2.42 $>$ 1.96, probability $<$ .05

*The total number of responses is determined as follows:

	Security Analysts	CPAs
Number of questionnaires completed and returned from each group	142	149
(Multiplied by) number of responses per questionnaire for nonfinancial information	x 18	x 18
Total Number of Responses	2556	2682

The percentage responses concerning nonfinancial information's essentiality show that more analysts than CPAs attach importance to nonfinancial information. As a result of combining the "essential" and "highly needed" categories in Table II to designate important nonfinancial information, 71 percent of the security analysts compared to only 19 percent of the CPAs classify nonfinancial information important for investment advising purposes.

Security analysts' important nonfinancial information needs are reported in Table I. The most important information needs concern "future research plans" and "overall evaluation of managerial efficiency and effectiveness in operating the business" (questions No. 8 and 16). The "essential" and "highly needed" categories of Table I are merged in reporting the data. Forty-four percent (125 responses) of the analysts consider information concerning future research plans important. Forty-two percent (118 responses) consider information about managerial efficiency and effectiveness important. Table I also contains the CPAs' responses concerning information about future research plans and managerial efficiency and effectiveness. From the tabled data, it appears that CPAs recognize their limitation in attesting to future research plans information and managerial efficiency and effectiveness information because of the excessive subjectivity required to evaluate this information. However, it is also possible that CPAs underestimate the value of this information for investment advising purposes.

Feasibility of Auditor to Attest to Nonfinancial Information Needed by Security Analysts

> Subhypothesis 7: There is no significant difference between analysts' and CPAs' opinions regarding the feasibility of the auditor to attest to nonfinancial information needed by security analysts.

The purpose of Subhypothesis 7 is to compare the opinions of security analysts and CPAs concerning the feasibility of the auditor to attest to nonfinancial information about organizations in the audit function. Analysts and CPAs were asked to check one questionnaire response, on a scale of five, concerning the feasibility of the auditor attesting to the information in the audit function. Table III presents the detailed responses of the analysts and CPAs.

Results of Statistical Test. Table IV summarizes the analysts' and CPAs' responses concerning the feasibility of the auditor attesting to the nonfinancial information analysts need to perform their investment advising functions. The obtained z score of 2.60 with a probability less than .05 indicates rejection of Subhypothesis 7. Thus, there is a significant difference of opinion between security analysts and CPAs on the feasibility of the auditor attesting to nonfinancial information security analysts need.

For the purpose of discussing the reported data, the "strongly agree" and "agree" categories in Table IV are combined. Over three-fourths (78 percent) of the security analysts and less than one-third (29 percent) of the CPAs think it is feasible for the auditor to attest to nonfinancial information. In addition, the results shown in Table IV indicate that over half (52 percent) of the CPAs are "undecided" on the feasibility question.

TABLE III

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON THE FEASIBILITY OF THE AUDITOR ATTESTING TO NONFINANCIAL INFORMATION NEEDED BY ANALYSTS

5--Strongly Agree 4--Agree 3--Undecided 2--Disagree 1--Strongly Disagree

	Section C: Feasible for Auditor to Attest to Information									
	5		4		3		2		1	
Nonfinancial Information	C*	A**	C	A	C	A	C	A	C	A
1. Sales forecast:										
A. Subsequent year	10	78	21	64	82	0	29	0	7	0
B. Five-year projection	7	61	18	73	86	6	30	2	8	0
2. Earnings forecast:										
A. Subsequent year	13	80	25	59	80	3	25	0	6	0
B. Five-year projection	8	58	19	71	74	7	39	5	9	1
3. Competitive position in market	12	40	33	66	77	18	26	10	1	8
4. Future plans for new products	14	31	41	64	80	23	13	14	1	10
5. When new products will be commercially available	11	37	38	76	78	18	20	8	2	3
6. Efficiency and effectiveness of standard cost system	16	42	39	70	84	21	10	8	0	1
7. Research projects in progress in R & D Department	15	34	35	64	86	30	12	10	1	4
8. Future research plans of R & D Department	10	38	30	60	84	33	23	9	2	2
9. R & D Department's success or failure	9	32	17	59	77	31	44	15	2	5
10. Future plans--capital expenditure	18	49	41	67	79	15	11	10	0	1
11. Description of "management team"	16	43	35	71	76	20	21	6	1	2
12. Description of management problems and steps to alleviate problems	9	32	36	66	80	24	22	16	2	4
13. Estimate of foreseeable problems and management solutions	9	31	25	64	82	31	31	12	2	4
14. Efficiency and effectiveness of personnel training program	18	33	47	71	78	29	5	7	1	2
15. Efficiency and effectiveness of management information system through written and oral communication	12	39	40	74	86	19	10	7	1	3
16. Overall evaluation of managerial efficiency and effectiveness	9	34	18	67	35	32	61	5	26	4
Totals	216	792	558	1206	1404	360	432	144	72	54

* C: CPAs' responses

**A: Security Analysts' responses

TABLE IV

FEASIBILITY OF AUDITOR ATTESTING TO NONFINANCIAL INFORMATION NEEDED BY SECURITY ANALYSTS

	Security Analysts		CPAs	
Feasibility	No.	Percent of Total Responses	No.	Percent of Total Responses
Strongly Agree	792	31	216	8
Agree	1026	47	558	21
Undecided	360	14	1404	52
Disagree	144	6	432	16
Strongly Disagree	54	2	72	3
Totals	2556	100	2682	100

Obtained $\underline{z}$ 2.61 Probability .01

Required $\underline{z}$ 1.96 Probability .05

$\underline{z}$ $2.61 > 1.96$, probability $< .05$

The overall results of Table IV appear to indicate that security analysts have confidence in the CPAs' ability to expand the audit attest function to include reporting on an organization's nonfinancial aspects, administrative controls. However, due to the 52 percent "undecided" response by CPAs, the CPAs do not appear to have the same positive attitude as analysts toward the expanded audit's feasibility.

After merging the "disagree" and "strongly disagree" categories, Table III reveals that CPAs have the largest number of negative responses on the feasibility to attest to "managerial efficiency and effectiveness in operating the business" (question No. 16). Fifty-nine percent (87 responses) of the CPAs, compared to only 6 percent (9 responses) of the analysts, think it is not feasible for the auditor to attest to information about managerial efficiency and effectiveness. It appears that CPAs are unwilling to assume the professional liability involved with attesting to managerial operating performance when standards of comparison are not well established.

Security Analysts' and CPAs' Opinions on Whether Nonfinancial Information Should Be Attested to by the Audit Function

> Subhypothesis 9: There is no significant difference between analysts' and CPAs' opinions regarding the *nonfinancial* information that should be attested to by the audit function.

The purpose of Subhypothesis 9 is to ascertain the security analysts' and CPAs' opinions on whether an organization's nonfinancial information should be attested to in an audit prior to security analysts' use. The direct focus of Subhypothesis 9 concerns this research projects' main problem area. The major hypothesis stated:

There is no significant difference of opinions between CPAs and security analysts with respect to the need for an expanded audit. The present-day conventional audit centers around analyzing and giving an opinion on solely financial information. However, an expanded audit attest function, a management audit, would require the auditor to examine and attest to the nonfinancial activities in an organization in addition to the typical financial activities. Subhypothesis 9 compares the analysts' and CPAs' opinions of the financial audit's expansion to include nonfinancial information. The conclusion derived from this subhypothesis basically answers the question regarding the analysts' and CPAs' views regarding a management audit performed by the auditor.

Analysts and CPAs were asked to check one questionnaire response, on a scale of five, concerning the desirability of the auditor attesting to the nonfinancial information. The analysts' and CPAs' detailed responses are presented in Table V.

Results of Statistical Test. Table VI summarizes the analysts' and CPAs' responses on whether an organization's nonfinancial information should be attested to by the audit function. The obtained $\underline{z}$ score of 2.84 with a probability less than .05 indicates rejection of Subhypothesis 9. Hence, there is a significant difference of opinion between security analysts and CPAs concerning the desirability of the auditor attesting to nonfinancial information prior to security analysts' use in performing the investment advising functions.

Table VI indicates analysts' and CPAs' difference of opinion concerning the nonfinancial information that should be attested to

TABLE V

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON WHETHER NONFINANCIAL INFORMATION SHOULD BE ATTESTED TO BY THE AUDIT FUNCTION

5--Strongly Agree 4--Agree 3--Undecided 2--Disagree 1--Strongly Disagree

	Section D: Information Auditor Should Attest To									
	5		4		3		2		1	
Nonfinancial Information	C*	A**	C	A	C	A	C	A	C	A
1. Sales forecast:										
A. Subsequent year	11	52	30	70	91	11	10	6	7	3
B. Five-year projection	8	60	28	75	87	5	18	1	8	1
2. Earnings forecast:										
A. Subsequent year	10	54	29	69	90	10	13	6	7	3
B. Five-year projection	7	59	27	72	86	8	19	2	10	1
3. Competitive position in market	11	50	28	56	70	26	26	7	14	3
4. Future plans for new products	10	53	26	57	60	24	28	6	25	2
5. When new products will be commercially available	10	49	25	66	54	20	33	5	27	2
6. Efficiency and effectiveness of standard cost system	14	48	34	66	65	25	22	2	14	1
7. Research projects in progress in R & D Department	10	54	27	64	61	14	21	8	30	2
8. Future research plans of R & D Department	8	71	30	63	81	5	18	2	12	1
9. R & D Department's success or failure	8	51	29	66	66	14	24	9	22	2
10. Future plans--capital expenditure	15	54	28	60	69	15	20	7	17	6
11. Description of "management team"	10	47	29	58	65	16	25	12	20	9
12. Description of management problems and steps to alleviate problems	9	49	28	65	67	13	22	10	23	5
13. Estimate of foreseeable problems and management solutions	8	48	21	61	65	21	28	8	27	4
14. Efficiency and effectiveness of personnel training program	13	31	26	60	70	32	18	16	22	3
15. Efficiency and effectiveness of management information system through written and oral communication	11	34	23	60	69	25	21	18	25	5
16. Overall evaluation of managerial efficiency and effectiveness	7	72	18	64	80	4	30	1	14	1
Totals	180	936	486	1152	1296	288	396	126	324	54

* C: CPA's responses

**A: Security Analysts' responses

TABLE VI

DESIRABILITY OF NONFINANCIAL INFORMATION BEING ATTESTED TO BY THE AUDIT FUNCTION

	Security Analysts		CPAs	
Desirability	No.	Percent of Total Responses	No.	Percent of Total Responses
Strongly Agree	936	37	180	7
Agree	1152	45	486	18
Undecided	288	11	1296	48
Disagree	126	5	396	15
Strongly Disagree	54	2	324	12
Totals	2556	100	2682	100

Obtained $\underline{z}$ 2.84 Probability .01

Required $\underline{z}$ 1.96 Probability .05

$\underline{z}$ $2.84 > 1.96$, probability $< .05$

by the audit function. If the "strongly agree" and "agree" categories in Table VI are combined to designate a positive attitude, over four-fifths (82 percent) of the analysts and only one-fourth (25 percent) of the CPAs think that nonfinancial information should be examined in an audit.

After a detailed analysis of analysts' and CPAs' responses in Table V, the largest difference of opinion concerns the auditing of information about "managerial efficiency and effectiveness in operating the business" (question No. 16). The "strongly agree" and "agree" categories for the two groups are combined in reporting the data. Ninety-six percent (136 responses) of the analysts, compared to only 17 percent (25 responses) of the CPAs, indicate that managerial efficiency and effectiveness evaluation should be included in an audit. Thus, analysts appear quite desirous of receiving the auditor's information related to the efficiency and effectiveness of managerial operating performance. However, as previously discussed, the subjectivity required in evaluating managerial efficiency and effectiveness is likely the cause of CPAs' unwillingness to attest to this information.

The overall results of Table VI appear to indicate that security analysts are in favor of expanding the present-day audit attest function to include examination of an organization's nonfinancial activities in addition to its financial activities. However, Table VI appears to further indicate that CPAs do not have this same positive attitude. Forty-eight percent of the CPAs are "undecided" on whether the audit attest function should be expanded to include an examination of an organization's nonfinancial aspects.

For years, the American Institute of Certified Public Accountants code of professional conduct has precluded auditors from attesting to various administrative, nonfinancial aspects of an organization. The AICPA restriction in the code of ethics could be causing the large "undecided" response by CPAs on a management audit. This major difference between analysts and CPAs regarding an expanded audit attest function to include a management audit appears to be a major finding of this research and will be discussed in greater depth in later parts of the study.

The significant differences that resulted from testing cross-comparison subhypotheses 10 through 21 will now be summarized briefly in the rest of this chapter section.

Comparison of Essentiality and Present Sources of Nonfinancial Information Needed by Security Analysts (Sections A and B of the Questionnaire

> Subhypothesis 11: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality and present sources of nonfinancial information.

The purpose of Subhypothesis 11 is to compare the relationship between nonfinancial information's importance to analysts in performing their investment advising functions and the analysts' present sources of this nonfinancial information. The subhypothesis is testing if the more important nonfinancial information analysts need is being examined by the auditor. The auditor is independent in his performance of the attest function. Therefore, nonfinancial information examined and attested to by the auditor would appear to have more validity than unaudited, nonindependent, nonfinancial information. The analysts' present sources of nonfinancial information, management published reports or public relations men in an organization, are not independent. Furthermore, the nonindependent sources of analysts' nonfinancial information appears to lessen its credibility and validity. It appears to logically follow that analysts would desire more validity on the important nonfinancial information needed in performing their investment advising function. This validity could be obtained through the expanded audit function.

Results of Statistical Test. The obtained *z* score of 2.01 with a probability less than .05 indicates rejection of Subhypothesis 11. Thus, there is a significant difference of analysts' and CPAs' opinions concerning nonfinancial informations' essentiality and present sources. Security analysts, but not CPAs, think analysts are not receiving sufficient valid audited nonfinancial information about organizations useful in investment advising.

Comparison of Essentiality of Nonfinancial Information and the Audit Function Attesting to the Nonfinancial Information (Sections A and D of the Questionnaire)

> Subhypothesis 13: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality of nonfinancial information and the audit function attesting to the nonfinancial information.

The purpose of Subhypothesis 13 is to ascertain the relationship between the nonfinancial information's importance to analysts in performing their investment advising functions and the desirability of the auditor attesting to this nonfinancial information. The subhypothesis is testing if security analysts and CPAs feel that analysts' important nonfinancial information should be examined by the auditor in the attest function.

Results of Statistical Test. The obtained z score of 2.54 with a probability less than .05 indicates rejection of Subhypothesis 13. Hence, there is a significant difference of opinion between security analysts and CPAs on the essentiality of nonfinancial information and the desirability of nonfinancial information examined by the audit attest function. Generally, security analysts and CPAs think nonfinancial information is important information needed by analysts for investment advising purposes. However, only security analysts feel that important nonfinancial information should be examined and attested to prior to being used by analysts.

Comparison of Responses by Security Analysts and CPAs on the Present Sources of Nonfinancial Information and the Audit Function Attesting to the Nonfinancial Information (Sections B and D of the Questionnaire

> Subhypothesis 15: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources of nonfinancial information and the audit function attesting to the nonfinancial information.

The purpose of Subhypothesis 15 is comparing the present sources of nonfinancial information analysts need with the opinions of the analysts and CPAs regarding the nonfinancial information that should be examined by the audit attest function. This subhypothesis is testing if the supply of nonfinancial information presently attested to by the auditor is more or less than the supply of nonfinancial information that should be attested to in an audit.

Results of Statistical Test. The obtained z score of 2.31 with a probability less than .05 indicates rejection of Subhypothesis 15. Therefore, there is a significant difference of opinion between security analysts and CPAs on the present sources of nonfinancial information and the audit function attesting to the nonfinancial information. Security analysts and CPAs agree that unaudited "management published reports" are the major sources of analysts' nonfinancial information. However, only analysts think the auditor should attest to nonfinancial information. Thus, the security analysts' supply of audited nonfinancial information does not meet their demands for audited nonfinancial information about organizations.

Comparison of Responses by Security Analysts and CPAs on the Present Sources of Nonfinancial Information and the Feasibility of the Auditor Attesting to Nonfinancial Information (Sections B and C of Questionnaire)

> Subhypothesis 17: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources of nonfinancial information and feasibility of auditor attesting to nonfinancial information.

The purpose of Subhypothesis 17 is comparing the present sources of nonfinancial information needed by analysts with the analysts' and CPAs' opinions regarding the feasibility of the auditor attesting to nonfinancial information. This subhypothesis is testing if both groups think it is or is not feasible for the auditor to attest to more nonfinancial information than is current audit practice.

Results of Statistical Test. The obtained z score of 2.15 with a probability less than .05 indicates rejection of Subhypothesis 17. Thus, there is a significant difference of opinion between security analysts and CPAs concerning the present sources of nonfinancial information. Security analysts, but not CPAs, think it feasible for the auditor to attest to more nonfinancial information than current audit practice supplies.

Comparison of Security Analysts' and CPAs' Opinions on the Feasibility and Desirability of the Auditor Attesting to Nonfinancial Information Needed by Analysts (Sections C and D of the Questionnaire)

The purpose of Subhypothesis 19 is comparing the opinions of the analysts and CPAs on the auditor's feasibility of attesting to nonfinancial information and whether the nonfinancial information should be examined by the auditor in the attest function. This subhypothesis is testing if the nonfinancial information security analysts and CPAs think the auditor should attest to prior to analysts' use is feasible for the auditor to examine in the attest function.

Results of Statistical Test. The obtained z score of 2.69 with a probability less than .05 indicates rejection of Subhypothesis 19. Thus, there is a significant difference of analysts' and CPAs' opinions regarding the feasibility of the auditor attesting to nonfinancial information and whether the audit attest function should include nonfinancial information. Security analysts and CPAs think it feasible for the auditor to attest to the nonfinancial information that should be provided to analysts by means of published financial statements. However, analysts feel that a larger amount of nonfinancial information should be attested to by the auditor. They also think it is feasible for the auditor to attest to more of this type of information.

Comparison of Responses by CPAs on the Financial and Nonfinancial Information That Should Be Attested to in an Audit (Section D of the Questionnaire)

Subhypothesis 21 in this section and Subhypothesis 20 in a later section of this chapter compare responses within each of the two groups, CPAs and security analysts. All previous subhypotheses in this chapter compare responses between the two groups. Subhypothesis 21 tests CPAs' opinions on the financial and nonfinancial information that should be included in the audit attest function. And, Subhypothesis 20 tests security analysts' opinions on the financial and nonfinancial information that should be included in the audit attest function. Each individual respondent was requested to make 9 separate responses in the financial information category and 18 separate responses in the nonfinancial information category. In order to have equal weights for the financial and nonfinancial information categories, the Mann-Whitney U test compared medians of the individual analysts' and CPAs' responses in the financial section to the medians of their responses in the nonfinancial section. Testing the medians enabled a statistical comparison of the financial category with a maximum of 45 points to the nonfinancial category with a maximum of 90 points.

> Subhypothesis 21: There is no significant difference among CPAs regarding the desirability that both financial information and nonfinancial information should be included in the auditor's attestation.

This subhypothesis is testing if CPAs differ in their opinions on the financial and nonfinancial information that should be attested to by the auditor prior to analysts' use in investment advising.

Results of Statistical Test. The obtained *z* score of 3.21 with a probability less than .05 indicates rejection of Subhypothesis 21. Therefore, there is a significant difference among CPAs' opinions regarding the financial and nonfinancial information that should be attested to by the audit function. CPAs favor financial information attested to by the auditor, but they do not favor nonfinancial information attested to by the auditor prior to analysts' use for investment advising purposes.

Presentation of Subhypotheses With Insignificant Differences

The results of testing the subhypotheses indicating insignificant differences of opinion between security analysts and CPAs are presented in this chapter section. For an insignificant difference to exist in a subhypothesis, the obtained $\underline{z}$ score must be less than 1.96 with a probability greater than .05.

The security analysts and CPAs agree on all aspects of financial information tested in this study. The analysts and CPAs consider financial information currently examined and attested to by the auditor as important information for investment advising purposes. In addition, the two groups think it feasible and desirable for financial information to be attested to in an audit. And, in the nonfinancial information area, the analysts and CPAs indicate unaudited management published reports as the analysts' number one current source of nonfinancial information. The insignificant differences of opinion are now presented.

Essentiality of Financial Information for Investment Advising Purposes

> Subhypothesis 2: There is no significant difference between analysts' and CPAs' opinions regarding the essentiality of financial information needed for investment advising purposes.

The purpose of Subhypothesis 2 is comparing security analysts' and CPAs' opinions regarding the essentiality of financial information for analysts' use in performing their investment advising functions. The analysts and CPAs were asked to check one questionnaire response, on a scale of five, describing the degree of importance of the financial information for investment advising purposes. The analysts' and CPAs' detailed responses are presented in Table VII.

Results of Statistical Test. Table VIII summarizes the analysts' and CPAs' responses. The obtained z score of .98 with a prabability greater than .05 indicates acceptance of Subhypothesis 2. Therefore, there is no significant difference between analysts' and CPAs' opinions concerning financial information's essentiality for investment advising. Table VIII indicates that security analysts and CPAs agree on financial information's vital importance. The "essential" and "highly needed" categories of Table VIII are combined to indicate important financial information. Eighty-four percent of the analysts and 79 percent of the CPAs consider financial information important for investment advising purposes.

The "seldom needed" and "unnecessary" categories of Table VII are combined for data reporting. It is apparent that "price-level adjusted financial statements for the current year" (question No. 5) is the only financial information item considered unimportant by a significant number of analysts and CPAs. Thirty-one percent (88 responses) of the analysts and 38 percent (112 responses) of the CPAs classify price-level adjusted financial statements unimportant for investment advising purposes. The CPAs' 38 percent response is probable because original historical costs, opposed to current costs through price-level adjustments, are the accounting profession's

TABLE VII

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON THE ESSENTIALITY OF FINANCIAL INFORMATION FOR INVESTMENT ADVISING PURPOSES

5--Essential 4--Highly Needed 3--Frequently Needed 2--Seldom Needed 1--Unnecessary

	Section A: Essentiality of Information for Advising									
	5		4		3		2		1	
Financial Information	C*	A**	C	A	C	A	C	A	C	A
1. Year-end financial statements:										
A. Current year	145	138	4	4	0	0	0	0	0	0
B. Prior year	136	131	13	11	0	0	0	0	0	0
2. Statement of sources and uses of working capital:										
A. Current year	91	93	20	21	38	28	0	0	0	0
B. Prior year	73	71	15	20	61	49	0	2	0	0
3. Earnings per common stock share:										
A. Current year	141	128	8	14	0	0	0	0	0	0
B. Prior year	122	125	25	15	2	2	0	0	0	0
C. Trend--past five years to present	113	115	10	10	21	17	5	0	0	0
4. Interim financial statements for current year	117	114	9	26	23	2	0	0	0	0
5. Price-level adjusted financial statements for current year	16	30	4	5	17	19	49	61	63	27
Totals	954	945	108	126	162	119	54	63	63	27

* C: CPAs' responses

**A: Security Analysts' responses

TABLE VIII

ESSENTIALITY OF FINANCIAL INFORMATION NEEDED FOR INVESTMENT ADVISING PURPOSES

Essentiality of Information	Security Analysts No.	Security Analysts Percent of Total Responses	CPAs No.	CPAs Percent of Total Responses
Essential	945	74	954	71
Highly Needed	126	10	108	8
Frequently Needed	117	9	162	12
Seldom Needed	63	5	54	4
Unnecessary	27	2	63	5
Totals	1278*	100	1341*	100

Obtained $\underline{z}$ .98 Probability .33

Required $\underline{z}$ 1.96 Probability .05

$\underline{z}$ .98 $<$ 1.96, probability $>$ .05

*The total number of responses is determined as follows:

	Security Analysts	CPAs
Number of questionnaires completed and returned from each group	142	149
(Multiplied by) number of responses per questionnaire for nonfinancial information	x 9	x 9
Total Number of Responses	1278	1341

generally accepted basis for presenting financial statements. Regarding price-level adjusted financial statements, the staff of the Accounting Research Division in Accounting Research Study Number 6 (43, p. xi) concluded:

> The effects of price-level changes should be disclosed as a supplement to the conventional statements. This disclosure may take the form of physically separate statements, or of parallel columns in a combined statement, or of detailed supporting schedules (including charts and graphs) or some combination of these.

This conclusion of Accounting Research Study Number 6 has not been enthusiastically accepted by the accounting profession. However, the trend toward presenting price-level adjusted financial statements in published annual corporation reports is increasing.

Present Sources of Financial Information Needed by Security Analysts

> Subhypothesis 4: There is no significant difference between analysts' and CPAs' opinions regarding the present sources of financial information needed by security analysts.

The purpose of Subhypothesis 4 is obtaining information from security analysts and CPAs regarding the analysts' current sources of financial information about organizations. Analysts and CPAs were asked to check one questionnaire response, on a scale of six, to indicate the current source of the financial information used for investment advising. The analysts' and CPAs' detailed responses are presented in Table IX.

Results of Statistical Test. Table X summarizes the analysts' and CPAs' responses concerning the analysts' present sources of financial information. The obtained z score of .91 with a probability greater than .05 indicates acceptance of Subhypothesis 4. Hence, there is no significant difference between analysts' and

TABLE IX

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON THE PRESENT SOURCES OF FINANCIAL INFORMATION NEEDED BY ANALYSTS FOR INVESTMENT ADVISING PURPOSES

5--Audit Attest Function 4--Management Published Reports 4--Public Relations Men
3--Other 2--Unknown 1--Not Provided by Any Source

	Section B: Present Sources of Information to Security Analysts											
	5		4		4		3		2		1	
Financial Information	C*	A**	C	A	C	A	C	A	C	A	C	A
1. Year-end financial statements:												
A. Current year	149	142	0	0	0	0	0	0	0	0	0	0
B. Prior year	149	142	0	0	0	0	0	0	0	0	0	0
2. Statement of sources and uses of working capital:												
A. Current year	122	118	24	17	1	3	2	4	0	0	0	0
B. Prior year	122	118	24	17	1	3	2	4	0	0	0	0
3. Earnings per common stock share												
A. Current year	149	142	0	0	0	0	0	0	0	0	0	0
B. Prior year	149	142	0	0	0	0	0	0	0	0	0	0
C. Trend--past five years to present	100	102	20	23	7	10	5	5	17	0	0	2
4. Interim financial statements for current year	132	128	14	12	1	2	1	0	1	0	0	0
5. Price-level adjusted financial statements for current year	26	28	89	84	8	18	8	5	18	0	0	7
Totals	1098	1062	171	153	18	36	18	18	36	0	0	9

* C: CPAs' responses

**A: Security Analysts' responses

TABLE X

PRESENT SOURCES OF FINANCIAL INFORMATION NEEDED BY SECURITY ANALYSTS

Present Sources	Security Analysts No.	Security Analysts Percent of Total Responses	CPAs No.	CPAs Percent of Total Responses
Audit Attest Function	1062	83	1098	82
Management Published Reports	153	12	171	13
Public Relations Men	36	3	18	1
Other	18	1	18	1
Unknown	0	0	36	3
Not Provided by Any Source	9	1	0	0
Totals	1278	100	1341	100

Obtained z .91 Probability .36

Required z 1.96 Probability .05

z .91 $<$ 1.96, probability $>$ .05

CPAs' opinions concerning present sources of financial information analysts need for investment advising.

Table X indicates general agreement between security analysts and CPAs. The majority of the financial information needed by analysts is attested to by the auditor. Eighty-three percent of the security analysts and 82 percent of the CPAs indicate the audit attest function is the present source of financial information needed by analysts. This large percentage response might be expected since the present-day conventional audit attest function's major purpose is reporting financial information.

Some of the analysts' useful financial information is not provided by the audit attest function. The analysts' and CPAs' detailed responses in Table IX reveal that "the statement of sources and uses of working capital" (question No. 2) and "price-level adjusted financial statements" (question No. 5) are the major causes for financial information provided by unaudited management published reports. The AICPA has recently announced that auditors are now required to attest to "the statement of sources and uses of working capital" in an audit engagement. However, at the time the questionnaire was sent to security analysts and CPAs, this requirement of attesting to the funds flow statement was not effective. The AICPA still does not require auditors to attest to "price-level adjusted financial statements."

Present Sources of Nonfinancial Information Needed by Security Analysts

> Subhypothesis 5: There is no significant difference between analysts' and CPAs' opinions regarding the present sources of nonfinancial information needed by security analysts.

The purpose of Subhypothesis 5 is obtaining analysts' and CPAs' opinions regarding the analysts' current sources of an organization's nonfinancial information. Analysts and CPAs were asked to check one questionnaire response, on a scale of six, to indicate the current source of the nonfinancial information used for investment advising purposes. The analysts' and CPAs' detailed responses are presented in Table XI.

Results of Statistical Test. Table XII summarizes the responses of the analysts and CPAs concerning the present sources of nonfinancial information needed by analysts. The obtained z score of 1.47 with a probability greater than .05 indicates acceptance of Subhypothesis 5. Hence, there is no significant difference of analysts' and CPAs' opinions concerning the present sources of nonfinancial information needed for investment advising purposes.

The data in Table XII indicate the auditor attests to less nonfinancial information than to financial information (see Table X). About two-fifths (41 percent) of the security analysts and over one-half (55 percent) of the CPAs indicate unaudited "management published reports" as the current source of analysts' nonfinancial information. Certainly, CPAs are aware that public relations men provide nonfinancial information to security analysts. However, the results of the questionnaire appear to indicate that CPAs underestimate the actual quantity of nonfinancial information that security analysts receive from public relations men in organizations. Furthermore, the information provided by public relations men is not subject to verification through the audit attest function. The lack of verification leads to the following question: How much

TABLE XI

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON THE PRESENT SOURCES OF NONFINANCIAL INFORMATION NEEDED BY ANALYSTS FOR INVESTMENT ADVISING PURPOSES

5--Audit Attest Function 4--Management Published Reports 4--Public Relations Men
3--Other 2--Unknown 1--Not Provided by Any Source

	Section B: Present Sources of Information to Security Analysts											
	5		4		4		3		2		1	
Nonfinancial Information	C*	A**	C	A	C	A	C	A	C	A	C	A
1. Sales forecast:												
A. Subsequent year	3	4	90	76	18	47	10	3	27	2	1	10
B. Five-year projection	2	2	61	44	16	40	8	10	61	11	1	35
2. Earnings forecast:												
A. Subsequent year	2	3	88	79	20	49	8	8	31	2	0	1
B. Five-year projection	1	1	55	39	15	36	4	14	72	20	2	32
3. Competitive position in market	28	31	85	60	18	40	2	4	16	1	0	6
4. Future plans for new products	29	30	87	46	21	49	1	12	10	1	1	4
5. When new products will be commercially available	27	28	89	66	17	41	1	3	13	0	2	4
6. Efficiency and effectiveness of standard cost system	37	35	88	66	19	38	1	2	4	0	0	1
7. Research projects in progress in R & D Department	25	28	81	59	18	49	2	11	22	0	1	5
8. Future research plans of R & D Department	26	30	85	31	20	18	1	0	1	0	16	63
9. R & D Department's success or failure	28	26	89	69	19	33	1	4	11	2	1	8
10. Future plans--capital expenditure	37	33	83	69	17	40	3	0	9	0	0	0
11. Description of "management team"	35	32	88	70	19	39	1	0	5	0	1	1
12. Description of management problems and steps to alleviate problems	25	28	83	65	18	44	2	1	19	1	2	3
13. Estimate of foreseeable problems and management solutions	31	30	78	51	19	48	2	3	18	5	1	5
14. Efficiency and effectiveness of personnel training program	30	30	89	61	15	45	1	2	14	3	0	1
15. Efficiency and effectiveness of management information system through written and oral communication	37	34	86	60	14	39	2	2	9	5	1	2
16. Overall evaluation of managerial efficiency and effectiveness	29	27	71	33	21	25	4	3	0	1	24	53
Totals	432	432	1476	1044	324	720	54	72	342	54	54	234

* C: CPAs' responses

**A: Security Analysts' responses

TABLE XII

PRESENT SOURCES OF NONFINANCIAL INFORMATION NEEDED BY SECURITY ANALYSTS

Present Sources	Security Analysts No.	Security Analysts Percent of Total Responses	CPAs No.	CPAs Percent of Total Responses
Auditor Attest Function	432	17	432	16
Management Published Reports	1044	41	1476	55
Public Relations Men	720	28	324	12
Other	72	3	54	2
Unknown	54	2	342	13
Not Provided by Any Source	234	9	54	2
Totals	2556	100	2682	100

Obtained z 1.47 Probability .14

Required z 1.96 Probability .05

z 1.47 $<$ 1.96, probability $>$ .05

reliability can be placed on information provided by public relations men? Public relations men are members of the particular organization from which they supply information. Therefore, a claim for maintaining independence cannot be argued as can be for CPAs. Due to the lack of independence of public relations men, it is likely that they might purposefully distort nonfinancial information by interpreting the information in a way which compliments management's decisions. A further question appears to follow naturally: If public relations men and unaudited management published reports currently are providing a large bulk of the analysts' nonfinancial information, why have not public accounting firms attested to this information giving more credibility to it? Hopefully, this question will be answered by the conclusion of this study.

Nine percent of the analysts contrasted to 2 percent of the CPAs indicate that nonfinancial information is not provided by any source. From Table XI, it appears that question No. 8 on future research plans information and question No. 16 about managerial efficiency and effectiveness are the two major causes of the difference in responses between the two groups. Regarding information about future research plans, 44 percent (63 responses) of the analysts and only 11 percent (16 responses) of the CPAs answer that information about future research plans is "not provided by any source." And, 37 percent (53 responses) of the analysts compared to 16 percent (24 responses) of the CPAs answer that information concerning managerial efficiency and effectiveness is "not provided by any source." Thus, it appears that CPAs think more information about future research plans and managerial efficiency and effectiveness is being provided to security analysts than is actually true. From the actual responses of the analysts, it appears that analysts are receiving very little information concerning future plans and information on managerial efficiency and effectiveness.

Feasibility of Auditor to Attest to Financial Information Needed by Security Analysts

> Subhypothesis 6: There is no significant difference between analysts' and CPAs' opinions regarding the feasibility of the auditor to attest to financial information needed by security analysts.

The purpose of Subhypothesis 6 is comparing the security analysts' and CPAs' opinions concerning the feasibility of the auditor to attest to financial information about organizations in the audit function. Analysts and CPAs were asked to check one questionnaire response, on a scale of five, indicating their opinions on the feasibility of the auditor to attest to the information. Table XIII presents the analysts' and CPAs' detailed responses.

Results of Statistical Test. The analysts' and CPAs' responses on the feasibility of auditors attesting to financial information are summarized in Table XIV. The obtained z score of .74 with a probability greater than .05 indicates acceptance of Subhypothesis 6. Therefore, there is no significant difference of opinion between security analysts and CPAs regarding the feasibility of the auditor attesting to financial information needed by security analysts.

In order to represent a positive viewpoint on the feasibility question, the "strongly agree" and "agree" categories in Table XIV

TABLE XIII

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON THE FEASIBILITY OF THE AUDITOR ATTESTING TO FINANCIAL INFORMATION NEEDED BY ANALYSTS

5--Strongly Agree   4--Agree   3--Undecided   2--Disagree   1--Strongly Disagree

	Section C: Feasible for Auditor to Attest to Information									
	5		4		3		2		1	
Financial Information	C*	A**	C	A	C	A	C	A	C	A
1. Year-end financial statements										
A. Current year	149	142	0	0	0	0	0	0	0	0
B. Prior year	149	142	0	0	0	0	0	0	0	0
2. Statement of sources and uses of working capital:										
A. Current year	128	121	20	19	1	2	0	0	0	0
B. Prior year	128	121	20	19	1	2	0	0	0	0
3. Earnings per common stock share										
A. Current year	149	142	0	0	0	0	0	0	0	0
B. Prior year	149	142	0	0	0	0	0	0	0	0
C. Trend--past five years to present	91	99	55	3	14	0	0	0	0	0
4. Interim financial statements for current year	104	101	45	41	0	0	0	0	0	0
5. Price-level adjusted financial statements for current year	15	81	31	52	103	9	0	0	0	0
Totals	1062	1089	171	162	108	27	0	0	0	0

* C: CPAs' responses
**A: Security Analysts' responses

TABLE XIV

FEASIBILITY OF AUDITOR ATTESTING TO FINANCIAL INFORMATION NEEDED BY SECURITY ANALYSTS

	Security Analysts		CPAs	
Feasibility	No.	Percent of Total Responses	No.	Percent of Total Responses
Strongly Agree	1089	85	1062	79
Agree	162	13	171	13
Undecided	27	2	108	8
Disagree	0	0	0	0
Strongly Disagree	0	0	0	0
Totals	1278	100	1341	100

Obtained $\underline{z}$ .74 Probability .46

Required $\underline{z}$ 1.96 Probability .05

$\underline{z}$ $.74 < 1.96$, probability $> .05$

are combined. Ninety-eight percent of the analysts and 92 percent of the CPAs think it is feasible for the auditor to attest to financial information. The 8 percent "undecided" response by CPAs is due largely to the one financial information item in Table XIII concerning price-level adjusted financial statements. Sixty-nine percent (103 responses) of the CPAs answer "undecided" on adjusting financial statements for price-level changes. Since the question of presenting price-level adjusted financial statements is a controversial issue in the accounting profession, this 69 percent "undecided" response by CPAs further indicates the controversial nature of price-level adjustments to practicing Certified Public Accountants.

The results shown in Table XIV indicating agreement between security analysts and CPAs on the feasibility of the auditor to attest to financial information appear logical. For years the auditor's role has been attesting to the financial information of an organization. Therefore, it seems natural that security analysts and CPAs would have a positive outlook on the feasibility of the auditor attesting to financial information needed for investment advising purposes.

Security Analysts' and CPAs' Opinions on Whether Financial Information Should Be Attested to by the Audit Function

> Subhypothesis 8: There is no significant difference between analysts' and CPAs' opinions regarding the financial information that should be attested to by the audit function.

The purpose of Subhypothesis 8 is comparing the opinions of security analysts and CPAs on whether organizations' financial information should be attested to in an audit prior to analysts' use. Analysts and CPAs were asked to check one questionnaire response, on a scale of five, indicating their opinions on the auditor attesting to the various types of financial information in an audit. The analysts' and CPAs' detailed responses are presented in Table XV.

Results of Statistical Test. Table XVI summarizes the analysts' and CPAs' responses on whether financial information about organizations should be attested to by the audit function. The obtained *z* score of 1.09 with a probability greater than .05 indicates acceptance of Subhypothesis 8. Therefore, there is no significant difference of analysts' and CPAs' opinions on the desirability of financial information being attested to by the auditor prior to analysts' use for investment advising.

Table XVI indicates that security analysts' and CPAs' opinions concur regarding the financial information that should be attested to by the audit function. As a result of combining the "strongly agree" and "agree" categories for both groups, 86 percent of the analysts and 80 percent of the CPAs think the auditor should attest to financial information. The 15 percent "undecided" response by CPAs is due largely to one item of financial information in Table XV, price-level adjusted financial statements (question No. 5). Sixty-four percent (95 responses) of the CPAs answer "undecided" concerning attesting to price-level adjusted financial statements in an audit. As previously discussed, this high percentage of "undecided" responses by CPAs is probably due to the accounting profession's existing controversy concerning adjusting financial statements for price-level changes.

TABLE XV

RAW FREQUENCY DATA OF RESPONSES BY SECURITY ANALYSTS AND CPAs ON WHETHER FINANCIAL INFORMATION SHOULD BE ATTESTED TO BY THE AUDIT FUNCTION

5--Strongly Agree 4--Agree 3--Undecided 2--Disagree 1--Strongly Disagree

	Section D: Information Auditor Should Attest To									
	5		4		3		2		1	
Financial Information	C*	A**	C	A	C	A	C	A	C	A
1. Year-end financial statements										
A. Current year	149	142	0	0	0	0	0	0	0	0
B. Prior year	149	142	0	0	0	0	0	0	0	0
2. Statement of sources and uses of working capital:										
A. Current year	54	69	40	27	35	32	20	14	0	0
B. Prior year	54	69	40	27	35	32	20	14	0	0
3. Earnings per common stock share										
A. Current year	149	142	0	0	0	0	0	0	0	0
B. Prior year	149	142	0	0	0	0	0	0	0	0
C. Trend--past five years to present	71	100	10	21	42	12	26	9	0	0
4. Interim financial statements for current year	120	110	29	30	0	2	0	0	0	0
5. Price-level adjusted financial statements for current year	32	56	16	21	95	21	6	44	0	0
Totals	927	972	135	126	207	99	72	81	0	0

* C: CPAs' responses
**A: Security Analysts' responses

TABLE XVI

DESIRABILITY OF FINANCIAL INFORMATION BEING ATTESTED TO BY THE AUDIT FUNCTION

	Security Analysts		CPAs	
Desirability	No.	Percent of Total Responses	No.	Percent of Total Responses
Strongly Agree	972	76	927	69
Agree	126	10	135	11
Undecided	99	8	207	15
Disagree	81	6	72	5
Strongly Disagree	0	0	0	0
Totals	1278	100	1341	100

Obtained z 1.09 Probability .28

Required z 1.96 Probability .05

z 1.09 $<$ 1.96, probability $>$ .05

The overall results of Table XVI appear to indicate that security analysts are in favor of the auditor continuing to attest to financial information in the performance of an audit. Also, CPAs desire to continue to attest to financial information.

The insignificant differences resulting from testing cross-comparison subhypotheses 10 through 21 will now be summarized briefly in the remainder of this chapter section.

Comparison of Essentiality and Present Sources of Financial Information Needed by Security Analysts (Sections A and B of the Questionnaire

> Subhypothesis 10: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality and present sources of financial information.

The purpose of Subhypothesis 10 is determining the relationship between financial information's importance to analysts in performing their investment advising functions and the analysts' present sources of financial information. The subhypothesis is ascertaining if the auditor is attesting to the analysts' more important financial information. Because of the auditor's independence, audited financial information appears to have more validity than unaudited financial information provided by nonindependent sources. And, it appears to follow logically that analysts would desire more validity on the important financial information needed for investment advising.

Results of Statistical Test. The obtained z score of .93 with a probability greater than .05 indicates acceptance of Subhypothesis 10. Therefore, there is no significant difference of opinion between security analysts and CPAs on the essentiality and present sources of financial information. Security analysts and CPAs think analysts are receiving valid audited financial information useful in advising clients on investment opportunities.

Comparison of Essentiality of Financial Information and the Audit Function Attesting to the Financial Information (Sections A and D of the Questionnaire)

> Subhypothesis 12: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for essentiality of financial information and the audit function attesting to the financial information.

The purpose of Subhypothesis 12 is comparing the relationship between the financial information's importance to analysts for investment advising and the desirability of this financial information being attested to by the audit function. The subhypothesis is testing if security analysts and CPAs feel the more important financial information analysts need in advising clients on investment opportunities should be examined by the auditor.

Results of Statistical Test. The obtained z score of 1.06 with a probability greater than .05 indicates acceptance of Subhypothesis 12. Therefore, there is no significant difference of opinion between security analysts and CPAs concerning financial information's essentiality and the desirability of auditing financial information. Security analysts and CPAs think the analysts' important financial information should be attested to before analysts' use.

Comparison of Responses by Security Analysts and CPAs on the Present Sources of Financial Information and the Audit Function Attesting to the Financial Information (Sections B and D of the Questionnaire)

> Subhypothesis 14: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources of financial information and the audit function attesting to the financial information.

The purpose of Subhypothesis 14 is comparing the present sources of financial information analysts need with the analysts' and CPAs' opinions regarding the financial information that should be audited. This subhypothesis is testing if the current audited supply of financial information is more or less than the supply of financial information that should be audited.

Results of Statistical Test. The obtained z score of 1.03 with a probability greater than .05 indicates acceptance of Subhypothesis 14. Hence, there is no significant difference between security analysts' and CPAs' opinions on the present sources of financial information. Security analysts and CPAs think that the financial information supplied in the audit attest function meets the analysts' demands for audited financial information about organizations.

Comparison of Responses by Security Analysts and CPAs on the Present Sources of Financial Information and the Feasibility of the Auditor Attesting to Financial Information (Sections B and C of the Questionnaire)

> Subhypothesis 16: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for present sources of financial information and feasibility of auditor attesting to financial information.

The purpose of Subhypothesis 16 is comparing the analysts' present sources of financial information with the analysts' and CPAs' opinions regarding the feasibility of the auditor attesting to financial information. This subhypothesis is testing if analysts and CPAs think it is feasible for the auditor to attest to more financial information than current audit practice supplies.

Results of Statistical Test. The obtained z score of .80 with a probability greater than .05 indicates acceptance of

Subhypothesis 16. Therefore, there is no significant difference of analysts' and CPAs' opinions on the present sources of financial information and the auditor's feasibility to attest to financial information. Security analysts and CPAs think it feasible for the auditor to attest to more financial information than the large amount of financial information presently included in the audit attest function.

Comparison of Security Analysts' and CPAs' Opinions on the Feasibility and Desirability of the Auditor Attesting to Financial Information Needed by Analysts (Sections C and D of the Questionnaire)

> Subhypothesis 18: There is no significant difference between analysts' and CPAs' opinions regarding the combined score totals for feasibility of auditor attesting to financial information and whether the audit function should attest to the financial information.

Subhypothesis 18 compares analysts' and CPAs' opinions on the auditor's feasibility to attest to financial information and whether the financial information should be examined in the audit attest function. This subhypothesis is testing if it is feasible for the auditor to examine the financial information that security analysts and CPAs think the auditor should include in the attest function.

Results of Statistical Test. The obtained z score of .86 with a probability of .39 indicates acceptance of Subhypothesis 18. Therefore, there is no significant difference of opinion between security analysts and CPAs concerning the feasibility of the auditor attesting to financial information and whether the audit attest function should include financial information. Security analysts and CPAs think it feasible for the auditor to attest to the financial information that should be provided to analysts by means of published financial statements.

<u>Comparison of Responses by Security Analysts on the Financial and Nonfinancial Information That Should Be Attested to in an Audit (Section D of the Questionnaire)</u>

> Subhypothesis 20: There is no significant difference <u>among analysts</u> regarding the desirability that both financial information and nonfinancial information should be included in the auditor's attestation.

The purpose of Subhypothesis 20 is to ascertain if security analysts' opinions differ regarding the financial and nonfinancial information that the auditor should attest to prior to analysts' use.

<u>Results of Statistical Test</u>. The obtained *z* score of 1.74 with a probability greater than .05 indicates acceptance of Subhypothesis 20. Hence, there is no significant difference of opinion by security analysts regarding the financial and nonfinancial information that should be attested to by the audit function. Security analysts favor both financial and nonfinancial information being attested to by the auditor prior to investment advising use.

Summary Subhypotheses

This chapter presented an analysis of the empirical data from a questionnaire sent to a representative sample of security analysts and Certified Public Accountants. The questionnaire's major objective was obtaining data testing the major hypothesis of this research:

> There is no significant difference of opinions between CPAs and security analysts with respect to the need for an expanded audit.

Before commenting upon the acceptance or rejection of the major null hypothesis, the results from two summary subhypotheses are presented.

Summary of Security Analysts' and CPAs' Opinions on Financial Information Needed by Analysts for Investment Advising Purposes (Sections A Through D of the Questionnaire)

> Subhypothesis 22: There is no significant difference between analysts' and CPAs' total opinions (on Sections A through D of the questionnaire) regarding the total financial information needed for investment advising purposes.

The purpose of Subhypothesis 22 is to ascertain whether or not security analysts and CPAs agree upon the total financial information needed by analysts for investment advising. To achieve this purpose, Subhypothesis 22 tested, in combination, all the previous subhypotheses related to the financial information analyzed in this chapter. The summary table, Table XVII , for Subhypothesis 22 along with comments about the previous subhypotheses relating to financial information is presented next.

Results of Statistical Test. Table XVII summarizes the analysts' and CPAs' responses concerning the total financial information needed by analysts for investment advising purposes. One *z* score was computed for the entire table. The obtained *z* score of .95 with a probability greater than .05 indicates acceptance of Subhypothesis 22. Therefore, there is no significant difference of opinion between security analysts and CPAs regarding financial information needed for investment advising purposes.

Table XVII brings together the results of the four basic subhypotheses (Subhypotheses 2, 4, 6, and 8) relating to the

TABLE XVII

SUMMARY OF SECURITY ANALYSTS' AND CPAs' OPINIONS ON FINANCIAL INFORMATION NEEDED FOR INVESTMENT ADVISING PURPOSES

Obtained z .95 Probability .34
Required z 1.96 Probability .05

z .95 < 1.96, probability > .05

	Security Analysts		CPAs	
	No.	Percent of Total Responses	No.	Percent of Total Responses
ESSENTIALITY OF INFORMATION				
Essential	945	74	954	71
Highly Needed	126	10	108	8
Frequently Needed	117	9	162	12
Seldom Needed	63	5	54	4
Unnecessary	27	2	63	5
Totals	1278	100	1341	100
PRESENT SOURCES OF INFORMATION				
Auditor	1062	83	1098	82
Management Published Reports	153	12	171	13
Public Relations Men	36	3	18	1
Other	18	1	18	1
Unknown	0	0	36	3
Not Provided by Any Source	9	1	0	0
Totals	1278	100	1341	100
FEASIBILITY OF ATTESTING TO INFORMATION				
Strongly Agree	1089	85	1062	79
Agree	162	13	171	13
Undecided	27	2	108	8
Disagree	0	0	0	0
Strongly Disagree	0	0	0	0
Totals	1278	100	1341	100
DESIRABILITY OF ATTESTING TO INFORMATION				
Strongly Agree	972	76	927	69
Agree	126	10	135	11
Undecided	99	8	207	15
Disagree	81	6	72	5
Strongly Disagree	0	0	0	0
Totals	1278	100	1341	100

financial information that was gathered in the questionnaire survey:

> There is no significant difference between analysts' and CPAs' opinions regarding
>
> (1) The essentiality of financial information needed for investment advising purposes (Subhypothesis 2 reported in Table VIII indicated no significant difference of opinion between analysts and CPAs and was thus accepted).
>
> (2) the present sources of financial information needed by security analysts (Subhypothesis 4 reported in Table X indicated no significant difference of opinion between analysts and CPAs and was thus accepted).
>
> (3) the feasibility of the auditor to attest to financial information needed by security analysts (Subhypothesis 6 reported in Table XIV indicated no significant difference of opinion between analysts and CPAs and was thus accepted).
>
> (4) the financial information that should be attested to by the audit function (Subhypothesis 8 reported in Table XVI indicated no significant difference of opinion between analysts and CPAs and was thus accepted).

Thus, the test results of these four basic subhypotheses indicate security analysts and CPAs have no significant difference of opinion concerning any factor in this study related to financial information.

The data, generated from the questionnaire and summarized in Table XVII, indicate that security analysts and CPAs agree upon the following factors concerning financial information:

(1) The financial information is essential information that is highly needed for investment advising purposes.

(2) The analysts' present source of financial information is primarily from published financial statements on which the auditor has expressed an opinion.

(3) Security analysts and CPAs generally agree it is feasible for the auditor to attest to financial information.

(4) Security analysts and CPAs generally agree that the auditor should attest to the financial information needed by security analysts.

The above summarization gives credibility to the work that public accounting firms are presently performing in the business world. The present-day audit attest function is a financial audit and the results of testing Subhypotheses 2, 4, 6, 8, and 22 appear to indicate CPAs are performing these functions adequately. The supply of financial information attested to by the auditor appears to be meeting the demands of security analysts for audited financial information.

<u>Summary of Security Analysts' and CPAs' Opinions on Nonfinancial Information Needed by Analysts for Investment Advising Purposes (Sections A through D of the Questionnaire)</u>

> Subhypothesis 23: There is no significant difference between analysts' and CPAs' total opinions (on Sections A through D of the questionnaire) regarding the total <u>nonfinancial</u> information needed for investment advising purposes.

The purpose of Subhypothesis 23 is comparing security analysts' and CPAs' opinions concerning the total nonfinancial information analysts need for investment advising. To achieve this purpose, Subhypothesis 23 tested, in combination, all the previous subhypotheses related to the nonfinancial information analyzed in this chapter. The summary table (Table XVIII) for Subhypothesis 23 along with comments about the previous subhypotheses relating to nonfinancial information is presented next.

TABLE XVIII

SUMMARY OF SECURITY ANALYSTS' AND CPAs' OPINIONS ON NONFINANCIAL INFORMATION NEEDED FOR INVESTMENT ADVISING PURPOSES

Obtained z 2.37 Probability .02
Required z 1.96 Probability .05

z 2.37 > 1.96, probability < .05

	Security Analysts		CPAs	
	No.	Percent of Total Responses	No.	Percent of Total Responses
ESSENTIALITY OF INFORMATION				
Essential	720	28	216	8
Highly Needed	1098	43	288	11
Frequently Needed	486	19	1044	39
Seldom Needed	144	6	720	27
Unnecessary	108	4	414	15
Totals	2556	100	2682	100
PRESENT SOURCES OF INFORMATION				
Auditor	432	17	432	16
Management Published Reports	1044	41	1476	55
Public Relations Men	720	28	324	12
Other	72	3	54	2
Unknown	54	2	342	13
Not Provided by Any Source	234	9	54	2
Totals	2556	100	2682	100
FEASIBILITY OF ATTESTING TO INFORMATION				
Strongly Agree	792	31	216	8
Agree	1206	47	558	21
Undecided	360	14	1404	52
Disagree	144	6	432	16
Strongly Disagree	54	2	72	3
Totals	2556	100	2682	100
DESIRABILITY OF ATTESTING TO INFORMATION				
Strongly Agree	936	37	180	7
Agree	1152	45	486	18
Undecided	288	11	1296	48
Disagree	126	5	396	15
Strongly Disagree	54	2	324	12
Totals	2556	100	2682	100

Results of Statistical Test. Table XVIII summarizes the responses of security analysts and CPAs concerning the total nonfinancial information needed by analysts for investment advising purposes. One $\underline{z}$ score was computed for the entire table. The obtained $\underline{z}$ score of 2.37 with a probability less than .05 indicates rejection of Subhypothesis 23. Thus, there is a significant difference of opinion by security analysts and CPAs on the analysts' total needs for nonfinancial information.

Table XVIII brings together the results of the four basic subhypotheses (Subhypotheses 3, 5, 7, and 9) related to nonfinancial information:

> There is a significant difference between analysts' and CPAs' opinions regarding
>
> (1) the essentiality of nonfinancial information needed for investment advising purposes (Subhypothesis 3 reported in Table II indicated a significant difference of opinion between analysts and CPAs and was thus rejected).
>
> (2) the feasibility of the auditor to attest to nonfinancial information needed by security analysts (Subhypothesis 7 reported in Table IV indicated a significant difference of opinion between analysts and CPAs and was thus rejected).
>
> (3) the nonfinancial information that should be attested to by the audit function (Subhypothesis 9 reported in Table VI indicated a significant difference of opinion between analysts and CPAs and was thus rejected).
>
> There is no significant difference between analysts' and CPAs' opinions regarding
>
> (1) the present sources of nonfinancial information needed by security analysts (Subhypothesis 5 reported in Table XII indicated no significant difference of opinion between analysts and CPAs and was thus accepted).

Thus, the results of testing the four basic subhypotheses related to nonfinancial information indicate that security analysts and CPAs have significant differences of opinion on all factors in this study related to nonfinancial information except one; the two groups agree on the present sources of nonfinancial information needed by security analysts.

The questionnaire data summarized in Table XVIII indicate that security analysts and CPAs agree on only one factor related to nonfinancial information; that is, they generally agree that unaudited management published reports are the analysts' number one current source of nonfinancial information.

Security analysts and CPAs disagree upon the following factors related to nonfinancial information:

(1) The analysts' and CPAs' responses differ concerning nonfinancial information's essentiality for investment advising purposes. Seventy-one percent of the analysts compared to only 19 percent of the CPAs classify nonfinancial information "essential" or "highly needed." And, 81 percent of the CPAs compared to only 29 percent of the analysts classify nonfinancial information "frequently needed," "seldom needed," or "unnecessary" information. Thus, security analysts consider nonfinancial information more important information for investment advising purposes than do CPAs.

(2) The security analysts' and CPAs' opinions differ regarding the auditor's feasibility to attest to nonfinancial information. Seventy-eight percent of the analysts compared to only 29 percent of the CPAs answer "strongly agree" or "agree" on the auditor's feasibility to attest to nonfinancial information. Also, 52 percent

of the CPAs contrasted to only 14 percent of the analysts are "undecided" on the feasibility issue. The feasibility question's results appear to indicate that security analysts have more confidence than CPAs in the auditor's willingness to attest to nonfinancial information. As indicated in Chapter I, the two major reasons for the CPAs' hesitancy to expand their audit attest function are the legal consequences and the professional training and education of auditors. Chapter VI examines implications of an expanded audit on accounting education.

(3) The security analysts' and CPAs' opinions differ on the inclusion of nonfinancial information in the audit attest function. Eighty-two percent of the analysts compared to only 25 percent of the CPAs answer "strongly agree" or "agree" concerning the inclusion of nonfinancial information in the auditor's attest function. In addition, 48 percent of the CPAs contrasted to only 11 percent of the analysts are "undecided" regarding whether the auditor should include reporting an organization's nonfinancial aspects in an expanded audit function. This 48 percent response by CPAs indicates that almost half the CPAs are uncommitted one way or the other on the question of expanding auditors' present-day functions. Thus, it appears that the majority of security analysts <u>favor</u> a management audit attest function performed by auditors whereas the largest number of CPAs are <u>undecided</u> on the question of performing a management audit.

Major Hypothesis of Study Should Be Rejected

In a present-day conventional audit, the auditor is principally concerned with attesting to an organization's financial information. Subhypothesis 22 indicated security analysts and CPAs agree on the financial information's attributes. In other words, both groups consider financial information important information that is and should be attested to in an audit. Furthermore, the analysts and CPAs think it is feasible for the auditor to attest to financial information in an audit.

An expanded audit function, a management audit, would also require the auditor to attest to an organizations' nonfinancial information. Since Subhypothesis 23 indicated that security analysts and CPAs disagree on the nonfinancial information's attributes, it appears that there is a significant difference of opinion between CPAs and security analysts regarding the need for an expanded audit. Therefore, the major research hypothesis is rejected. The overall questionnaire results indicate that security analysts favor an expanded audit attest function and Certified Public Accountants do not favor an expanded audit attest function.

Summary of Major Research Findings

After statistically testing the subhypotheses, the major findings indicated by subhypotheses showing significant differences of opinions are all related to nonfinancial information. Furthermore, these major findings can be grouped into three areas. First, security analysts consider nonfinancial information much more important than do CPAs. They consider nonfinancial information to be more essential for investment advising purposes than do CPAs as indicated in testing the related subhypotheses. The cross-comparison subhypotheses findings disclose that security analysts think that analysts are not receiving sufficient audited nonfinancial information for advising purposes.

Second, security analysts think it is feasible for the auditor to examine and attest to nonfinancial information. CPAs do not consider it feasible for the auditor to examine an organization's nonfinancial aspects. The results of the related subhypothesis indicated that more than three-fourths of the security analysts, but only one-third of the CPAs, think it is feasible for the CPA to attest to nonfinancial information. The CPAs particularly do not want to attest to "managerial efficiency and effectiveness." In testing the related cross-comparison subhypotheses, the results indicate that more security analysts than CPAs think that nonfinancial information should be attested to prior to analysts' use. The analysts' supply of audited nonfinancial information is not meeting their needs for investment advising purposes.

Third, security analysts favor nonfinancial information being examined and attested to in the audit function, but CPAs do not favor this process. The related subhypothesis indicates that over four-fifths of the analysts, compared to one-fourth of the CPAs, think nonfinancial information should be audited. The related cross-comparison subhypotheses indicate that only security analysts think it desirable to have audited nonfinancial information and want audited information similar to that presently contained in unaudited management published reports. There is a significant difference of opinion among CPAs regarding the desirability of auditing both financial and nonfinancial information. The CPAs favor audited financial information but do not favor audited nonfinancial information. Security analysts favor having the CPA attest to both types of information. Although both groups agreed on the need for audited financial information, the major research hypothesis is rejected because of these findings disclosing that analysts favor an expanded audit while CPAs do not favor it.

The following chapter briefly examines the possible significance and implications of the study's research findings upon accounting education, the accounting profession, and accounting information users.

CHAPTER VI

SIGNIFICANCE AND IMPLICATIONS OF RESEARCH FINDINGS

Because security analysts are a major user of audit information and because the findings indicate that they favor a management audit, the members of the accounting profession should begin to explore the implications of an expanded audit for accounting education, the accounting profession, and accounting information users. It seems logical that before CPAs can objectively decide whether or not a refusal to expand the audit is impossible or detrimental to their professional standing, they should consider the possible significance and implications of a management audit.

The data gathered resulted in agreement between security analysts and CPAs on the financial information that should be attested to by the audit function. Both security analysts and CPAs agreed that the financial information needed by the analysts for investment advising purposes was attested to by the audit function. However, 82 percent of the security analysts favored a management audit attest function opposed to 25 percent of the CPAs. The security analysts' responses could be indicative of the possible future development of a changing role for the auditor to include nonfinancial information in the attest function.

The broad implications of these differences of opinions were noted in Chapter V. First, the CPAs may be hesitant to attest to such items as "future research plans" and "managerial efficiency and effectiveness" because of the subjectivity required in evaluating this information. Also, the legal liability of the auditor to his client and third parties may be an additional cause of CPAs' hesitance to attest to nonfinancial data.

Second, CPAs may not consider it feasible to report on "managerial efficiency and effectiveness" because standards of comparison are not clearly developed and defined. The standards for auditing financial information are fully developed and uniform.

Third, CPAs may be underestimating the value of and amount of nonfinancial information needed by analysts. They may be underestimating the future growth and strength of independent groups willing to supply this information.

Fourth, both analysts and CPAs seem to recognize the additional validity that the attest function contributes to nonfinancial data. The audit is an independent function, and, thus, provides unbiased information. These objective data are not always supplied by public relations men and management published reports from within the company. Audited nonfinancial data could aid security analysts in giving improved advice to investors.

Fifth, according to the findings related to cross-comparison subhypotheses 13 and 19, both groups agreed that nonfinancial information is important information for security analysts and that some nonfinancial information can be provided in published statements. The disagreement seems to focus on the amount of nonfinancial information that actually should be audited. Perhaps CPAs should consider ways in which more nonfinancial data could be objectively assessed in the audit function.

The objective of this chapter is to briefly examine the possible significance and implications upon accounting education, the accounting profession, and accounting information users from the empirical results presented in Chapter V. As a result of examining the possible significance and implications of this research study, changes are suggested that may be necessary in the future if a management audit is adapted by the accounting profession.

Significance and Implications for Accounting Education

CPAs and analysts seem to agree that nonfinancial data is important data for security analysts' use, that some nonfinancial data can be provided in audited financial reports, and that audited nonfinancial data adds credibility to the security analysts' advising function. The disagreement centers around the amount of audited nonfinancial information needed by analysts and the proper sources of this data.

The important implications for education appear to be the CPAs' hesitance to provide audited nonfinancial data because of the increased subjectivity needed in evaluating such data accompanied by the lack of definite standards for reporting these data in an audit function. However, the ability to make sound judgments is developed by actual on-the-job experience in decision-making. Furthermore, it seems logical that if improved experiences providing the auditor with college training in making subjective judgments could be provided in the curricula, CPAs might consider the management audit more favorably. Also, if standards for reporting the management information could be established, CPAs might consider the management audit as more feasible. This section of the chapter examines these two broad implications in relation to accounting education.

One approach to the need for the accountant's increased subjectivity is to provide curricula resulting in a broadly educated individual capable of imaginative thinking. The CPAs' lack of confidence in their ability for subjective evaluation has been supported by critics of the accounting curricula over the years. Maslow (29), in his book Eupsychian Management, states that accounting curricula are not developing creative individuals to assume roles in the business world. A possible reason for Maslow's contention of lack of creativity in accounting graduates and the lack of subjective experiences is the emphasis in past and present accounting curricula upon the learning of specific techniques and detailed procedures by students in preparation for the CPA examination.

In discussing the orientation of accounting curricula toward preparing students for the CPA examination, Lawrence M. Walsh (52) states that Robert Cox of Syracuse University believes that an overemphasis on specific techniques and detailed procedures in the curricula does not appear to develop the creative abilities of graduates. In a similar discussion, Fisk (15) advocates the development of curricula emphasizing broad concepts and principles. Education should also cultivate a student's imagination, resourcefulness, and creativity. Furthermore, a graduate who is trained to think creatively should be better able to adapt to changing conditions that occur in the business world.

Robert Roy and James Mac Neill's (39) study, sponsored by the Carnegie Corporation and the American Institute of Certified Public Accountants, recommended that courses in psychology, sociology, and other areas of the humanities be provided for the future auditor. They recognized that a knowledge of human behavior is important for the auditor. The knowledge of human behavior is also emphasized in Chapter IV of this study where the relevant characteristics of the six administrative controls were analyzed along with their relations to human factors. This knowledge must be extensive instead of superficial. Also, advanced courses in economics beyond the basic micro and macro courses appear to be needed in the curricula. This increased knowledge of human behavior and economics is essential if a management audit is performed by the CPAs.

However, some existing trends in accounting curricula appear to weaken the position of those in the accounting profession who argue that accounting graduates are too narrowly educated to perform a management audit. For example, Roy and Mac Neill (39) found that in recent years there has been a decline in the number of required credit hours of accounting and an increase in the minimum number of credit hours of nonbusiness subjects. They state that accounting educators are recognizing the need for broadly trained graduates in the business world. Currently, the curricula may be changing enough to result in a broadly educated accountant capable of sound subjective judgment.

For advocates of the theory of combating the CPAs' hesitance to make subjective evaluations like those required in a management audit, an interdisciplinary approach to accounting education is suggested. To develop creative, imaginative, confident individuals, basic courses in psychology, sociology, and other subjects in the humanities could be incorporated into the core. These courses should be accompanied by courses in decision-making, statistical analyses, and management theory. Research procedures are essential. Although the American Association of Collegiate Schools of Business includes these courses in its programs, the programs are not effective unless the interdisciplinary concepts are emphasized in each area. Accounting course content could be related to its interdisciplinary context and implications whenever possible. The curricula needs to be integrated in concepts instead of fragmented by subject matter and disciplinary factions. This plan provides ample experience for the accounting student to develop his subjective and creative abilities.

Another approach to the subjectivity aspects of a management audit is turning the subjectivity into objectivity where possible by providing training in the extensive application of models and tools that "force" quantification on subjective data. These techniques lead to statistical analyses of the data and produce more objective measures of the information than other techniques. Certain tools and models with appropriate statistical analyses and established significance levels could become "standards" for a management audit.

For example, leadership effectiveness, employer-employee relations, and effectively defined work activity patterns could be tested by scales suggested by Miller (33). The _Leadership Opinion Questionnaire_ along with the _Supervisory Behavior Description_ enable one to measure the relation of an employee with his superior and the effectiveness of the performance and definition of duties at the two levels. This could be helpful in evaluating managerial effectiveness. The Work Patterns Profile is a tool for analyzing work activity patterns within a firm. Other scales available are: (1) The Executive Position Description to determine the basic characteristics of executive positions in business and industry. It covers position activities, responsibilities, demands and restrictions, and characteristics. (2) The Multirelational Sociometric Survey measures interpersonal variables surrounding work activities. For example, the prescribed activity, the perceived activity, the actual activity, the desired activity, and the rejected activity can be isolated and compared. These are interpersonal variables that could help or hinder the work performance and managerial effectiveness of an organization. (3) A Method for the Analysis of the Structure of Complex Organizations leads to evaluation of the organization's coordination liasons. All of these tools are validated and lead to statistical testing of the data.

In an effort to convert subjectivity to objectivity, training in management theory, in models to measure managerial effectiveness and efficiency, courses in managerial decision-making and operations research, instruction in the use of other evaluative tools (flow charts, time and motion studies, etc.) and other techniques useful in assessing efficiency and effectiveness of organizations could be given. O. E. Williamson (53) has developed a "Model of Rational Managerial Behavior" that quantitatively analyzes the role of management as the coordinating and initiating agent in a firm. It attempts to utilize the concept of "organizational slack" in evaluating whether or not management is making the best decisions in certain aspects of the firm's operations. The operational aspects of the firm include wages, profits, products, advertising, etc. Other models that can be similarly applied are being developed. Their application is facilitated through the use of the computer. Because of advancements in research techniques and statistical analyses made feasible by the use of the computer, study must be provided in these areas. It is now possible to quantify data that previously could only be classed as descriptive or subjective. Accountants should be aware of these developments and should evaluate their possible uses in objectively determining whether or not the audit can be expanded. It is probable that the "enriched" curricula could extend the basic accounting program to five years.

Educators and CPAs can actively gather data similar to financial data reported by sources like Dunn and Bradstreet. These data enable a comparison between similar firms and industries in nonfinancial areas. For example, employee turnover, number of executive officers in relation to the total work force, ratios of supervisors to subordinates, units of production in relation to departmental space and capital investment, prorating of expenses by departments, etc., could be classified and cataloged for interpretive uses. This involves an extensive time period for compilation and development but appears to be feasible.

Eventually, a routine format for performing a management audit would evolve. In the meantime, the auditor could use quantitative methods for making a heretofore subjective evaluation of nonfinancial information. As the format is developed and refined, CPAs' could consider the feasibility of objectively performing a management audit and expanding their liability for such information.

The performance of a management audit by public accounting firms also has implications for practicing accountants. As a result, the following section of this chapter discusses the possible significance and implications of a management audit for the accounting profession.

Significance and Implications for the Accounting Profession

Because of the subjective nature of the management audit and its lack of performance standards, the CPAs could decide that it is not feasible to satisfy security analysts' demands for nonfinancial information. However, the data indicate that CPAs currently underestimate the amount and sources of nonfinancial information used by analysts. Also, the CPAs and analysts appear to recognize the credibility that the auditor's independence gives to audited data. CPAs must consider the possibility that, as security analysts' needs for independently provided nonfinancial information increase, an independent group may begin providing analysts with this information. The appearance of another group of independent verifiers to meet security analysts' increased information needs could decrease the auditor's strategic role in the business world. Hence, the accounting profession is placed in a rather perplexing position if the empirical results presented in Chapter V showing that the analysts desire an expanded audit, while CPAs oppose it, are accepted as valid.

One way to circumvent the appearance of another group of independent verifiers to attest to nonfinancial information needed by analysts is to utilize a "team approach." This also would furnish expert advice for the accountant in the areas of the management audit that accounting graduates may not be experienced in examining and evaluating. In addition to individuals with accounting backgrounds, the "team" could consist of graduates from disciplines such as engineering, psychology, and finance. Public accounting firms currently have people from such fields as engineering and psychology in their management advisory services departments performing various management services work for clients solely on special engagement. Rather than being called upon only in special management advisory engagements, these individuals in fields other than accounting could become part of the audit "team" in an expanded audit attest function. An interdisciplinary education also provides a "team" capable of cooperating and communicating freely with each team member.

Public accounting firms can meet the demands of security analysts for audited nonfinancial information by performing a management audit. However, the acceptance of a management audit by the accounting profession will necessitate the development of "Generally Accepted Auditing Standards" for the examination and reporting of nonfinancial information about organization.

As the suggested curricula leads to the application of interdisciplinary knowledge and the application of validated research tools, models, and techniques used in performing a management audit, certain procedures and standards should evolve that ensure the implementation of a valid financial audit. Just as the present auditing standards were determined adequate through usage and experience, it seems feasible to assume that eventually nonfinancial auditing standards could develop.

For example, a management audit would require the auditor to give his opinion on management's efficiency and effectiveness in operating the business. A standard of reporting in a management audit could read: The audit report shall contain an expression of opinion regarding the efficiency and effectiveness of management in carrying out its stewardship function or an assertion to the effect that an opinion cannot be expressed. When an overall opinion on managerial operating performance cannot be expressed, the reasons therefore should be stated. A committee of highly respected CPAs could be established by the AICPA to consider the possibility of developing and testing standards for an expanded audit.

Related to audit standards for attesting to nonfinancial information will be the need for a revision of the "Code of Professional Ethics" and the legal liability of the auditor. Rule 2.04 of the Code of Professional Ethics (54, p. 415) provides that:

> A member or associate shall not permit his name to be used in conjunction with any forecast of the results of future transactions in a manner which may lead to the belief that the member or associate vouches for the accuracy of the forecast.

Since the performance of a management audit necessitates the auditors' attesting to managerial forecasts such as budgets, the code of ethics of the accounting profession needs to be restructured to permit an expansion of the audit function. However, broadening the code of ethics to permit the performance of a management audit appears to involve several problems. The following paragraphs discuss some of these problem areas.

First, the performance of a management audit could cause financial statement readers to question the independence of the auditor. For example, Grady (17) argues that the auditor's appearance of independence may be hampered if he extends his audit functions beyond the financial aspects of an organization. In addition to the auditor's appearance of independence, there is also the question of the auditor actually being independent if he performs a management audit. However, it appears that the auditor would not lose his independence provided he only gives his opinion on nonfinancial controls in an organization and does not actually make management decisions.

Second, Rule 1.01 of the code of ethics discusses the opinion given by the auditor and the need for the opinion to be objective. As discussed previously, the examination of nonfinancial aspects of an organization appears to require more subjectivity by the auditor than the examination of an organization's financial areas. However, this subjectivity could be somewhat tempered by the accepted use of validated scales and uniform statistical treatment of certain aspects of the nonfinancial data. For example, managerial effectiveness and efficiency can be measured and statistically tested by requiring the auditors to use scales like Supervisory Behavior Description (33). The resulting correlation coefficients can be compared to reliable indices. Also, a chart of means and standard deviations for the instrument is available. Ratings could be established on the basis of the correlations that are obtained in the organization in comparison with established norms.

Third, the code of ethics stresses the need for high standards of competence by those performing an audit. The performance of a management audit may cause the public to question the competence of auditors to examine many nonfinancial aspects of an organization. However, as discussed previously, the development of the "interdisciplinary" curricula and the possible use of a "team approach" in performing a management audit should make a public accounting firm competent to expand the audit attest function to a management audit.

The legal liability of the auditor to his client presently prohibits the auditor from disclosing various confidential information obtained about the client in the course of an audit. If confidential information is disclosed to parties external to the organization under audit, the fiduciary relationship between the auditor and his client would be breached. As a result, the auditor would be liable to the client for any damages resulting from the disclosure. The data from the questionnaire indicated that 96 percent (136 responses) of the security analysts favored information about "managerial efficiency and effectiveness in operating the business" included in a management audit. In addition, 94 percent (134 responses) of the security analysts favored information about future research plans attested to in an audit. If the auditor were to include information concerning managerial operating efficiency and effectiveness and future research plans in an audit, it appears that he would be disclosing confidential information about the client that would violate the auditor's legal liability to his client. Thus, the performance of a management audit would necessitate a broadening of the types of information that an auditor could legally disclose about his client to financial statement readers.

In addition to the auditor's legal liability to the client, the auditor also has a legal responsibility to third parties. Under common law, the auditor is only liable to third parties for fraud. However, the Securities Act of 1933 and the Securities Exchange Act of 1934 greatly extended the auditor's liability to third parties for ordinary negligence under these two acts. The possible legal liability of the auditor to third parties should deter the accounting profession from expanding the audit attest function until the profession has individuals who are sufficiently qualified to perform a management audit.

The expansion of the present-day audit attest function would have an effect upon security analysts and other individuals who utilize the auditor's work in making business decisions. Thus, the significance and implications to accounting information users of a management audit are discussed next.

Significance and Implications for Accounting Information Users

Since security analysts are the group of accounting information users this research has centered upon, the discussion in this section of the chapter is related directly to the significance and implications of a management audit to analysts. However, the comments in this section would apply also to other accounting information users needing information similar to that used by analysts such as banks and regulatory agencies.

In Chapter V it was concluded that security analysts favor nonfinancial information being attested to as part of the audit function. Eighty-two percent of the analysts responding to the questionnaire felt that nonfinancial information should be included in the audit attest function. Paul Grady (17) states that investors and other financial statement readers are entitled to have valid information on management's success or failure in utilizing the resources entrusted to it by the investing public. The findings in Chapter V imply that information attested to by an independent auditor appears to have more validity than information provided unaudited by internal sources in an organization--unaudited management published reports and reports from public relations men. Therefore, the most valid information on management's success or failure in its stewardship function appears to be audited information.

The current audit opinion on the fair presentation of financial statements does not indicate how successfully management has performed its stewardship function. In other words, management could be extremely careless and inefficient in using the resources of the various investors and still prepare financial statements on which the auditor could give an unqualified opinion as to fair presentation. Based on this unqualified opinion, a competent analysts could draw inferences as to managerial efficiency. But, by evaluating and reporting on nonfinancial information, the auditor's report to security analysts not only includes an opinion on the financial statement presentation but also an opinion of how well management carries out its stewardship function. However, the nonfinancial information available to security analysts from a management audit is of little value unless analysts are qualified to understand and interpret the meaning of this information.

Understanding and interpreting the nonfinancial information from a management audit appear to be major problems to accounting information users. Willingham and Carmichael (54) argue that since accounting information users have become accustomed to relying on opinions which auditors express on financial statements, there is a danger that the association of the auditor's name with nonfinancial information will lend more validity than is warranted to the information. For example, the responses to the questionnaire indicated that over four-fifths (82 percent) of the security analysts wanted information included in an audit regarding the "success or failure of management's research and development department." However, information attested to by the auditor on the successful operation of management's research and development department seems to require more subjectivity on the auditor's part than attested to financial information. But, if security analysts do not realize the subjectivity inherent in this nonfinancial information, they may attach too much exactness to the data and possibly draw unwarranted conclusions.

Analysts need to become aware of the subjective nature of many of the auditor's comments regarding the nonfinancial aspects of organization. Auditors must also attempt to report this information in an objective, intelligent manner. Again, the need for the compilation of comparative data useful in interpreting the reports is evident. Analysts must also be educated in some of the same interdisciplinary aspects as the accountants so that they can properly and expertly use the audited nonfinancial data. The auditors may be able to provide the data, but the analysts must utilize it.

As a result of effectively interpreting the information attested to in a management audit, security analysts and other users of this information could improve their service to the business community by having more relevant, independent information available as a basis for recommending specific investments to investors. The audited information available to security analysts concerning management's stewardship function would enable analysts to better evaluate managerial efficiency and effectiveness in business operation. As a result of this evaluation of managerial efficiency and effectiveness, analysts could have a stronger basis for making recommendations to present and potential investors. Investors must also recognize the increased credibility of this information and its value to them. This implies an indirect strengthening of the CPAs' prestige through greater use of the analysts' information by well-informed investors. This would help combat any lessening of the auditor's prestige by attaching his name to such audited material. True understanding of the nature of the audit should produce increased respect for the auditor.

Summary

The purpose of this chapter has been to suggest the possible significance and implications of a management audit attest function on accounting education, the accounting profession, and accounting information users.

An "interdisciplinary" accounting curriculum emphasizing broad concepts and principles and minimizing specific techniques and detailed procedures appears to be needed in the future to adequately prepare a graduate to perform a management audit attest function. The interrelationships of accounting to other business fields and to the humanities should be emphasized in the interdisciplinary curriculum. The emphasis on broad concepts and principles in the curriculum should develop the creative thinking abilities needed by the accounting graduate to successfully perform a management audit. This curriculum could be supplemented by the inclusion of research techniques, models, statistical techniques, and management training to provide objective, quantifiable means of reporting the data.

The future strategic position of the accounting profession in the business community could be in jeopardy unless the profession is cognizant of the demands of security analysts for audited nonfinancial information. It was suggested that some other professional group may eventually meet the demands of analysts for attested to nonfinancial information if auditors do not expand their present-day attest function. Furthermore, an expansion of the audit function appears to necessitate the development of "Generally Accepted Auditing Standards" for attesting to nonfinancial information, a change in the current "Code of Professional Ethics" which currently prohibits auditors from attesting to management forecasts, and a reconsideration of the legal liability of auditors when reporting on nonfinancial information. In addition, it was suggested that a "team approach" may be the solution to the performance of a management audit. This "team" would include, in addition to accountants, individuals from disciplines such as psychology, engineering, and finance.

The information available to analysts from a management audit could enable analysts to better evaluate the efficiency and effectiveness of management in carrying out its stewardship function. Therefore, the security analysts, one of the major accounting information users, would have more relevant information for advising present and potential investors if a management audit is performed by auditors. Also, security analysts and their information users must be educated in the proper interpretation and use of the information from a management audit.

CHAPTER VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Problem

The problem of this study was to compare the opinions of a representative sample of CPAs and security analysts on the following questions:

1. The essentiality of financial and nonfinancial information for investment advising purposes; for example, highly needed information or seldom needed information.

2. The present sources of financial and nonfinancial information to security analysts; for example, the audit attest function or unaudited management published reports.

3. The feasibility of the auditor to attest to financial and nonfinancial information by means of published financial statements.

4. The desirability of the auditor to attest to financial and nonfinancial information by means of published financial statements.

The purpose of testing CPAs' and security analysts' opinions on the four questions was to obtain empirical data to determine whether the present-day audit attest function should be expanded to include nonfinancial as well as financial information.

Background of the Problem

In _Statements on Auditing Procedure No. 33_ (2), the American Institute of Certified Public Accountants states that in the evaluation of internal control, an auditor is responsible for examining only the accounting controls in an audit and not the administrative controls. The evaluation of internal control in an organization is an important responsibility of the auditor. The adequacy of a company's internal control has a major effect on the degree of detailed testing by the auditor in the audit program. Since there is a smaller risk of errors and irregularities in an organization with strong internal control, the auditor is able to reduce the detailed testing of the organization's records.

The official position of the AICPA, which indicates the auditor's responsibility for evaluating only the accounting controls of an organization, is not accepted by all accountants in the profession. The literature reviewed indicated a conflict between those writers advocating a narrow concept of internal control evaluation, including accounting controls only, versus those writers advocating a broad concept of internal control evaluation which includes accounting and administrative controls. Those in the accounting profession advocating a narrow internal control evaluation concept argue that administrative controls relate only indirectly to the accounting records of an organization and are thus outside the realm of the auditor's work. On the other hand, advocates of a broad concept of internal control evaluation argue that there is a close interrelationship between accounting and administrative controls; thus, they suggest it is necessary for the auditor to evaluate administrative controls as part of his overall internal control evaluation. Furthermore, it is argued by some advocates of a broad concept of internal control evaluation that the auditor should evaluate administrative controls in order to meet the increased information needs of financial statement readers.

The following six administrative controls were analyzed in this study: budgeting and budgetary control, standard costs, periodic operating reports, personnel training programs, internal auditing, and time and motion studies. This analysis of administrative controls led to the conclusion that administrative controls do play an important role in the financial success or failure of an organization. Just as inefficient accounting controls can adversely affect the financial position of an organization, it appears that inefficient administrative controls can also have a negative effect on the financial position of an organization. Since management makes many of its financial decisions of the basis of feedback regarding the functioning of administrative controls, ineffective administrative controls can lead to ineffective financial decisions. Thus, based upon the close relationship of administrative controls to the financial operations of an organization, the need appears to exist for an expansion of the present-day conventional audit attest function to include an examination of administrative controls.

From a review of the literature it was ascertained that one group of major users of the auditor's work, security analysts, prefer the auditor to expand the scope of the present-day audit attest function. The increased sophistication of security analysts is accompanied by analysts' demand for more and better information to advise clients on investment opportunities. Security analysts have put pressure on management to provide information of a nonfinancial nature beyond that typically disclosed in annual corporate reports. This need for additional information by security analysts for investment advising purposes has been the basis for one argument to expand the audit attest function beyond the conventional financial audit to the performance of a management audit. This study was designed to empirically test the opinions of security analysts and CPAs on the performance of a management audit by public accounting firms.

The Study Hypotheses

The major hypothesis of this study as stated in Chapter I was:

> There is no significant difference of opinions between CPAs and security analysts with respect to the need for an expanded audit.

In order to obtain information to either accept or reject this major hypothesis, 22 subhypotheses related to an expanded audit attest function were developed and listed in Chapter I. Opinions were gathered from security analysts and CPAs concerning financial and nonfinancial information needed for investment advising purposes. The specific areas covered by the questionnaire were the essentiality and present sources of the information and the feasibility and desirability of having auditors attest to the information by means of published financial statements.

Research Methodology

The Study Instrument

In order to elicit data from security analysts and CPAs on an expanded audit attest function, a two-page printed questionnaire was designed. In the spring of 1970, this questionnaire was mailed to a random sample of 252 security analysts and 252 CPAs drawn from the telephone directories of those cities in the United States with populations of 450,000 or greater. One hundred forty-two security analysts, a 56 percent response, and 149 CPAs, a 59 percent response, cooperated by returning usable questionnaires.

Analysis of the Data

All responses to the questionnaire were coded on a scale from one to five. Frequency counts and percentage relationships were used to analyze the descriptive data. In order to determine significant differences between the two groups' opinions, the Mann Whitney U statistical test was applied to the data related to each subhypothesis.

Findings

The results of the questionnaire sent to security analysts and CPAs are briefly summarized in this section of the chapter. First, the opinions of security analysts and CPAs on the financial information sector of the questionnaire are reviewed. Then, security analysts' and CPAs' opinions on the nonfinancial information sector of the questionnaire are reviewed.

Findings Related to Financial Information

The security analysts and CPAs agreed on the four major aspects of financial information tested in this study: (1) that financial information is important for investment advising purposes, (2) that financial information needed by analysts is currently attested to by the audit function, (3) that it is feasible for the auditor to attest to financial information by means of published financial statements, and (4) that it is desirable for the auditor to attest to financial information by means of published financial statements.

The empirical findings in this study related to financial information appear to give credibility to the present-day audit attest function that public accounting firms are performing in the business world. The current audit attest function centers around financial information and the results from the questionnaire indicated that CPAs are performing these functions adequately. The analysts and CPAs agreed that the current supply of financial information attested to in an audit was meeting adequately the demands of analysts for audited financial information about organizations.

Findings Related to Nonfinancial Information

The security analysts and CPAs disagreed on three of the major aspects of nonfinancial information tested in this study: (1) that nonfinancial information is important for investment advising purposes, (2) that it is feasible for the auditor to attest to nonfinancial information by means of published financial statements, and (3) that it is desirable for the auditor to attest to nonfinancial information by means of published financial statements. The one aspect of nonfinancial information that the two groups agreed upon was that unaudited published reports submitted by management and distributed by public relations men in an organization is the major current source of nonfinancial information needed by security analysts.

More security analysts than CPAs considered nonfinancial information important for investment advising purposes. Seventy-one percent of the security analysts compared to only 19 percent of the CPAs classified nonfinancial information as being important information for security analysts in carrying out their investment advising function.

The analysts and CPAs did not agree on the auditor's feasibility to attest to nonfinancial information. More than three-fourths (78 percent) of the security analysts and less than one-third (29 percent) of the CPAs thought it was feasible for the auditor to attest to nonfinancial information. Also, over one-half (52 percent) of the CPAs were undecided on the feasibility of the auditor including nonfinancial information in an audit.

The third major aspect of nonfinancial information where analysts and CPAs disagreed was the desirability to attest to nonfinancial information by means of published financial statements. More than four-fifths (82 percent) of the analysts and only one-fourth (25 percent) of the CPAs thought nonfinancial information should be examined in an audit. In addition, almost one-half (48 percent) of the CPAs were undecided on the expansion of the audit attest function to include nonfinancial information.

The analysts and CPAs did agree upon the present sources of nonfinancial information to analysts. Sixty-nine percent of the analysts and 67 percent of the CPAs indicated unaudited published reports submitted by management and distributed by public relations men as being the major current source of nonfinancial information to analysts.

With respect to the importance of nonfinancial information and the present sources of nonfinancial information, the security analysts and CPAs disagreed. This comparison was made to ascertain if the more important nonfinancial information needed by analysts was being examined by the auditor in the attest function. Because of the independence of the auditor in performing the attest function, nonfinancial information that is attested to by the auditor would appear to have more validity than unaudited nonfinancial information provided to analysts by nonindependent sources such as management published reports or information from public relations men in an organization. The results of this comparison indicated that security analysts, but not CPAs, thought analysts were not receiving sufficient valid audited nonfinancial information about organizations for use in advising clients on investment opportunities.

With respect to analysts' and CPAs' responses on the present sources of nonfinancial information and the desirability of the auditor attesting to nonfinancial information by means of published financial statements, the analysts and CPAs also disagreed. This comparison was made to ascertain if the supply of nonfinancial information currently being attested to by the auditor was more or less than the supply of nonfinancial information that should be included in the audit attest function. The results of this comparison indicated that the supply of audited nonfinancial information available to security analysts did not meet the demands of analysts for audited nonfinancial information about organizations.

Conclusions

Based upon the findings of the questionnaire sent to security analysts and CPAs, the major hypothesis was rejected. Thus, there was a significant difference of opinions between CPAs and security analysts with respect to the need for an expanded audit. The overall conclusions drawn from the analysis of the questionnaire data was that security analysts were in favor of an expanded audit attest function, and Certified Public Accountants were not in favor of an expanded audit attest function.

CPAs favored financial information being included in an audit and did not feel the need to expand the audit attest function to include nonfinancial information. However, security analysts were desirous of having financial and nonfinancial information included in the auditor's attestation and, thus, favored an expansion of the attest function.

Implications of Research Findings

The research findings' implications bear directly on accounting education, the accounting profession, and users of accounting information. In order to produce CPAs with better experience in making subjective judgements similar to those required in a management audit, an interdisciplinary approach to accounting education was proposed. In order to convert some of the subjective judgments into objective measures, the interdisciplinary curricula also should include study in research, managerial decision-making, and statistical evaluative techniques.

If CPAs decide that it is imperative to expand the audit attest function to include nonfinancial information, the "Generally Accepted Auditing Standards" and "Code of Professional Ethics" would have to be changed. A change in the current code of ethics would be necessary to permit the auditor to attest to various managerial forecasts in a management audit. The problems involved in the code of ethics centered around the independence of the auditor in performing a management audit, the subjectivity necessary in a management audit, and the competence of the auditor to perform a management audit. Also, the legal liability of the auditor would have to be restated so that the auditor would not be held liable to his client for disclosing information about various nonfinancial aspects of an organization. In addition, the legal liability of the auditor to third parties under common law and the Securities and Exchange Commission should be a major deterrent against the accounting profession expanding the audit attest function until the profession has qualified individuals to perform a management audit. Although there are many problems involved in making revisions in audit standards, the code of ethics, and the legal liability of the auditor, suggestions were made for exploring and initiating these changes. A "team" approach to the audit was discussed as a possible solution to the performance of a management audit by public accounting firms. Furthermore, the performance of a management audit by public accounting firms would require security analysts and other users of the auditor's work to be educated in understanding the data from a management audit.

Recommendations

The following recommendations are proposed as a result of the findings from this research:

(1) Only one of the users of the auditor's work, security analysts, was examined in this study. However, before a more concrete basis can be established for a possible expansion of the present-day audit function, the opinions of other financial statement readers such as banks and governmental regulatory agencies must be examined. Thus, it is recommended that further empirical studies be performed to test the opinions of financial statement users other than security analysts on a management audit attest function.

(2) CPAs expressed a desire not to expand the audit function to the performance of a management audit. This current research did not investigate in depth the reasons why CPAs were opposed to a management audit attest function. Perhaps CPAs are justified in not favoring an expansion of the present-day financial audit. It appears that further research should be undertaken to ascertain CPAs' reasons for not agreeing with security analysts on a management audit attest function.

(3) It is also recommended that further research be undertaken to determine what security analysts will do if CPAs do not perform a management audit. The possibility exists that security analysts could turn to another group such as management consultants for independently verified nonfinancial information. And, if security analysts are successful in receiving audited nonfinancial information from a professional group other than CPAs, the effects on the accounting profession's status in business should be studied.

(4) Along with further research on the need for a management audit, it is recommended that possible changes in generally accepted aduiting standards, the code of professional ethics, and the legal liability of the auditor be studied and that appropriate criteria for evaluating management performance be developed. At present, the auditing standards, the code of ethics, and the legal liability of the auditor are designed for the performance of a financial audit. However, the expansion of the audit function to a management audit would appear to require changes in each of these three areas.

(5) If the accounting profession accepts the idea that the auditor should be responsible for performing a management audit, the present short form audit report needs to be revised. The scope and opinion paragraphs would have to be reworded to emphasize the auditor's responsibilities in the evaluation of nonfinancial controls.

The following revised short form report is suggested as an adequate statement assuming the auditor has been required to evaluate administrative controls in the normal course of his audit:

> We have examined the balance sheet of the ABC Company as of December 31, 1970, the related statements of income and retained earnings for the year then ended, and the areas of nonfinancial (administrative) control considered necessary under the circumstances. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records, other operations indirectly affecting the accounting records, and such other auditing procedures as we considered necessary under the circumstances.
>
> In our opinion, the accompanying balance sheet and statements of income and retained earnings present fairly the financial position of the ABC Company at December 31, 1970, and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. The nonfinancial controls of management appear to be operating satisfactorily.

Thus, the revised short form report suggested would increase somewhat the auditor's responsibilities to both his client and other interested parties.

Regarding the auditor's work in the nonfinancial areas of an organization, it is suggested that a supplementary analysis be prepared by the auditor to accompany the short form audit report. This supplementary analysis would point out any inefficiencies in the nonfinancial areas investigated. Also, any proposed action by management to correct the inefficiencies would be stated. In addition, the auditor can also mention any areas where efficient and effective operations are already taking place. In other words, the auditor is not required just to criticize management; he can also praise management.

Overall Projection For The Future

The purpose of this research study has <u>not</u> been to criticize the present-day audit practices and policies in use. The pertinence and usefulness of the audit function of today is recognized. Consequently, the purpose of this paper has been in the nature of a projection for the future; that is, what the audit function in years to come may encompass.

An enterprise's published financial statements are of social value to society, and an additional social value can be provided to financial statement readers by reports on the efficiency and effectiveness of management in carrying out its stewardship function. Security analysts, one of the important financial statement users in society, have indicated a desire to have the auditor expand his present-day attest function to evaluating and reporting on the administrative aspects in an organization. At present, the auditor is not fulfilling this demand by security analysts for audited nonfinancial information. As a result of this study, it is suggested that further discussions and writings on "the management audit" take place.

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APPENDIX A

STUDY INSTRUMENT, SAMPLE SELECTED,

AND MAILED MATERIALS

MANAGEMENT AUDIT QUESTIONNAIRE

Type of Firm: (Please Check One) _____Public Accounting _____Investment

INSTRUCTIONS: For each of the statements within the two major categories below, please place a check (✓) mark under your appropriate response for sections A, B, C, and D. Each statement below will be checked in each of the four sections. Thus, the statement will be responded to with a check in section A, another check in section B, another check in section C, etc.

Section A: Essentiality of Information for Investment Advising Purposes

Category I: Financial Information	Essential (5)	Highly Needed (4)	Frequently Needed (3)	Seldom Needed (2)	Unnecessary (1)
1. Year-end financial statements--income statement, balance sheet, and retained earnings:					
A. Current year					
B. Prior year					
2. Statement of sources and uses of working capital:					
A. Current year					
B. Prior year					
3. Earnings per common stock share outstanding:					
A. Current year					
B. Prior year					
C. Trend from past five years to the present					
4. Interim financial statements for the current year--income statement, balance sheet, and retained earnings					

Financial Information (Continued)	(5)	(4)	(3)	(2)	(1)
5. Price-level adjusted financial statements for current year--income statement, balance sheet, and retained earnings					
<u>Category II: Nonfinancial Information</u>					
1. Sales forecast: A. Subsequent year					
B. Five-year projection--estimated trend of sales for next five years					
2. Earnings forecast: A. Subsequent year--total earnings and earnings per common stock share outstanding					
B. Five-year projection--estimated trend of total earnings and earnings per common stock share outstanding					
3. Competitive position in market of company product					
4. Future plans for new products					
5. When new products will be commercially available					
6. Efficiency and effectiveness of standard cost system					
7. Research projects currently in process in research and development department					
8. Future research plans of research and development department					
9. Success or failure of research and development department					
10. Future plans for capital expenditures					

Nonfinancial Information (Continued)	(5)	(4)	(3)	(2)	(1)
11. Description of "management team"--how it is set up, responsibilities, stability, etc.					
12. Description of types of problems that currently exist in the company accompanied by a statement of the seriousness of the problem and steps being taken to solve the problem					
13. Estimation of any foreseeable problems and management plans to cope with these future problems					
14. Efficiency and effectiveness of personnel training programs					
15. Efficiency and effectiveness of management information system through written and oral communications					
16. Overall evaluation of managerial efficiency and effectiveness in operating the business					

	Section B: Present Sources of Information to Security Analysts					
Category I: Financial Information	Audit Attest Function (5)	Management Published Reports (4)	Public Relations Men (4)	Other (3)	Unknown (2)	Not Provided by Any Source (1)
1. Year-end financial statements--income statement, balance sheet, and retained earnings:						
A. Current year						
B. Prior year						

Financial Information (Continued)	(5)	(4)	(4)	(3)	(2)	(1)
2. Statement of sources and uses of working capital: A. Current year						
B. Prior year						
3. Earnings per common stock share outstanding: A. Current year						
B. Prior year						
C. Trend from past five years to the present						
4. Interim financial statements for the current year--income statement, balance sheet, and retained earnings						
5. Price-level adjusted financial statements for current year--income statement, balance sheet, and retained earnings						
Category II: Nonfinancial Information						
1. Sales forecast: A. Subsequent year						
B. Five-year projection--estimated trend of sales for next five years						
2. Earnings forecast: A. Subsequent year--total earnings and earnings per common stock share outstanding						
3. Competitive position in market of company product						
4. Future plans for new products						
5. When new products will be commercially available						
6. Efficiency and effectiveness of standard cost system						

Nonfinancial Information (Continued)	(5)	(4)	(4)	(3)	(2)	(1)
7. Research projects currently in process in research and development department						
8. Future research plans of research and development department						
9. Success or failure of research and development department						
10. Future plans for capital expenditures						
11. Description of "management team"--how it is set up, responsibilities, stability, etc.						
12. Description of types of problems that currently exist in the company accompanied by a statement of the seriousness of the problem and steps being taken to solve the problem						
13. Estimation of any foreseeable problems and management plans to cope with these future problems						
14. Efficiency and effectiveness of personnel training programs						
15. Efficiency and effectiveness of management information system through written and oral communications						
16. Overall evaluation of managerial efficiency and effectiveness in operating the business						

Section C: Feasible for Auditor to Attest to Information

Category I: Financial Information	Strongly Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree (1)
1. Year-end financial statements--income statement, balance sheet, and retained earnings: A. Current year					
B. Prior year					
2. Statement of sources and uses of working capital: A. Current year					
B. Prior year					
3. Earnings per common stock share outstanding: A. Current year					
B. Prior year					
C. Trend from past five years to the present					
4. Interim financial statements for the current year--income statement, balance sheet, and retained earnings					
5. Price-level adjusted financial statements for current year--income statement, balance sheet, and retained earnings					
Category II: Nonfinancial Information					
1. Sales forecast: A. Subsequent year					
B. Five-year projection--estimated trend of sales for next five years					

Nonfinancial Information (Continued)	(5)	(4)	(3)	(2)	(1)
2. Earnings forecast: A. Subsequent year--total earnings and earnings per common stock share outstanding					
B. Five-year projection--estimated trend of total earnings and earnings per common stock share outstanding					
3. Competitive position in market of company product					
4. Future plans for new products					
5. When new products will be commercially available					
6. Efficiency and effectiveness of standard cost system					
7. Research projects currently in process in research and development department					
8. Future research plans of research and development department					
9. Success or failure of research and development department					
10. Future plans for capital expenditures					
11. Description of "management team"--how it is set up, responsibilities, stability, etc.					
12. Description of types of problems that currently exist in the company accompanied by a statement of the seriousness of the problem and steps being taken to solve the problem					
13. Estimation of any foreseeable problems and management plans to cope with these future problems					

Nonfinancial Information (Continued)	(5)	(4)	(3)	(2)	(1)
14. Efficiency and effectiveness of personnel training programs					
15. Efficiency and effectiveness of management information system through written and oral communications					
16. Overall evaluation of managerial efficiency and effectiveness in operating the business					

Section D: Information Should Be Attested To By The Auditor

Category I: Financial Information	Strongly Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree (1)
1. Year-end financial statements--income statement, balance sheet, and retained earnings:					
A. Current year					
B. Prior year					
2. Statement of sources and uses of working capital:					
A. Current year					
B. Prior year					
3. Earnings per common stock share outstanding:					
A. Current year					
B. Prior year					
C. Trend from past five years to the present					
4. Interim financial statements for the current year--income statement, balance sheet, and retained earnings					

Financial Information (Continued)	(5)	(4)	(3)	(2)	(1)
5. Price-level adjusted financial statements for current year--income statement, balance sheet, and retained earnings					
Category II: Nonfinancial Information					
1. Sales forecast: A. Subsequent year					
B. Five-year projection--estimated trend of sales for next five years					
2. Earnings forecast: A. Subsequent year--total earnings and earnings per common stock share outstanding					
B. Five-year projection--estimated trend of total earnings and earnings per common stock share outstanding					
3. Competitive position in market of company product					
4. Future plans for new products					
5. When new products will be commercially available					
6. Efficiency and effectiveness of standard cost system					
7. Research projects currently in process in research and development department					
8. Future research plans of research and development department					
9. Success or failure of research and development department					
10. Future plans for capital expenditures					

Nonfinancial Information (Continued)	(5)	(4)	(3)	(2)	(1)
11. Description of "management team"--how it is set up, responsibilities, stability, etc.					
12. Description of types of problems that currently exist in the company accompanied by a statement of the seriousness of the problem and steps being taken to solve the problem					
13. Estimation of any foreseeable problems and management plans to cope with these future problems					
14. Efficiency and effectiveness of personnel training programs					
15. Efficiency and effectiveness of management information system through written and oral communications					
16. Overall evaluation of managerial efficiency and effectiveness in operating the business					

Additional Comments: ______________________________

SAMPLE SELECTED

The following cities with populations of 450,000 or greater were selected from the <u>Statistical Abstract of the United States: 1969</u>:

1. Atlanta, Georgia
2. Baltimore, Maryland
3. Boston, Massachusetts
4. Buffalo, New York
5. Chicago, Illinois
6. Cincinnati, Ohio
7. Cleveland, Ohio
8. Columbus, Ohio
9. Dallas, Texas
10. Denver, Colorado
11. Detroit, Michigan
12. Houston, Texas
13. Indianapolis, Indiana
14. Kansas City, Missouri
15. Los Angeles, California
16. Memphis, Tennessee
17. Milwaukee, Wisconsin
18. Minneapolis, Minnesota
19. New Orleans, Louisiana
20. New York, New York
21. Philadelphia, Pennsylvania
22. Pittsburgh, Pennsylvania
23. St. Louis, Missouri
24. San Antonio, Texas
25. San Diego, California
26. San Francisco, California
27. Seattle, Washington
28. Washington, D. C.

Oklahoma State University

COLLEGE OF BUSINESS ADMINISTRATION

STILLWATER, OKLAHOMA 74074
(405) 372-6211, EXT. 258

April 13, 1970

In connection with my doctoral dissertation at Oklahoma State University, I am studying the possibilities of expanding the audit attest function to evaluating administrative controls as part of a normal audit. I plan to approach the topic from the points of views of investment analysts and Certified Public Accountants.

An attempt is being made: (1) to determine the types of information presently available to investment analysts, (2) to define the characteristics and sources of this information, (3) to delineate the possible need of investment analysts for additional information which would be useful relative to advising clients on investments, (4) to ascertain the feasibility of Certified Public Accountants providing the additional information desired by investment analysts, and (5) to determine the willingness and competence on the part of Certified Public Accountants to provide such additional information.

The enclosed questionnaire is provided for you to fill out. Your reply will be held in strict confidence; it will not be presented individually or identified with you in any way. I trust this approach will allow you to be perfectly frank in completing the questionnaire as it is only through honest and unbiased replies that valid judgments of an expanded audit function can be made.

Responses can be made by use of a check mark, thus holding to a minimum the time needed to complete the questionnaire. Since the completion of all questionnaires is important to the success of this research, I shall appreciate your cooperation in taking the few minutes necessary to complete the questionnaire and return it in the enclosed stamped envelope.

Your early return of the questionnaire will be appreciated. If you would like to receive a copy of the abstract of my research results when completed, please mail back this letter either with your completed questionnaire or in a separate envelope.

Sincerely,

Stephen A. Moscove

Oklahoma State University

COLLEGE OF BUSINESS ADMINISTRATION

STILLWATER, OKLAHOMA 74074
(405) 372-6211, EXT. 258

April 27, 1970

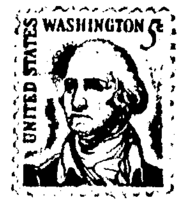
I realize that there is a natural reluctance to take the time from your busy day to fill out a questionnaire, but this one has a purpose that cannot be accomplished completely without your assistance. It is a study to obtain your opinion on expanding the audit attest function to evaluating administrative controls as part of a normal audit.

Tests of the questionnaire indicate that it can easily be completed in from ten to fifteen minutes, and I urge you to take the time to complete the enclosed questionnaire and return it in the enclosed stamped envelope.

I shall appreciate your cooperation and the prompt return of the questionnaire.

Sincerely,

Stephen A. Moscove



May 11, 1970

Because your opinion is vital to the success of the research project to determine the need for an expanded audit attest function, would you please--if you have not already done so--fill in the questionnaire that was recently mailed to you.

Sincerely,

Stephen A. Moscove

APPENDIX B

STATISTICAL METHODS USED ON QUESTIONNAIRE

EXPLANATION OF STATISTICAL METHODS USED TO ANALYZE QUESTIONNAIRE DATA

The Mann-Whitney U Test used in this research is a nonparametric test for two-sample cases in which the samples are independent. The test is also for ordinal measurement and can be used on unequal groups. The power efficiency of the Mann-Whitney U Test is approximately 95 percent that of the *t*-test (a very powerful parametric statistical test). This research study involved two independent groups (security analysts and CPAs), and obtained ordinal measurement (scores for the groups). The Mann-Whitney U Test is an excellent alternative for the *t*-test and does not involve the restrictive *t* assumptions.

A scale of 1 to 5 was used for each of the questions asked under the four sections of the questionnaire. The scale was designed so that a response favoring the performance of a function by the auditor received a higher point value (maximum of 5 points) than a response which did not favor the performance of a function by the auditor (minimum of 1 point). For example, section D of the questionnaire asked whether or not "information should be provided by audit attest function." The point scale for this section was:

Strongly Agree, 5 points
Agree, 4 points
Undecided, 3 points
Disagree, 2 points
Strongly Disagree, 1 point

Thus, a response indicating that the auditor should provide the information ("strongly agree" or "agree") received a higher point value than a response indicating that the auditor should not provide the information ("disagree" or "strongly disagree").

The steps in performing the Mann-Whitney U Test followed by an example with hypothetical data will now be presented. The formula for large samples, $n_2 > 20$, is used in the example since the actual data analysis performed in this research study involved more than 20 cases in each group. The steps in performing the U test are:

1. Rank all scores and assign the appropriate rank value to each while retaining the group designation (1 is the lowest score, ties are given the average rank of the tied group).

2. Determine the sum of ranks for the scores of the smaller (n_1) group.

   n_1 = the number of people in smaller group
   n_2 = the number of people in larger group

3. Compute a U through the following formula:

$$U = n_1 n_2 + \frac{n_1 (n_1 + 1)}{2} - R_1$$

   where R_1 is the sum of the ranks for n_1 group.

4. Check for correct U by equation:

$$U = n_1 n_2 - U'$$

   where U' is the U value obtained in step 3. The smallest U value is used in step 5 (the U obtained in step 3 is usually the smallest U).

5. Compute a $\underline{z}$ from the correct (smallest) U value:

$$\underline{z} = \frac{U - \frac{n_1 n_2}{2}}{\sqrt{\frac{(n_1)\,(n_2)\,(n_1 + n_2 + 1)}{12}}}$$

An example of the process is:

Hypothetical data collected to test the H_o

There is no significant difference between analysts' and CPAs' opinions regarding the characteristic of financial information needed for investment advising purposes.

DATA TABLE--Scores were obtained for each respondent in Section A of the questionnaire for the nine financial questions (total maximum possible points--45)

STEP 1--Ranking Table

Individuals Responses	Investment Analysts Score	Investment Analysts Rank	CPAs Score	CPAs Rank
1	45	42	44	41
2	43	39	42	36
3	41	33.5	41	33.5
4	40	29.5	40	29.5
5	39	25	38	22
6	40	29.5	40	29.5
7	42	36	42	36
8	43	39	43	39
9	32	6.5	37	19
10	32	6.5	38	22
11	38	22	35	14.5
12	40	29.5	39	25
13	39	25	40	29.5
14	37	19	37	19
15	36	16.5	36	16.5
16	33	9.5	34	12
17	34	12	33	9.5
18	32	6.5	31	4
19	30	2.5	30	2.5
20	35	14.5	32	6.5
21	34	12		
22	27	1		

STEP 2--Sum n_1 (smaller) group ranks--Here it is the CPA with 20 respondents; n_2 is 22
n_1 is 20 Sum = 446.5 is R_1

STEP 3--Apply U Formula

$$U = (20)\ (22) + \frac{(20)\ (21)}{2} - 446.5$$

$$U = 203.5$$

STEP 4--Check for correct U (smaller U) value

$$U = (20)\ (22) - 203.5$$
$$U = 236.5$$

The correct (smaller U) was obtained in step 3. The 203.5 value is used in the following step.

STEP 5--Compute a *z* score from the correct U value

$$z = \frac{203.5 - \frac{(20)\ (22)}{2}}{\sqrt{\frac{(20)\ (22)\ (20 + 22 + 1)}{12}}}$$

$$z = -.403$$

Checking Table A (Siegel, p. 247), a *z* of -.403 has a probability (two-tailed) of occurance by chance of .689. We can fail to reject the null hypothesis of no significant difference because a *z* score of 1.96 or greater (.05 level of significance) with a probability of .05 or less is required for rejection.

z of - .403 $<$ 1.96, prob. $>$ .05 (must fail to reject)

VITA 3

Stephen Alan Moscove

Candidate for the Degree of

Doctor of Philosophy

Thesis: A SURVEY OF SECURITY ANALYSTS' AND CERTIFIED PUBLIC ACCOUNTANTS' OPINIONS ON A MANAGEMENT AUDIT ATTEST FUNCTION

Major Field: Accounting

Biographical:

Personal Data: Born in Springfield, Illinois, February 26, 1943, the son of Mr. and Mrs. Sol Moscove.

Education: Graduated from Springfield High School, Springfield, Illinois, in June, 1961; received the Bachelor of Science degree from the University of Illinois, Urbana, Illinois, in 1965, with a major in Accounting; received the Master of Science degree from the University of Illinois, Urbana, Illinois, in 1966, with a major in Accounting; attended Michigan State University, East Lansing, Michigan, in 1967 and 1968; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in July, 1971.

Professional Experience: Accountant, Highway Insurance Company, Chicago, Illinois, Summer 1964; Auditor, Price Waterhouse & Company, Chicago, Illinois, 1966; graduate teaching assistant, Department of Accounting and Finance, Michigan State University, East Lansing, Michigan, 1967-68; instructor, Department of Accounting, Louisiana State University, New Orleans, Louisiana, 1968-69; graduate teaching assistant, Department of Accounting, Oklahoma State University, 1969-70; assistant professor, Department of Accounting and Finance, University of Hawaii, Honolulu, Hawaii, 1970-71.