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AN EVALUATION OF THE STAFF FUNCTIONS OF INTERNAL AUDITING AND INSTITUTIONAL RESEARCH IN INSTITUTIONS OF HIGHER EDUCATION; AND A COMPARISON OF THE COMBINED ACTIVITIES OF THESE STAFF FUNCTIONS WITH THE INTERNAL AUDITING STAFF FUNCTION IN PRIVATE BUSINESS ENTERPRISES

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WILLIAM C. CHAPMAN

Norman, Oklahoma

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AN EVALUATION OF THE STAFF FUNCTIONS OF INTERNAL AUDITING AND INSTITUTIONAL RESEARCH IN INSTITUTIONS OF HIGHER EDUCATION; AND A COMPARISON OF THE COMBINED ACTIVITIES OF THESE STAFF FUNCTIONS WITH THE INTERNAL AUDITING STAFF FUNCTION IN PRIVATE BUSINESS ENTERPRISES

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CHAPTER I

PURPOSE AND OVERVIEW

Introduction

Both institutions of higher education and private business enterprises are faced with a multitude of complex problems requiring sound management decisions. Senior management must continually evaluate the activities of every segment of their organizations to determine whether the goals and objectives of the organization are being accomplished. In many large organizations independent staff departments have been established to evaluate the activities of the organization as a service to management. This study is concerned with this independent appraisal staff function in institutions of higher education and how it compares with similar staff functions in private business corporations.

Chapter I is devoted to: an introduction to the staff functions of internal auditing and institutional research; a statement of the research problem; the purpose of the study; the primary hypotheses to be tested; the method of investigation; and the significance of the study.

Internal Auditing and Institutional Research

Internal auditing is one of the fastest growing sectors of the accounting profession. From a membership of twenty-four in 1941, the Institute of Internal Auditors (IIA) has grown to a membership in excess of 24,000 in 1981.[1] The IIA has been instrumental in helping its members meet the generally accepted criteria of a profession by:

1. Adopting a Code of Ethics.
2. Approving a Statement of Responsibilities of Internal Auditors (Revised 1971).
3. Establishing a program of continuing education.
4. Developing a Common Body of Knowledge.
5. Instituting a certification program (1974).
6. Adopting Standards for the Professional Practice of Internal Auditing (1978).[2]

A second organization of internal auditors that is important to this study is the Association of College and University Auditors. This association was formed in 1958 and has a current institutional membership of 400 members.[3]

Since World War II higher education has expanded its role and scope to accommodate unprecedented numbers of students. In 1940 there were 1,494,200 students in institutions of higher education. This number increased to 2,659,000 in 1950, to 3,583,000 in 1960, to 7,920,000 in 1970, and to 11,500,000 in the fall of 1979.[4] During the late 1960's and the entire decade of the seventies, external pressures forced universities to examine their internal structures more carefully than ever before. These pressures started with the

student unrest of the 1960's and were extended into the seventies by the spiraling costs of higher education, by a slowing down of the growth in enrollments, and by some significant changes in the enrollment patterns of students.[5]

During the 1960's and 1970's institutional research in higher education became a significant tool for self-examination, accountability, and institutional improvement. The discipline of institutional research had its beginnings in the 1940's and 1950's, yet it was not until 1957 that any interest was shown at the national level concerning formal offices of institutional research. And, it was not until 1966 that a national organization, the Association for Institutional Research (AIR), was formed. By 1969 there were over 800 individual members of the AIR representing more than 450 institutions.[6] Today the AIR is an international organization with over 1800 members representing over 900 institutions.[7] The AIR holds an annual meeting and publishes the proceedings as well as a quarterly newsletter. The stated purposes of the AIR are "to benefit, assist, and advance research leading to improved understanding, planning, and operation of institutions of higher education."[8]

The purpose of the first part of this section has been to establish the existence of two relatively new staff functions found in organizations. Operationally, internal auditing is a function common to both profit and non-profit organizations. Institutions of higher education make up only a small sub-set of the total number of organizations with this staff function.

On the other hand, institutional research is a staff function unique to institutions of higher education. Both functions are young and have experienced tremendous growth over the past fifteen years.

The purpose of the second part of this section is to establish, by reference to the literature of internal auditing and of institutional research, that many similarities exist between these two.

The IIA states that internal auditing is "an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization. The objective of internal auditing is to assist members of the organization in the effective discharge of their responsibilities. To this end, internal auditing furnishes them with analyses, appraisals, recommendations, counsel, and information concerning the activities reviewed."[9]

Unlike the IIA, the AIR has not adopted an acceptable uniform definition of institutional research.[10] They have nonetheless formulated a statement of the purpose of their organization, and in the literature of institutional research several definitions of institutional research can be found that are similar to the AIR's statement of purpose.

Institutional research is defined by Mason as "the systematic appraisal and evaluation of the processes and operations of institutions of higher education; it includes the whole spectrum of research in higher education from the more 'basic' research on learning processes and behavior to

applied fact finding research of an administrative nature. Further, the role of institutional research in the resources allocation process ought to be that of evaluating the effectiveness of the use of resources toward the fulfillment of institutional goals, objectives, and priorities."[11] Secondly, Dressel states that "the basic purpose of institutional research is to probe deeply into the workings of an institution for evidence of weakness or flaws which interfere with the attainment of its purpose or which utilize an undue amount of resources in so doing. In the search for flaws, no function, individual, or unit or activity should be regarded as off limits."[12] Finally, Tetlow, Wheeler, and Testerman in their dissertations on the subject of institutional research, define institutional research in the following ways:

> Institutional research is a form of institutional self-study consisting of data collection, analysis, and reporting which is designed to provide decision-influencing information for institutions of higher education.[13]

> Institutional research is a tool for investigating problems, for relating effects of solutions to problems, and for maximizing resource utilization.[14]

> Institutional research is those research activities of an educational institution which provide analysis of data and accommodations essential to effective communication.[15]

The similarities between the definitions of the two functions are apparent. Both functions are internal to the organization, conduct appraisals of the organization, and collect data about the activities of the organization as a service to management. In the literature of the two functions similarities are also found in the delineation of the functions.

duties, and objectives of each; in each office's position in the organizational structure and reporting responsibilities; and in the training and qualifications of the personnel employed.

A final indication that similarities exist between these two staff functions in the management of colleges and universities is found in a 1979 research study funded by the National Association of Accountants. The study, entitled Planning and Control in Higher Education, examined the current and prospective application of management accounting in higher education. The findings of the study were based on interviews conducted with financial administrators at sixteen U.S. colleges and universities. The group interviewed included business officers, members of their staff, and in several instances members of the Office of Institutional Research.[16]

The first part of this section established the existence of two new and distinct staff functions found in institutions of higher education. These functions are internal auditing and institutional research. The second part of this section identified several similarities between these two functions.

Statement of the Problem

The general problem which this study addresses deals with the belief apparent in the literature of higher education and of accounting that the available information systems and the degree of management control over operations in institutions of higher education lag behind that which is found in the private business sector. For example, Anthony

and Herzlenger point out that one of the basic characteristics of a non-profit organization is a tradition of inadequate management controls.[17] Furthermore, Gambino concluded that "institutions of higher education could increase their accountability by developing better measures of outcomes and performance evaluation techniques."[18] Referring to the literature available in the field of cost analysis in higher education, a major study by the American Council on Education concluded that "there is a logical and mutually supportive relationship between the literature of a field and the educational programs for training in that field. Few academic administrators, institutional research officers, or business officers are trained in a setting where technology is applied to higher education, and the lack of academic program activity in higher education (specifically cost analysis) is related to problems with the literature."[19]

Two specific problems will be addressed in this study. The main problem relates to the status of the independent appraisal function in institutions of higher education. A 1975 questionnaire study of the internal audit function at 238 colleges and universities reached two major conclusions; they were:

1. "Educational institutions lag far behind private industry in using internal auditing as a tool for controlling and improving operations."

2. "Where internal auditing is used in colleges and universities it often is not sufficiently independent of the

reviewed activities to be of service to the governing body and administrative officials."[20]

The above study was conducted at a time when there were no official standards for evaluating the independent appraisal staff function in organizations. In June, 1978, the IIA's Board of Directors resolved the problem of no official standards by adopting the Standards for the Professional Practice of Internal Auditing (SPPIA). These standards were the culmination of three years of study by the IIA's Professional Standards Committee. Although standards for internal auditors had been developed previously by other organizations and individuals, the IIA's efforts marked the first such standards issued by the IIA. The IIA states that the standards are "meant to serve the entire profession in all types of businesses, in various levels of government, and in all other organizations where internal auditors are found."[21] The standards are intended to represent the practice of internal auditing as it should be. Thus, they are goals that an internal audit department should strive to achieve. These goals are embodied in five general standards of internal auditing and twenty-five specific standards.

Of special importance to this study are the Scope of Work general standard and the five specific Scope of Work standards. Also of importance is the position taken that the SPPIA apply to any unit or activity within an organization which performs internal auditing functions. Finally, the Standards apply to independent units within the organization

rather than external agencies.[22] (The terms "internal audit function" and "independent appraisal function" are used interchangeably in this paper.)

The second specific problem of this study involves the apparent lack of awareness between the functions of internal auditing and of institutional research at institutions of higher education. Very little evidence is found in the literature of the two functions of an awareness that the two staff functions are possibly performing similar functions and duties; that they have similar goals; and that they overlap or complement each other's activities in institutions of higher education. To illustrate that this problem exists, reference is made to two letters which were received in response to the researcher's letter concerning this possible relationship between these two functions in institutions of higher education. In the reply from the Executive Secretary of the Association for Institutional Research, the following statement is made. "It would be unusual for an office of institutional research to be classified with an internal auditing department; some would actively try to avoid such identification."[23] Additionally, in the reply from the President of the Association of College and University Auditors he states that "while it has never occurred to me that there might be anything complementary between the two distinct entities of research and internal auditing, perhaps a project in this area would be enlightening and worthwhile."[24]

Primary Hypotheses To Be Tested

Three primary hypotheses will be tested in this research project. Each one involves statistical tests of data gathered concerning the independent appraisal function in colleges and universities with enrollments in excess of 15,000 students, and the independent appraisal function in a randomly selected group of private business corporations of similar size (number of employees) to the universities studied. The first primary hypothesis is:

Hypothesis #1. There is no difference between the proportion of institutions of higher education that have an internal auditing department responsible for performing the five SPPIA Scope of Work standards and the proportion of private corporations, of similar size to the institutions of higher education, that have an internal auditing department responsible for performing the five SPPIA Scope of Work standards.

Having determined the number of institutions of higher education and the number of private corporations that have formally established an independent internal auditing department within their organizations, the final two primary hypotheses will be tested. These two hypotheses are:

Hypothesis #2. There is no difference between the proportion of total expenditures devoted to the five SPPIA Scope of Work standards by offices responsible for conducting internal independent appraisals in institutions of higher education and the proportion of total expenditures devoted to the five Scope of Work standards by the internal audit department in private corporations of similar size to the universities studied.

Hypothesis #3. There is no difference between the proportion of full-time equivalent employees devoted to the five SPPIA Scope of Work standards in offices responsible for conducting internal independent appraisals in institutions of higher education and the proportion of full-time equivalent employees devoted to the five Scope of Work standards by the internal audit department in private corporations of similar size to the universities studied.

Data to test the three primary hypotheses was obtained via a mailed questionnaire survey method. Also, in the process of gathering information to test the three primary hypotheses of the study, other data was obtained which proved extremely beneficial and interesting. This supplemental data included the following information:

a. The reporting level in the organization of the independent appraisal departments in the two test groups.

b. The individuals or groups that routinely receive activity reports from the independent appraisal departments in the two test groups.

c. The academic and professional backgrounds of the professional independent appraisal staff in the two test groups.

d. The resources devoted to staff training and other continuing educational activities by the independent appraisal departments in the two test groups.

e. The time devoted to non-SPPIA Scope of Work activities by the independent appraisal departments in the two test groups.

f. The division of the total effort devoted to the SPPIA Scope of Work standard between the five specific Scope of Work standards.

Method of Research

Relevant literature on internal auditing in both universities and private business enterprises was examined and reviewed, with specific emphasis on the official pronouncement of the Institute of Internal Auditors, Inc. Also, the historical background of the growth of the function of internal auditing and the relevant literature on institutional research in universities were investigated. Special emphasis was also

placed on prior studies of the independent appraisal function in colleges and universities and any comparison of this function with the independent appraisal function in private corporations.

After the literature review, the basic steps in the research methodology were determined. The first step in the research design is a procedure to determine what offices or departments have a primary or significant secondary responsibility for conducting independent appraisals within the universities and private businesses being studied. Initial literature research indicates that in private business enterprises the office of internal auditing has this independent appraisal responsibility, and in institutions of higher education both the office of institutional research and the internal auditing office have this independent appraisal responsibility.

To accomplish this first step, a short questionnaire was sent to the chief operating officers of twenty universities. The chief operating officers were provided with the IIA's official definition of the internal audit function and a list of the five Scope of Work standards. The chief operating officers were then asked to name the independent appraisal units within their organization that have either a primary or significant secondary function similar to the IIA's definition.

The second phase of the project was a questionnaire survey to determine the resources devoted to the five SPPIA

Scope of Work standards by offices responsible for conducting internal independent appraisals in universities. To accomplish this step a questionnaire was sent to the directors of institutional research and directors of internal auditing at all four-year degree granting colleges and universities in the United States with enrollments of over 15,000 students. The enrollment limitation is required because a comparison will be made between the data gathered from these universities and data gathered from similar-sized private business enterprises. By surveying organizations of approximately similar size, any extraneous variables caused by significant size differences were held to a minimum.

The third step was to survey 177 private business enterprises headquartered in the United States. The private businesses were similar in size to the universities based on the number of employees. The directors of internal auditing at the private enterprises were asked to respond to the same questions as their counterparts at the universities. Next, the three primary hypotheses were statistically tested.

Significance of the Study and Limitations

This study updates the 1975 study performed by Meyer Drucker, and by making a direct comparison of the internal independent appraisal functions at universities and private enterprises, the study will help prove or disprove his conclusion that educational institutions lag far behind private industry in

using internal auditing as a tool for controlling and improving operations. It should be noted that when he conducted his study there were no official IIA standards to measure performance nor to determine officially what functions an internal audit department should be performing.

A second benefit of the study is that it will help determine if the institutional research office, or any other internal office, is performing part of the Scope of Work function that internal audit departments in most organizations traditionally perform. Institutional research is an office unique to colleges and universities and, from researching literature, there is no evidence that anyone has noted or investigated the similarities between institutional research and internal auditing. This initial investigation should answer the question of possible similarities between institutional research and internal auditing in universities and be beneficial to administrators of institutions of higher education. Finally, the study could lead to later research involving the other four SPPIA general standards as they relate to universities and the total population of organizations.

The results of the study will not be used to make value judgments concerning whether universities should be devoting more or less resources to this independent appraisal function. There are a multitude of factors to be considered in determining the total resources that "should" be devoted to this specific activity by any organization or category of organizations. The purpose of this initial study is only to determine

if there is, or is not, a significant difference between the total resources devoted to the five Scope of Work standards by offices responsible for conducting internal independent appraisals in institutions of higher education and the total resources devoted to the same standards in private business enterprises. To determine where institutions of higher education should rank in a comparison with other categories of organizations is left to future research.

ENDNOTES

[1]The Institute of Internal Auditors, Inc., Information Pamphlet (Altamonte Springs, Florida: The Institute of Internal Auditors, Inc., 1981), p. 3.

[2]The Institute of Internal Auditors, Inc., Standards for the Professional Practice of Internal Auditing (Altamonte Springs, Florida: The Institute of Internal Auditors, Inc., 1978), p. i.

[3]Encyclopedia of Associations Volume I, 16th Edition, Denise Akey, Editor (Detroit, Michigan: Gale Research Company, 1981), p. 510.

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[5]Lyman A. Glenny, et al., Presidents Confront Reality (San Francisco, CA: Jossey Bass Publishers, 1976), pp. 7-20.

[6]William L. Tetlow, Jr., "Institutional Research: The Emergence of a Staff Function in Higher Education," (Unpublished Ph.D. dissertation, College of Education, Cornell University, 1973), p. 2.

[7]Encyclopedia of Associations Volume 1, p. 427.

[8]"Constitution and By-Laws for the Association for Institutional Research" (Berkeley, California: The Association for Institutional Research, 1966), Article II.

[9]The Institute of Internal Auditors, Inc., 1978, p. 1.

[10]Jean C. Chulak, Executive Secretary, The Association for Institutional Research, Tallahassee, Florida. Telephone Interview, 3 June 1980.

[11]Thomas R. Mason, "Institutional Research" in Efficient College Management, Edited by William E. Jellema (San Francisco, California: Jossey-Bass, 1972), p. 31.

[12]Paul L. Dressel and Associates, Institutional Research in the University: A Handbook (San Francisco, California: Jossey-Bass, 1971), p. 38.

[13]Tetlow, p. 1.

[14]William T. Wheeler, "Institutional Research Among Member Institutions of the National Association of Land Grant Colleges," (Unpublished Ph.D. dissertation, College of Education, The Florida State University, 1972), p. 16.

[15]Jack D. Testerman, "The Role of Institutional Research in Higher Education," (Unpublished Ph.D. dissertation, College of Education, University of Texas, 1972), p. 7.

[16]Anthony J. Gambino, Planning and Control in Higher Education (New York: National Association of Accountants, 1979), p. 3.

[17]Robert N. Anthony and Regina Herzlinger, Management Control in Nonprofit Organizations (Homewood, Illinois: Richard D. Irwin, Inc., 1975), p. 39.

[18]Gambino, p. 90.

[19]Carl R. Adams, Russell L. Harkins, and Roger G. Schroeder, A Study of Cost Analysis in Higher Education Volume 1: The Literature of Cost and Cost Analysis in Higher Education (Washington, D.C.: The American Council on Education, 1978), p. 10.

[20]Meyer Drucker, "The Importance of Internal Auditing for Higher Education," The Internal Auditor, (July/August, 1975), p. 60.

[21]The Institute for Internal Auditors, Inc., 1978, p. i.

[22]Ibid., p. 4.

[23]Jean C. Chulak, Executive Secretary, The Association for Institutional Research, Tallahassee, Florida. Letter, 18 October 1979,

[24]Rodney B. Moore, President, Association of College and University Auditors, Las Cruces, New Mexico. Letter, 31 January 1980.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purposes of a review of the literature are: (1) to explain and clarify the theoretical rationale of a problem, and (2) to identify what research has and has not been conducted on a problem.[1] This review of the writings in the field attempts to provide a logical presentation which integrates the subjects of internal auditing and institutional research. This chapter is divided into four sections:

1. A history of internal auditing and a review of events leading to the publication of the Standards for the Professional Practice of Internal Auditing (SPPIA).

2. A review of two evaluation procedure documents that have been issued since the publication of the SPPIA.

3. A review of three studies which evaluated the internal audit function in colleges and universities.

4. A history of institutional research and a review of several studies of the institutional research function in colleges and universities.

History of Internal Auditing

The Control Function

With the growth of corporate business during the twentieth century, many business organizations became so large that many of the duties of top and middle management had to be divided into areas of specialization. In both profit and non-profit organizations the functions of planning, staffing, directing, and controlling had to be segmented, and in many cases specialized departments within organizations were established to carry out all or part of a specific management function.[2]

In all organizations, except possibly the smallest, there is a management process called control. Two of the important activities in which all managers engage are (1) planning and (2) control. Planning is deciding what should be done and how it should be done, and control is assuring that the desired results are obtained. Control is exerted to correct deviation from the path that leads to organizational objectives and goals and to remove from those paths whatever prevents efficient, economical, and effective performance. So the functions of planning and control are linked. Planning provides goals and standards. Control measures and evaluates performance to determine whether the goals have been reached and the standards have been met.[3]

Many standard management textbooks identify two types of control; (1) operational control and (2) management control. In general, operational controls consist of rules, procedures,

forms, and other devices that govern the performance of specific tasks. Operational control is the process of assuring that specific tasks are carried out effectively and efficiently. Management control, on the other hand, does not involve the detail operating decisions that are the focus of operational control; rather, it seeks to assure that the strategic plans for the organization are carried out properly. Management control is defined as the process by which management makes sure the organization carries out its strategic plans effectively and efficiently.[4]

It seems obvious that the different forms of control will overlap, and it may be difficult to tell when operational control becomes management control. What is important is that control cannot exist in a vacuum. Its primary function is to see that some objective or goal will be met.

One of the specialized independent functions established within an organization for control purposes is internal auditing. The official definition of the internal auditing function states that internal auditing is "an independent appraisal function established within an organization to examine and evaluate its activities as a service to management."[5] Also, the Special Advisory Committee on Internal Accounting Control of the American Institute of Certified Public Accountants recognized the importance of internal auditing in a control conscious environment when it said:

> An effective internal auditing function can serve as a high-level organizational control, as well as a constructive and protective link between policy-making levels and operating levels of an organization.[6]

The development of the internal audit function and the establishment and growth of the Institute of Internal Auditors, Inc. is an outgrowth of the need for a control process within organizations.

Development of Internal Auditing

Internal auditing is a recently developed management control technique. In fact, it is so recent that as late as 1940 no book related to internal auditing and little other material which dealt with the subject had been published. Even though internal auditing was not widely practiced before 1940, it is one of the faster growing sectors of the accounting field today.

In the modern era (19th and 20th centuries), the railroad companies were probably the first to recognize the need for internal auditing. Because their activities were widely scattered, the railroads adopted internal auditing as an essential means for controlling their geographically dispersed operations. These auditors were concerned with the accounting for revenue from ticket sales and the compliance with company regulations. Internal auditing departments were later established in other companies conducting operations in more than one location. In addition, departments were established in companies after fraud had been committed. Examples of

businesses that adopted internal auditing at an early date are chain stores, public utilities, oil producing and oil distributing companies, and iron and steel manufacturers.[7] The degree of auditing or the similarity to present standards was, to some extent, dependent upon the company and its operating problems. Lloyd F. Morrison, in his observation of internal auditing as practiced in 1939, comments:

> In public accounting in 1939, we encountered traveling auditors who performed detailed clerical work. Most of the work they did was so routine and detailed that it had very little effect upon our audits. The fact that the old traveling auditor has worked into a top level management assistant is almost inconceivable to me in view of the work I observed him doing.[8]

It therefore appears that internal auditing was first established primarily for the detection and prevention of fraud. That is not to say that the functions of internal auditing were limited to a mere checking function. Reginald Davenport, writing in 1912, explains that the internal auditor's work should not be confined to a mere mechanical audit of the accounts, but that it is his duty to observe and report on the welfare of the company he represents.[9]

The first major work on internal auditing for business was completed by Victor Z. Brink in 1941. Brink notes that there had been a growing interest in internal auditing during the preceding twenty-five years as business executives gave increased recognition to this aid for more efficient operations within their organizations. As greater reliance on internal control was deemed desirable, separate internal auditing

departments came into being.[10]

The Institute of Internal Auditors

Modern internal auditing in the United States started in 1941. It was the year the Institute of Internal Auditors (IIA) organized, and it was also the year Victor Z. Brink wrote the first text on the subject. The IIA was organized by internal auditors of leading corporations in recognition of the need for an exchange of ideas, experiences, and practices relating to this emerging corporate function. The association was incorporated formally in November, 1941, under the laws of the state of New York. The original charter consisted of twenty-four members.[11]

The establishment of the IIA was important, yet the profession of internal auditing still had a long journey before it. The accomplishments of the IIA from its founding to the present are significant. The first Statement of Responsibilities of Internal Auditors, published in 1947, says that internal auditing "deals primarily with accounting and financial matters but may also properly deal with matters of an operating nature." Accounting and financial matters supplied the IIA its primary sustenance. Ten years later (1957) a new Statement of Responsibilities of Internal Auditors reflected new approaches being taken by some companies. The 1957 Statement says: "Internal auditing is an independent appraisal activity within an organization for review of accounting, financial, and other operations."[12]

Operational auditing was coming into importance, but it was still a part, and the lesser part, of accounting and financial auditing. The emergence of internal auditing as an overview of all operations was solidified in the 1971 Statement which says: "Internal auditing is an independent appraisal activity within an organization for the review of operations as a service to management."[13] The words "accounting" and "financial" were dropped. The 1971 Statement articulates the internal auditors' apparent equal concern with every aspect of the organization's function. The 1971 IIA Statement regards "operations" as embracing both the financial and non-financial activities of the entity. The definition of internal auditing issued by the IIA in the Standards for the Professional Practice of Internal Auditing in 1978 is essentially the same as the 1971 Statement except that the phrase "service to management" is replaced by "service to the organization." This change reflects the internal auditors' responsibility not only to management but to the governing body of the organization.

The IIA also has taken several steps to help its members meet the generally accepted criteria of a profession. These steps include the development of a common body of knowledge, a code of ethics, a growing body of literature, a board of regents, and an examination and certification process leading to the designation of Certified Internal Auditors (CIA). The first CIA examination was given in 1974 when 647 individuals sat for the examination, and 122 became Certified

Internal Auditors. By 1981 the number of individuals taking the CIA examination had grown to 3,120.[14] The current scope of the internal auditing function is indicated by the subjects covered in the examination: principles of internal auditing; internal auditing techniques; principles of management; and disciplines relating to auditing, accounting, economics, law, finance, computer systems, and quantitative methods.[15]

In 1974 the IIA undertook a major project of significant importance to this study and to the development of internal auditing as a distinct profession. In that year the Professional Standards and Responsibilities Committee was organized. The Standards for the Professional Practice of Internal Auditing (SPPIA) was the culmination of three years of study by the committee, and was officially adopted by the IIA's Board of Directors in June, 1978.[16]

Although standards for internal auditors had been developed previously by other organizations and individuals, the IIA's efforts marked the first such standards issued by the IIA. The IIA states that the standards are "meant to serve the entire profession in all types of businesses, in various levels of government, and in all other organizations where internal auditors are found."[17] In setting the SPPIA the committee recognized that (1) boards of directors are being held increasingly accountable for the adequacy and effectiveness of their organizations' systems of internal control and quality of performance; (2) members of management are demonstrating increased acceptance of internal auditing as a

means of supplying objective information and recommendations on the organization's controls and performance; and (3) external auditors are using the results of internal audits to complement their own work.

In the light of such developments, the purposes of the SPPIA are to (1) impart an understanding of the role and responsibilities of internal auditing to all levels of management, boards of directors, public bodies, external auditors, and related professional organizations; (2) establish the basis for the guidance and measurement of internal auditing performance; and (3) improve the practice of internal auditing.[18]

The standards are intended to represent the practice of internal auditing as it should be. Thus, they are goals that an internal audit department should strive to achieve. These goals are embodied in five general standards of internal auditing and twenty-five specific standards providing details for the five areas. The five general standards are:

1. INDEPENDENCE (Standard 100) - Internal auditors should be independent of the activities they audit.

2. PROFESSIONAL PROFICIENCY (Standard 200) - Internal audits should be performed with proficiency and due professional care.

3. SCOPE OF WORK (Standard 300) - The scope of the internal audit should encompass the examination and evaluation of the adequacy and effectiveness of the organization's system of internal control and the quality of performance in carrying out assigned responsibilities.

4. PERFORMANCE OF AUDIT WORK (Standard 400) - Audit work should include planning the audit, examining and evaluating information, communicating results and following up.

5. MANAGEMENT OF THE INTERNAL AUDITING DEPARTMENT (Standard 500) - The director of internal auditing should properly manage the internal auditing department.[19]

Of specific importance to this study is the Scope of Work general standard and the five specific Scope of Work standards. The five specific Scope of Work standards are:

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

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

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

340 Economic and Efficient Use of Resources - Internal auditors should appraise the economy and efficiency with which resources are employed.

350 Accomplishment of Established Objectives and Goals for Operations or Programs - Internal auditors should review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.[20]

Of additional importance to this study is the IIA's position that the SPPIA should apply to any unit or activity within an organization which performs internal auditing functions and that the standards apply to independent units within the organization rather than external agencies.[21] In 1980-81 alone the IIA received over 32,000 requests for copies of the SPPIA.

From an initial membership of twenty-four in 1941, the Institute of Internal Auditors has grown to a membership of over 24,000 in 1981. The IIA has 154 chapters in forty-six states and thirty-five countries outside the United States.[22]

Evaluation Procedure Documents Published as a Response to the SPPIA

Responding to the publication of the SPPIA, two organizations have published reports dealing with evaluation procedures for internal audit departments. These two documents were issued primarily as a result of Standard 560 which deals with quality assurance. Standard 560 states: "The director of internal auditing should establish and maintain a quality assurance program to evaluate the operations of the internal auditing department."[23] The two publications issued are: A Framework for Evaluating an Internal Audit Function by Alan S. Glazer and Henry R. Jaenicke, published by the Foundation for Auditability Research and Education, Inc., (FARE); and Does Your Internal Audit Department Measure Up?, published by Price Waterhouse and Company.

The FARE study is the more comprehensive of the two

studies. The FARE report suggests a two stage evaluation process. The first step requires assessing the role of internal auditing in the enterprise. That role, established by either management or the board, may not encompass all areas included in the Scope of Work section (Standard 300) of the SPPIA. Thus, the first step of the evaluation process should be to compare the enterprise's internal auditing charter with the Scope of Work section of the SPPIA. Enterprise management and the governing board are concerned with how well the internal audit function performs the role actually assigned to it. The second step of the FARE evaluation process addresses these concerns. The performance of the internal audit function would then be compared to the four other standards: independence, professional proficiency, performance of work, and management of the department.[24]

An evaluation conducted in the manner suggested by the FARE study is not intended to measure directly the quality of an internal audit function. The scope of an evaluation using the guidelines suggested in this report is limited to a comparison of the internal audit function with the SPPIA to determine the extent to which the company is conforming to the SPPIA.

The Price Waterhouse study is a guide for the thoughtful examination of the internal audit function by executive management and audit committee members. The study is presented in non-technical language and is divided into five specific sections. Each of the five sections contains questions to be asked in the evaluation process.[25]

Both the Price Waterhouse and the FARE study emphasize that, before proceeding to other aspects of the evaluation, the internal auditing department's role should be clearly defined. There is an obvious relationship between the scope of the work assigned to the internal audit department and the strengths of personnel and sophistication of department procedures.

Internal Auditing in Colleges and Universities

Internal auditing in colleges and universities has only recently been recognized as an important function. The 1935 publication, Financial Reports for Colleges and Universities, contains only one reference to audits. This reference simply suggests that: "The accounts of every college and university should be audited at least annually by independent accountants properly qualified for such work."[26] No reference is made to internal auditing. Some seventeen years later, College and University Business Administration, published in 1952, considered internal auditing a protective activity largely concerned with the detection and prevention of fraud.[27] By 1974, College and University Business Administration states that "internal auditing is a staff function that serves management by reviewing and appraising the business activities of the institution, the integrity of its business records, and the general effectiveness of operations."[28]

It would appear that the internal audit function in

colleges and universities gained significant importance between 1952 and 1974. To some extent the Association of College and University Auditors was responsible for this development. The Association was formed in 1958 by auditors who were serving educational institutions in an internal auditing capacity and who sought to improve and expand their ability and skills. From the original thirteen charter institutions, the group has grown to a 1981 membership of 350 schools.

Three specific studies have been conducted which deal with internal auditing in colleges and universities. In 1966 Streetman studied, through detailed field work, the internal audit function at five major private universities. He also studied by means of a questionnaire the internal audit function at forty-three other major private universities. In his dissertation Streetman points out that "even though universities are not operated to earn a profit, many of their organizational problems parallel those of a typical business firm. Administrators of universities and colleges must be responsible for the maximum utilization of the resources entrusted to their management."[29] He also emphasizes the role internal auditors have in performing operational or management audits. He defines these audits as "a review of all the activities under the control of some given management function."[30]

Streetman raises the following five research questions in his study. They are:

1. Is an internal auditor included in the organizational chart of typical commercial enterprises?

2. What is the scope of the activities of the modern internal auditor?

3. Do the majority of the large colleges and universities have an internal auditor?

4. Is the majority of the work being performed by university internal auditors essentially the same as that of their commercial counterparts?

5. If the practice of university internal auditors is not comparable to that found in a commercial enterprise, what are the apparent reasons for these differences?[31]

In answering questions one and two, Streetman relies exclusively on unofficial IIA studies and his review of the literature. Answers to questions three, four, and five are based on the results of the questionnaire survey of forty-three private colleges and universities.

Five relevant conclusions of Streetman's study are that: (1) adequate and effective management controls are given minor attention in the majority of the institutions reporting; (2) colleges and universities have not included the internal auditor in the organization plans to the same extent that commercial enterprises have; (3) internal auditors' responsibilities, as described by the IIA, are not in agreement with the majority of the internal audit functions at the universities studied; (4) the internal auditors' duties seem more limited at colleges and universities than in commercial enterprises; and (5) many internal auditors in universities have difficulty convincing administrators of the advantages of their services.

A problem in Streetman's study noted by this researcher

is that he contrasts the internal audit function at the universities against IIA unofficial standards, yet in his conclusions, he compares the universities to commercial enterprises. He cites no evidence that the commercial enterprises are meeting IIA unofficial standards.

The second study of internal auditing in higher education is by Professor Meyer Drucker, published in 1975. He addresses the problem of efficient utilization of resources by colleges and universities and points to evidence of pressures for increased accountability and better institutional management. Drucker indicates that educational institutions should partially justify their existence on the basis of efficient operations. He points out that independent appraisal activities within educational institutions for the review of accounting, financial, and management operations are in their infancy. Drucker emphasizes the role of the internal auditor in performing independent appraisals, and he points to the significant benefits from operational or management audit activities.[32]

In his study of internal audit practices in higher education, Drucker surveyed 237 full and 136 associate members of the Association of College and University Auditors. Of the 237 respondents, 152 had internal audit departments, and 111 of those with internal auditing departments conducted performance and management review audits. Forty-one respondents conducted only fiscal and/or legal compliance audits. Twenty-two

percent of the departments reported to the governing board or chief administrative officer, 66 percent reported to the chief financial officer, and the remaining 12 percent reported to a lower ranking officer. Only 25 percent reported that all academic departments were audited periodically. Other responses revealed that 83 percent of the internal audit departments had five or fewer professional staff.[33] Drucker's conclusions are that:

1. Educational institutions lag far behind private industry in using internal auditing as a tool for controlling and improving operations.
2. Internal auditing used in colleges and universities often is not sufficiently independent of the reviewed activity to be of service to the governing body and administrative officials.
3. Many educational institutions are realizing the value of this important tool and establishing Internal Auditing Departments or strengthening their existing department.[34]

Drucker recommends that an internal review process should be established in institutions of higher education and that a properly functioning internal auditing department will help pinpoint areas for potential revenue improvement and cost reductions.

An apparent significant weakness of Drucker's study is that he did not survey the internal audit activities of similar size private businesses before he concluded that institutions of higher education lag far behind private industry in internal auditing. Thus, his primary conclusion is not necessarily supported by his research. Furthermore, even though Drucker did not evaluate the internal audit departments

in universities against any established standards, such an evaluation would be beneficial if official standards existed.

The third study of internal auditing in higher education was conducted in 1974 by Roger O. Miller. The primary purpose of his dissertation was to determine whether the scope of internal auditing in state supported colleges and universities has been extended to include operational auditing techniques (1) in reviewing allocation of and utilization of resources and (2) in evaluating managerial controls and performance. A secondary purpose is to determine whether there is a relationship between the scope of operational auditing in universities and (1) the size of the institution and (2) the reporting level of the internal auditor in the university's organizational structure.[35]

Questionnaires were sent to the directors of internal auditing at 116 member institutions of the Association of College and University Auditors. Only public supported institutions with enrollments exceeding 5,000 were included in the survey; sixty-six questionnaires were returned and included in the final tabulation.[36]

Miller finds that most institutions have expanded the scope of their internal audits to include some operational unit tests. Of the sixty-six institutions responding, fifty-three indicated they were engaged to some degree in operational audits. However, Miller found that only about half the audit tests were being performed. Based on the results of the survey, he affirms a relationship between the size of the

institution and the reporting level of the internal auditor. Miller finds that the extent of operational auditing is greater for institutions with student enrollments of between 10,000 and 30,000 than for institutions with student enrollments of less than 10,000 or more than 30,000. Finally, the scope of operational auditing is more extensive in those instances where the internal auditor reports to the vice presidential level than when he reports to a person below or above that level.[37]

Before proceeding to the next section, a short discussion of the Survey of Internal Auditing 1979 issued by the IIA seems appropriate. To determine what is being done in the field of internal auditing and how it is being accomplished have been the purposes of the surveys the IIA conducted in 1957, 1968, 1975, and 1979. These surveys gather a tremendous amount of statistical data concerning the internal audit function in organizations. However, the 1979 data are of only minor usefulness to this study because no attempt was made to gather significant data about the internal audit function in colleges and universities. In fact only seven universities responded to the survey. Furthermore, specific questions about the SPPIA Scope of Work standards were not asked. Finally, respondents were placed into categories of small firms, medium firms, and large firms based upon the number of internal auditors in the organization. Firms were not categorized either by number of employees, operating expenditures, nor sales.[38]

History of Institutional Research, and a Review of the Institutional Research Literature

History of Institutional Research

The birth of institutional research as a separate staff function in institutions of higher education occurred in the middle 1950's. Prior to then, institutional research efforts had been intermittent and typically stimulated by external agencies.

In 1956 the Carnegie Corporation gave a grant of $375,000 to the American Council on Education (ACE) to assist it in providing and generating improved data about higher education. In 1957 the ACE sponsored a national meeting on the subject of institutional research. At that time there were less than a dozen colleges and universities which had an established office or bureau of institutional research. One result of the national meeting was the circulation of eighteen Reports on Current Institutional Research which were issued between May 1958 and January 1961. Then in the summers of 1959 and 1960, two regional interstate higher educational compacts, the Western Interstate Commission on Higher Education and the Southern Regional Education Board, sponsored special institutes on the subject of institutional research. The 1959 meeting attracted one hundred fifty college and university officials, and the 1960 meeting had an attendance of over one hundred. The WICHE institute in 1959 began with lectures on the background and organization of institutional research and then

followed with "how-to-do-it" lectures on student studies, faculty studies, budgetary and program analyses, and space and campus planning. The 1960 meeting was a four-day specialized institute on students.[39]

The early workshops and institutes were considered informal sessions and not sufficiently detailed for the limited number of persons actually and regularly engaged in institutional research. Consequently, a decision was made to hold annual national institutional research forums commencing in 1961. The first two-day forum had as its topic areas faculty workload studies, the cost of college attendance and implications for financing, and the curriculum and instruction. The forums became an annual event attended by an ever increasing number of college and university personnel. Attendance grew from forty-six in 1961 to 201 by 1965.[40]

At the 1965 meeting the constitution of the new Association for Institutional Research (AIR) was adopted and on February 7, 1966, the articles of incorporation as a non-profit organization were approved under Michigan law. By 1966 over one hundred offices of institutional research had been established in the nation's colleges and universities. By 1969 there were over 800 individual members of the AIR representing more than 450 institutions.[41] Today the AIR is an international organization with over 1800 members representing over 900 schools. It holds an annual meeting and publishes these proceedings in addition to a quarterly newsletter. The stated purposes of the AIR are "to benefit, assist, and advance

research leading to improved understanding, planning, and operation of institutions of higher education."[42]

Review of Institutional Research Literature

The review of the literature of institutional research is limited to those studies that have dealt with the role and scope of the institutional research function. Stickler's 1959 study, Institutional Research Concerning Land-Grant Institutions and State Universities, focuses on ninety-three institutions. The study consists of a questionnaire survey concerning the organization and administration of the institutional research function, and a representative bibliography of institutional research studies at each institution over an eighteen month period. Stickler reports (1) a growing interest in institutional research; (2) a trend toward centralized administration of institutional research; (3) a need to commit resources to the institutional research effort; and (4) a tendency toward focusing on immediate, specific problems of a local nature.[43]

Another 1959 study by Sprague, Institutional Research in the West, deals with types of studies being conducted. He reports that 24.0 percent of the total studies are concerned with students, 15.7 percent with faculty, 15.5 percent with curriculum, 8.3 percent with enrollment, 11.4 percent with physical plant, 7.8 percent with administration, 6.5 percent with teaching methods, 5.3 percent with admission policies, 4.5 percent with finance, and 0.8 percent with other agencies

or institutions. Other early studies were conducted by Johnson (1962), and Rourke and Boggs (1968) dealing with institutional research in junior colleges. Rourke and Brooks in The Managerial Revolution in Higher Education (1966) devote a chapter to the growth and development of the field of institutional research.[44]

Several dissertations published in the 1970's deal with institutional research. In 1972, Wheeler's "Institutional Research Among the Member Institutions of the National Association of State Universities and Land Grant Colleges" updated the 1959 Stickler study. Wheeler studied organizational patterns, functions, trends, and specific studies of offices of institutional research. Significant findings are that:

1. Seventy-five percent of colleges have an officer responsible for coordinating the institutional research function.

2. Fifty-one percent of the offices report to either the president, provost, or executive vice president.

3. Seven percent of the offices report to the vice president for business.

4. The average size of the staff of the office is two for institutions of less than 10,000 students, four for institutions with 10,000 - 20,000 students, and six for institutions with over 20,000 students.

5. The research effort includes the following distribution: 23.1 percent student studies; 22.5 percent faculty studies; 19.9 percent administrative studies; 10.9 percent physical plant; and 15.1 percent instruction or curriculum. Financial studies were included in each area because they are not confined to a given area.

6. Time devoted to various functions shows: 25 percent to data analysis and presentation in meaningful form; 24.6 percent to routine data gathering; 20.1 percent to preparing routine reports; 13.8 percent to performing trend analysis; and 9.6 percent to investigating problem areas.[45]

Finally, Wheeler notes a trend toward institutional research offices placing a greater emphasis on administrative decision making and management than on academic activities, and that nearly all the institutional research personnel surveyed felt the trend toward increased fiscal accountability would influence the function of institutional research more than any other factor.[46]

"Institutional Research: The Emergence of a Staff Function in Higher Education " (1973), by Tetlow, is a study based on telephone interviews of approximately forty minutes in length with eighteen of the leaders in the field of institutional research. Tetlow finds almost unanimous agreement that the primary or sole emphasis in most institutions is on central administrative issues. He also discovers agreement on a definition of the role of the office of institutional research. The role should (1) consist of data collection, analysis and reporting; (2) provide useful factual information for the decision making process; and (3) focus on improving the understanding, planning, and operation of an institution of higher education.[47]

Tetlow's data focuses on the increased emphasis on studies dealing with planning and coordination, finance, administration, and operations. Also noteworthy is a decline in studies of curriculum and teaching areas.

A dissertation by Testerman is entitled "The Role of Institutional Research in Higher Education" (1972). Testerman sent questionnaires to both the presidents and directors of institutional research at all colleges and universities in Louisiana. Perhaps his most important finding, as it relates to this study, is that his respondents agreed on which institutional research functions ranked highest in importance: that is, the highest ranked functions were fiscal and administrative studies and faculty studies.[48]

The last dissertation examined is a 1978 study by Ezell entitled "Institutional Research and Academic Planning: A Study of the Administrative and Hierarchical Organization of These Functions and How They are Performed in Public Four-Year Colleges and Universities Accredited by the Southern Association of Colleges and Schools." The study attempts to discover whether there are any significant differences between institutional research and academic planning functions, and to discover what the hierarchical and organizational structures and relationships are. Ezell finds that most of the institutions had at least an institutional research office, while some had a combination of both, and a few had a separate planning office. Also of some significance are his findings relating to academic degrees held by institutional research officers and types of studies being conducted. Individuals had master's and doctor's degrees in the areas of higher education administration, math, economics, business administration, and the natural sciences, and one was a CPA.

Ninety percent of the offices reported directly to the president, provost, or academic vice president. Studies conducted included space studies, cost studies, budget studies, faculty studies, and student studies.[49]

Summary

The purpose of this chapter has been (1) to clarify the theoretical rationale of a study relating to the internal auditing function in colleges and universities, and (2) to identify the research that has been done on this subject. The chapter focuses on the historical development and tremendous growth of two management control staff functions: internal auditing and institutional research. Internal auditing is common to all types of organizations, and institutional research is unique to institutions of higher education.

A review of the literature in the fields of internal auditing and institutional research reveals similarities in the type of work performed by each function. There is evidence that although internal auditing in colleges and universities has been criticized as lagging behind internal auditing in private industry, no consideration had been given to the possibility that the two staff functions in higher education could be performing the equivalent work of the internal auditing function in private business enterprises.

Finally, the significance of the 1978 publication of the Standards for the Professional Practice of Internal Auditing is emphasized. The importance of the SPPIA is

threefold. First, prior to the publication of the SPPIA there were no official standards to use in evaluating an internal audit function. Second, the IIA emphasizes that the SPPIA apply to all independent staff functions within an organization performing internal auditing functions. Finally, the studies critical of the internal audit function in institutions of higher education have all been conducted prior to the publication of the SPPIA. Thus, all conclusions drawn were based on a comparison with unofficial performance standards for an internal auditing function.

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CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

The purpose of this chapter is to present the research design and methodology used in the study. The first section of this chapter is devoted to a statement of the primary hypotheses and secondary objectives of the study. The second section deals with the research method selected to test the hypotheses and fulfill the secondary objectives of the study. In addition, a chronological development of the three questionnaires used in the stu is presented along with data collection techniques and response rates. The third section of the chapter is a detailed presentation of the data analysis method used to test the primary hypotheses. A discussion of the research constraints, its limitations, and a justification of the research method used conclude the chapter.

Primary Hypotheses and Secondary Objectives of the Study

Chapter I highlighted the apparent similarities between the independent staff functions of internal auditing and institutional research. Chapter I also confirmed that prior research has yielded no evidence that these two staff functions

as found in institutions of higher education could both be performing the Scope of Work functions outlined in the SPPIA. The literature review further highlighted two prior studies (Streetman, Drucker) critical of the internal audit function in institutions of higher education. A basic conclusion of both studies was that the function of internal auditing in institutions of higher education lagged far behind internal auditing in private industry. However, as was emphasized in Chapter II, these two studies were (1) performed prior to the publication of the SPPIA; (2) did not consider the work performed by independent staff departments other than internal auditing; and (3) did not make direct statistical comparisons between the internal audit function in universities and the internal audit function in private business enterprises.

Thus, the primary objective of this study is to update the Streetman and Drucker studies and develop a research design which will (1) evaluate the internal audit function in institutions of higher education based on the SPPIA Scope of Work standard, (2) consider all independent staff functions in universities that could also be performing SPPIA Scope of Work functions, and (3) allow for statistical comparisons between the resources devoted to the SPPIA Scope of Work standard in institutions of higher education and the resources devoted to the same standard in private business enterprises.

The three primary hypotheses to be tested are stated as follows in the null form.

Hypothesis #1. There is no difference between the proportion of institutions of higher education that have an internal auditing department responsible for performing the five SPPIA Scope of Work standards and the proportion of private corporations, of similar size to the institutions of higher education, that have an internal auditing department responsible for performing the five SPPIA Scope of Work standards.

After this study determines the number of institutions of higher education and the number of private corporations that have formally established an independent internal auditing department within their organizations, then the final two primary hypotheses will be tested. These two hypotheses are:

Hypothesis #2. There is no difference between the proportion of total expenditures devoted to the five SPPIA Scope of Work standards by offices responsible for conducting internal independent appraisals in institutions of higher education and the proportion of total expenditures devoted to the five Scope of Work standards by the internal audit department in private corporations of similar size to the universities studied.

Hypothesis #3. There is no difference between the proportion of full-time equivalent employees devoted to the five SPPIA Scope of Work standards in offices responsible for conducting internal independent appraisals in institutions of higher education and the proportion of full-time equivalent employees devoted to the five Scope of Work standards by the internal audit department in private corporations of similar size to the universities studied.

Both the second and third primary hypotheses relate to resources devoted to the five Scope of Work standards. Hypothesis #2 is based on the actual expenditures as a percent of total expenditures that the independent appraisal departments make in order to accomplish the five Scope of Work standards. In universities, this percentage is calculated as follows, $\frac{TEIAF}{TUE} \times 100 = PTUR$, where:

TEIAF = Total expenditures, for the most recently completed accounting year, made by internal independent appraisal departments in performing the five SPPIA Scope of Work standards.

TUE = Total university expenditures for the most recently completed accounting year. Total expenditures include expenditures for the current operating budget, capital expenditures, and expenditures for auxiliary enterprises and other service units.

PTUR = Proportion of total university resources devoted to accomplishing the five SPPIA Scope of Work standards.

In private business corporations this percentage is calculated as follows, $\frac{\text{TEIAR}}{\text{TEPC}} \times 100 = \text{PTPCR}$, where:

TEIAR = Total expenditures for the most recently completed accounting year made by the internal audit department in performing the five SPPIA Scope of Work standards.

TEPC = Total expenses for the most recently completed accounting year for all operating expenses including factory labor and overhead.

PTPCR = Proportion of total private corporation resources devoted to accomplishing the five SPPIA Scope of Work standards.

Because the generally accepted method of accounting used in universities is not identical to the generally accepted method of accounting used in profit oriented organizations, the calculation of TUE is not identical to the calculation of TEPC. Universities typically do not record depreciation expense in their system of accounting. Thus, TUE is calculated using total expenditures for the current operating budget plus expenditures for capital items such as buildings and equipment. TEPC is based on total accounting expenses

which does include depreciation expense. This difference in the denominator in the two calculations is not considered a significant difference since a large number of responses were received from both test groups. Depreciation expense represents a partial write off of the unamortized costs of capital expenditures of prior years. The total capital expenditures of all the universities surveyed would tend to represent an amount similar to total depreciation expense, except for any differences caused by the inflated cost of replacing capital assets.

The third hypothesis is based on the number of full-time equivalent (F.T.E.) professional staff employed in the independent appraisal departments to perform the five SPPIA Scope of Work standards. This number will be compared to the total number of F.T.E. employees in the organizations being surveyed, and the number of F.T.E. professional staff performing the five SPPIA Scope of Work standards for each one thousand F.T.E. employees will be computed.

The calculation of expenditures devoted to the five SPPIA Scope of Work standards as a percent of total expenditures was not used in any of the prior studies reviewed. The calculation of number of professionals per one thousand employees is the method that has been used by the IIA in their Surveys of Internal Auditing. For example, in the Survey of Internal Auditing 1979, this calculation was made and it was the only measure involving a relationship between the total resources (employees) of a company and the resources (number of internal

auditors) devoted to the internal audit function. The ratio of auditors to total employees was made by industrial class and ranged from 1:1037 in the multiple industry classification of paper, rubber and textiles, to 1:970 in the retail and wholesale classification.[1] In the 1975 survey, the range was from 1:1000 in the electronics industry to 1:83 in the banking, savings and loan classification.[2] The range in the 1968 survey was from 1:1087 in the food and beverage classification to 1:945 in the miscellaneous category.[3]

In the process of gathering data to test the primary hypotheses, other data were obtained in order to provide additional insight. This supplemental data includes:

a. The reporting level in the organization of the independent appraisal departments in the two test groups.

b. The individuals or groups that routinely receive activity reports from the independent appraisal departments in the two test groups.

c. The academic and professional backgrounds of the professional independent appraisal staff in the two test groups.

d. The resources devoted to staff training and other continuing educational activities by the independent appraisal departments in the two test groups.

e. The time devoted to non-SPPIA Scope of Work activities by the independent appraisal departments in the two test groups.

f. The division of the total effort devoted to the SPPIA Scope of Work standard among the five specific Scope of Work standards.

The Sample Groups, Development of the Questionnaires, and Procedures Used to Gather the Data

The procedure followed to identify the sample groups, test the hypotheses, and gather the supplemental data is divided into the following six chronological steps.

Step 1. Identify the population of the higher education test group.

Step 2. Develop a procedure to verify the initial findings that both the internal audit department and institutional research department are performing SPPIA Scope of Work activities.

Step 3. Design and pre-test the questionnaire to mail to the higher education test group.

Step 4. Distribute the higher education test group questionnaire.

Step 5. Select the private corporation sample test group.

Step 6. Design a questionnaire to be sent to the private business corporation test group and mail the questionnaire.

These six steps are detailed in the following sections.

Higher Education Test Group

The first research design step was to identify the universities to be included in the questionnaire survey. After considering several factors, all four-year U.S. colleges and universities with enrollments exceeding 15 000 students were selected as the Higher Education Test Group. The study is limited to four-year colleges and universities for two reasons. First, the prior studies by Streetman, Drucker, and Miller included only four-year schools. Second, junior colleges were

not included because this researcher felt the homogenity of this test group would be significantly reduced by their inclusion.

The minimum enrollment limitation of 15,000 students is required because a comparison will be made between the data gathered from the university test group and the data gathered from the test group of similar sized private corporations. Surveying organizations of approximately the same size (based upon some variable) reduces the likelihood of any extraneous variable caused by significant size differences in the two test groups. Furthermore, setting the minimum enrollment at 15,000 increases the probability the institutions surveyed will have formal offices of institutional research and internal auditing, rather than have these functions combined with another office or department.

The Educational Directory, Colleges and Universities, 1980-81, published by the National Center for Educational Statistics is the document used to identify the population of the Higher Education Test Group. One hundred seventeen four-year colleges and universities with enrollments exceeding 15,000 students were identified (Appendix A). Since the total population amounted to only 117 schools, every school was included in the questionnaire survey and the director of institutional research and the director of internal auditing at each school were sent a questionnaire.

Empirical Investigation to Verify Literature Review Finding

Having identified the population of the Higher Education Test Group, the next step was to perform an empirical study to determine what independent departments within institutions of higher education have a primary or significant secondary responsibility for conducting independent appraisals as described in the SPPIA. In both Chapter I and II evidence is presented that the internal audit department has this responsibility in private industry, and that both the internal audit department and the institutional research office appear to have this independent appraisal responsibility in institutions of higher education. To verify this conclusion concerning colleges and universities, a letter and one-page questionnaire (Appendices B and C) were sent to a random sample of twenty-five of the Higher Education Test Group schools. The letter and questionnaire were sent to the executive vice president of the university or to the president, when no executive vice president was listed in the Educational Directory, Colleges and Universities, 1980-81, a directory which lists the names, titles, and position codes for forty-five administrative positions within a university.[4]

Nineteen responses were received and the results are presented in Table 1. This field test verified the findings of the literature review, and a decision was made to send questionnaires to both the directors of internal auditing and the directors of institutional research at the Higher Education Test Group schools.

TABLE 1

RESULTS OF QUESTIONNAIRE SENT TO EXECUTIVE VICE PRESIDENTS AND PRESIDENTS AT SELECTED HIGHER EDUCATION TEST GROUP SCHOOLS

Respondent	Number Responding	Internal Audit Department Performing SPPIA Scope of Work Standards			Institutional Research Department Performing SPPIA Scope of Work Standards			Other Departments Performing SPPIA Scope of Work Standards
		Yes	No	No Response	Yes	No	No Response	
President or Executive Vice President	4	4	0	0	1	1	2	1
Functional Vice President	9	8	1	0	1	7	1	None
Director, Internal Auditing	5	5	0	0	0	1	4	None
Director, Institutional Research	1	0	1	0	1	0	0	None

Design of Higher Education Test Group Questionnaires

The next step in the process is the designing of two questionnaires to be sent to the directors of internal auditing and directors of institutional research at the 117 Higher Education Test Group schools. A fourteen-question questionnaire was designed and pre-tested at two universities. Mr. Ed Glover, Director of Internal Audits, Oklahoma State University and Mr. John Eckert, Director of Internal Auditing, University of Oklahoma, pre-tested the questionnaire. In addition to completing the questionnaire, they identified (1) questions they considered difficult due to vagueness or (2) questions for which data would be hard to gather. Their suggestions were also solicited concerning adding questions they deemed important, re-wording specific questions, or deleting unnecessary questions.

Each reviewer made constructive suggestions to improve the survey instrument and a final fourteen-question questionnaire was developed (Appendix D). This questionnaire emphasizes the following eight key interest areas:

a. The direct operating expenditures of the internal audit department (Question 14).

b. The total expenditures of the university (Question 13).

c. The percent of available professional time in the internal audit department devoted to the SPPIA Scope of Work standard (Question 10 (a)).

d. The division of the professional time devoted to the SPPIA Scope of Work standard among the five specific Scope of Work standards (Question 11).

e. The number of employees in the university (Question 12), and the number of employees in the internal audit department (Question 4).

f. The reporting level of the internal audit department within the organization (Questions 3, 7, and 8).

g. The percent of available professional time devoted to staff training, continuing education, and professional development (Question 10(b)).

h. The academic degrees and professional certificates held by the professional staff (Question 6).

Both reviewers believed the revised questionnaire could be answered in thirty to forty-five minutes, and they felt that most institutions would gladly participate in the project.

After developing the internal audit questionnaire, an eleven-question questionnaire was developed for the directors of institutional research at the Higher Education Test Group schools (Appendix E). The only difference between the two questionnaires is that questions 12, 13 and 14 of the internal audit questionnaire were deleted from the institutional research questionnaire. These three questions deal with university-wide data which would be gathered in the internal audit questionnaire. Thus, by shortening the institutional research questionnaire, an increase in the response rate was anticipated. One other subtle change was made in the institutional research questionnaire. In the five specific Scope of Work standards, the term "internal auditors should" was removed and replaced with the term "the independent appraisal function

should." Since the SPPIA apply to any independent appraisal function within an organization, such a change seemed appropriate and could reduce the possible prejudging of the questionnaire by the directors of institutional research. The institutional research questionnaire was not pre-tested since its questions were almost identical to the internal audit questionnaire.

Distribution of Higher Education Test Group Questionnaires

Personalized letters of transmittal (Appendices F and G) were mailed with the questionnaires. Names and mailing addresses were obtained from the membership directory of the Association of College and University Auditors and the Educational Directory, Colleges and Universities, 1980-81. When individual names could not be obtained, the letter was addressed to either the Director of Internal Auditing or the Director of Institutional Research at the institutions. The letters of transmittal also stated that the questionnaires should be returned if there was not a formal office of internal auditing or institutional research at the surveyed school.

Usable responses were received from eighty-one internal audit departments and from ninety institutional research departments of the 117 universities surveyed. The percentage response rate was 69.2 percent for internal auditing departments and 76.9 percent for institutional research departments. The schools that responded to the questionnaires are identified

in Appendix A. Responses were received from both departments in the case of sixty-nine schools. With very few exceptions the returned questionnaires were usable. Most respondents answered all the questions, and many indicated an interest in receiving a copy of the final report. The accuracy of the responses is almost entirely dependent upon the person answering the questionnaire. However, the directors of the departments surveyed are in the best position to provide accurate answers to the questions. There were no indications among the responses that the directors had encountered difficulties in answering the questions and providing the data requested.

Selection of Sample of Private Corporation Test Group

The next step was to survey 177 private corporations headquartered in the United States. The private corporations are similar in size to the Higher Education Test Group, based on number of full-time equivalent employees. Difficulties arise in attempts to equate private business enterprises with non-profit organizations, but the number of employees would appear to provide a way of equating private enterprises and universities in terms of size. Furthermore, the objective is not to select universities and businesses of identical size; it is to select universities and businesses of similar size to eliminate any extraneous differences caused by significant size differences.[5]

In the selection of the sample units of this test group,

stratification was used to control the variation in the size (number of employees) of these sample units as compared to the size (number of employees) of the sample units in the Higher Education Test Group. The number of employees in the universities that responded to the survey ranged from 1,100 to 23,600. However, since there was a lower enrollment limit but no upper limit, the distribution of schools was positively skewed. This distribution is presented in Table 2.

As indicated by the three primary hypotheses presented in Chapter I, one of the primary objectives of this study is to determine if there is a difference between the proportion of total resources devoted to the internal audit function in universities as compared to the same proportions in similar sized private corporations. The objective is not to determine the actual proportion of total resources devoted to the internal audit function in either population. Thus, it was determined that the test group of private corporations should be comparable to the Higher Education Test Group based on number of employees. As noted in the above paragraph, the range of number of employees in the Higher Education Test Group was from 1,100 to 23,600 with a specific distribution pattern as presented in Table 2. The actual distribution of the total population of the private corporations with employees in the 1,000 to 24,000 range was not known.

Since the primary purpose of the tests of the hypotheses is to statistically compare universities with corporations of similar size; random selection of corporations using strati-

TABLE 2

NUMBER OF FULL TIME EQUIVALENT (F.T.E.) EMPLOYEES AT UNIVERSITIES RESPONDING TO HIGHER EDUCATION TEST GROUP QUESTIONNAIRE

Range of F.T.E. Employees	Number of Universities in Range	Percent of Universities in Range
1,000- 3,000	12	16%
3,001- 5,000	13	18%
5,001- 7,000	15	21%
7,001- 9,000	9	12%
9,001-11,000	5	7%
11,001-13,000	5	7%
13,001-15,000	6	8%
15,001-17,000	3	4%
17,001-24,000	5	7%
TOTAL	73*	100%

*Not all universities responded to the question concerning number of university employees.

fication based upon the employment strata of the surveyed universities was selected. It is realized that such a stratified random selection method is not the same as a simple random sample as called for in the statistical tests used later in this study. How close the actual sample taken is to a simple random sample is dependent upon how similar the actual distribution of private corporations (based on number of employees) is to the actual distribution of the Higher Education Test Group (based on number of employees).

The Standard and Poors Register of Corporations, Directors and Executives 1981 Volume I was used to select the Private Corporation Test Group firms. Volume I of the directory provides the name and address of the corporation, number of employees, key officers, gross sales, and product lines. The directory also identifies corporations that are divisions or subsidiaries of larger corporations. Only autonomous business units were selected. No subsidiaries nor divisions of larger business units are included in this test group. A table of random numbers was used to select page numbers in the directory. If a firm with total employees in the 1,000 to 24,000 range was found on the selected page it was included in the initial mailing. This procedure was repeated until a total of one hundred seventy-seven firms had been selected. In selecting firms for each employment stratum, the stratum of 1,000 to 3,000 was completed first. The remaining strata were completed at approximately the same point in the sample selection process with the exception of

the 11,001 to 13,000 and 13,001 to 15,000 ranges which took longer to fill. The number of firms selected for each employment stratum is presented in Table 3.

The selection of one hundred seventy-seven firms to survey was an arbitrary decision. As Deming points out, the size of a sample is no criterion of its precision, its accuracy, or its usefulness. The choice of the sample unit and the formulas prescribed for estimations are more important than size in the determination of precision. Once these features are fixed, then as the size of the sample is increased, precision is gained but the point of diminishing returns comes rapidly.[6] This number, one hundred seventy-seven, is fifty percent larger than the initial higher education mailing.

The letter of transmittal that accompanied the questionnaire was addressed only to the Director of Internal Auditing. To increase the possible response rate, a letter of endorsement for the study was obtained from the president of the Oklahoma City Chapter of the Institute of Internal Auditors, Inc., (Appendix H). A copy of this letter was included with the initial mailing of the questionnaire to this test group. The firms selected for the Private Corporation Test Group are listed in Appendix I.

Design, Pre-Testing, and Distribution of the Private Corporation Questionnaire

The Private Corporation Test Group questionnaire is patterned after the Higher Education Test Group questionnaire

TABLE 3

DISTRIBUTION OF PRIVATE CORPORATION TEST GROUP FIRMS BY NUMBER OF EMPLOYEES

Range of Employees	Number of Firms in Each Range	Percent of Test Group from Each Range
1,000- 3,000	28	16%
3,001- 5,000	34	19%
5,001- 7,000	35	20%
7,001- 9,000	25	14%
9,001-11,000	11	6%
11,001-13,000	15	9%
13,001-15,000	13	7%
15,001-17,000	7	4%
17,001-24,000	9	5%
TOTAL	177	100%

for the internal audit department. The only major change involves the question concerning the firm's total expenses. Each firm was asked to provide the total selling, administrative, general, factory overhead and direct labor expenses for its most recently completed accounting year. The respondents were specifically instructed not to include the cost of raw materials, merchandise purchases, interest charges, provision for income taxes, and extraordinary gains or losses. The total expenses requested in the questionnaire was an amount that could be equated to the total expenditures of a university. The expenditures of a university are very similar to those of any other organization with the exception that a university does not typically have raw material costs, income taxes, or interest expense. However, a university does provide various types of services and does produce a product, student credit hours. Universities do have direct labor, overhead, administrative, selling and general expense.

The questionnaire was pre-tested at four firms headquartered in Oklahoma City, Oklahoma. The four firms were Kerr-McGee Corporation, 10,855 employees; Anta Corporation, 3,998 employees; Oklahoma Gas and Electric, 3,504 employees; and Oklahoma Publishing Company, 2,600 employees. The suggestions made by these directors of internal auditing were taken into consideration, and the final draft of the Private Corporation Test Group questionnaire was completed (Appendix J). A total of ninety-six usable responses were received representing a response rate of 54.2 percent. Appendix I

identifies the firms that responded to the questionnaire.

Statistical Method to Test Primary Hypotheses of the Study

The choice of an appropriate statistical procedure for analyzing research data depends on the objectives of the research, the types of data to be analyzed, the way the hypothesis is stated, and whether the data represents a population or a sample. As practiced by researchers, many statistical methods are potentially useful when the data can be treated as interval or ratio scaled measures of information. The choice of an appropriate technique becomes more restricted when observations can only be ranked or classified into ordinal categories. In cases where the data represents a sample, both descriptive as well as inferential statistics are required.[7]

In this study two distinct populations are being examined. The first population is all four-year institutions of higher education in the United States with enrollments exceeding 15,000 students. This population totals 117 institutions, and the full-time equivalent employees in these institutions ranges from 1,100 to 23,600 employees. The other test group consists of all private corporations in the United States with full-time equivalent employees in the 1,000 to 24,000 range. The total number of firms in this group is 2,247.[8] The responses from both test groups were sufficiently large to justify the conclusion that a statistically large sample had been obtained from both test groups.

The statistical method used to test Hypothesis #1 is one that involves a difference between two sample proportions where large samples are obtained. For large samples the normal approximation to the binomial distribution is used as a basis for such a test.[9] The following notations are used.

	Test Group I Universities	Test Group II Corporations
Population size	N_1	N_2
Sample size	n_1	n_2
Number of respondents in each test group that have an independent internal auditing department	X_1	X_2
Proportion of respondents in each test group that have an independent internal auditing department	$\frac{X_1}{n_1}$	$\frac{X_2}{n_2}$
True population proportions	p_1	p_2

Thus, the sampling distribution of the difference between the sample proportions $\left(\frac{X_1}{n_1}\right) - \left(\frac{X_2}{n_2}\right)$ is approximately a normal distribution with mean $p_1 - p_2$ and standard deviation

$$\sqrt{\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}}.$$

The hypothesis tested is the null hypothesis H_o, which states that there is no difference between the proportions of the two populations. The alternative hypothesis H_1 is that there is a difference between the true population proportions. That is:

Null: $p_1 = p_2$

Alternative: $p_1 \neq p_2$

The alternative hypothesis does not specify direction; thus, a two tailed test is used. This hypothesis will be tested at the 0.01, 0.05 and 0.10 alpha levels of significance. Thus, the probability of a "Type I" error is either .01, .05 or .10. A "Type I" error is one in which the null hypothesis is rejected when in fact it is correct. Also, the actual probability of a "Type I" error will be computed based on the actual data tested.

Since p_1 and p_2 are not known, the sample data are pooled to provide an estimate of their common value p. The estimator of p is $\hat{p} = \frac{X_1 + X_2}{n_1 + n_2}$. The estimator of the standard deviation of the sampling distribution is equal to

$$\hat{\sigma}_{p_1 - p_2} = \sqrt{\hat{p}(1 - \hat{p})\left[\left(\frac{1}{n_1}\right)\left(\frac{N_1 - n_1}{N_1 - 1}\right) + \left(\frac{1}{n_2}\right)\left(\frac{N_2 - n_2}{N_2 - 1}\right)\right]}$$

The procedure used to obtain estimates of p and the standard deviation is justified provided that H_o is true.[10]

The test statistic used to determine if H_o is accepted or rejected is

$$Z = \frac{\left(\frac{X_1}{n_1}\right) - \left(\frac{X_2}{n_2}\right)}{\sqrt{\hat{p}(1 - \hat{p})\left[\left(\frac{1}{n_1}\right)\left(\frac{N_1 - n_1}{N_1 - 1}\right) + \left(\frac{1}{n_2}\right)\left(\frac{N_2 - n_2}{N_2 - 1}\right)\right]}}$$

The values of Z which would result in the rejection of H_o depend upon the form of the alternative hypotheses and the

level of significance. In this study the alternative hypothesis H_1 is $p_1 \neq p_2$; thus, a two tailed test is used at the .01, .05, and .10 levels of significance. H_o is accepted at the .01 level of significance if $-2.58 \leq Z \leq 2.58$; at the .05 level of significance H_o is accepted if $-1.96 \leq Z \leq 1.96$; and at the .10 level of significance H_o is accepted if $-1.64 \leq Z \leq 1.64$. In the Z computation above the $\left(\frac{N_1 - n_1}{N_1 - 1}\right)$ and $\left(\frac{N_2 - n_2}{N_2 - 1}\right)$ are finite correction factors. This factor corrects for the size of the sample n relative to the size of the population N.[11]

Hypothesis Number 1 deals with the proportion of units in each sample group that have an established independent internal auditing department. Having tested this hypothesis, the remaining two hypotheses involve data obtained from the units in each test group that have an independent appraisal function. The statistical method used to test hypotheses Number 2 and Number 3 also involves a difference between two sample proportions where large samples are obtained. The null and alternative hypotheses and the alpha levels of significance are the same as presented for hypothesis Number 1. However, a ratio estimate method will be used to determine the sample proportions in each test group.

The distribution of the ratio estimate has proved annoyingly intractable because both the numerator (x) and denominator (y) vary from sample unit to sample unit. The principal results of the ratio estimate are stated as follows

without proof. The ratio estimate is consistent, and it is biased although the bias is negligible in large samples. The limiting distribution of the ratio estimate, as n becomes very large, is normal. In samples of moderate size the distribution shows a tendency to positive skewness in the kinds of populations for which the method is most often used. There is an exact formula for the bias, but for the sampling variance of the estimate, an approximation is valid in large samples. These results amount to saying that there is no difficulty if the sample is large enough so that (a) the ratio is nearly normally distributed and (b) the large-sample formula for its variance is valid. As a working rule, the large-sample results may be used if the sample size exceeds 30 and is also large enough so that the coefficients of variation of $\bar{x}$ and $\bar{y}$ are both less than 10 percent.[12] The following notations are:

Total operating expenditures, or total number of F.T.E. professionals, devoted to the five SPPIA Scope of Work standards for a given sample unit.	x_i
Total operating expenditures, or total number of F.T.E. employees, for a given sample unit.	y_i
Number of sampling units.	n
Total population of each test group.	N

An estimate of the ratio of operating expenditures devoted to the five SPPIA Scope of Work standards to total expenditures or the ratio of F.T.E. professionals devoted to the five SPPIA

Scope of Work standards to total F.T.E. employees can be obtained by the calculation $\hat{R} = \frac{\sum_{i=1}^{n} x_i}{\sum_{i=1}^{n} y_i} = \frac{\bar{x}}{\bar{y}}$. The variance of $\hat{R}$ is then computed as

$$\text{Var}(\hat{R}) = \left[\frac{1 - \frac{n}{N}}{n\left(\sum_{i=1}^{n} y_i\right)^2}\right] \left[\frac{\sum_{i=1}^{n} (x_i - \hat{R}y_i)^2}{n - 1}\right]$$

so that the standard error is computed as

$$\text{s.e.} = \sqrt{\text{Var}(\hat{R})}$$

$$\text{s.e.} = \left[\frac{\sqrt{1 - \frac{n}{N}}}{\sqrt{n}\left(\sum_{i=1}^{n} y_i\right)}\right] \left[\sqrt{\frac{\sum_{i=1}^{n} (x_i - \hat{R}y_i)^2}{n - 1}}\right]$$

The $\sum_{i=1}^{n} \frac{(x_i - \hat{R}y_i)^2}{n - 1}$ is a sample estimate of the population variance $\sum_{i=1}^{N} \frac{(x_i - Ry_i)^2}{N}$. This estimate has a bias of $\frac{1}{n}$.

Letting $\text{Var}(\hat{R}_E)$ equal the variance of the ratio of educational institutions and $\text{Var}(\hat{R}_B)$ equal the variance of the ratios for businesses, then the next step is to determine if there is a significant difference between $\hat{R}_E$ and $\hat{R}_B$. Assuming the ratios are independent, then

$$\text{Var}(\hat{R}_E - \hat{R}_B) = \text{Var}(\hat{R}_E) + \text{Var}(\hat{R}_B),$$

and the standard error is

$$\text{s.e. } (\hat{R}_E - \hat{R}_B) = \sqrt{\text{Var}(\hat{R}_E) + \text{Var}(\hat{R}_B)}$$

The test statistic used to determine if H_o is accepted or rejected is

$$Z = \frac{\hat{R}_E - \hat{R}_B}{\sqrt{Var(\hat{R}_E) + Var(\hat{R}_B)}}$$

H_o is accepted at the .01 level of significance if $-2.58 \leq Z \leq 2.58$; at the .05 level of significance H_o is accepted if $-1.96 \leq Z \leq 1.96$; and at the .10 level of significance H_o is accepted if $-1.64 \leq Z \leq 1.64$.

Research Constraints, Limitations and Justification of Research Method

A major constraint of this study is that it cannot be used to determine whether universities should be devoting more or less resources to the independent appraisal function as described in the SPPIA. A multitude of factors need to be considered in determining the proportion of total resources that "should" be devoted to this specific activity by any organization or category of organizations. The purpose of this initial study is only to determine if there is, or is not, a significant difference between the proportion of total resources devoted to the five Scope of Work standards by offices responsible for conducting internal independent appraisals in institutions of higher education, and the proportion of total resources devoted to the same SPPIA standards by the internal audit department in private business enterprises. To determine where institutions of higher education should rank in comparison with other categories of organizations is left to future research.

An additional limitation is that the study examines inputs to the independent appraisal function rather than out-

puts. There are two reasons for this approach. First, both the FARE study and Price Waterhouse study state that the first step of an evaluation of the independent appraisal function must start with an evaluation of the inputs to that process. Second, inputs can be measured quantitatively much more easily than the quality of outputs. In many cases, generalizations can be made about the quality of the outputs of a system by examining the amount and quality of the inputs into the system.

A final constraint is the problems that might be caused by not considering the non-respondents to the questionnaire in each test group. The crucial factor to be resolved is not whether the characteristics of the non-respondents in each test group are identical to the respondents in that test group. It is whether the differences, if any, of the non-respondents (when compared to the respondents in each test group) are parallel. If these differences are of a similar nature in both test groups, then they should not bias the testing of the three primary hypotheses of the study. This problem is addressed, discussed, and documented in Chapter IV.

The study does assume that no other office other than the internal audit department is performing SPPIA Scope of Work activities in private businesses. Since no evidence was found in the literature review to indicate there were any other departments performing this function, no preliminary questionnaire was sent to the chief operating officers of the businesses surveyed to determine if there are departments

other than internal auditing performing the SPPIA Scope of Work standard. Furthermore, a question was included in the Private Corporation Test Group questionnaire asking if any other independent department was performing SPPIA Scope of Work activities, and as documented in Chapter IV, there were only a few instances where any other department was listed.

The research methodology used is hypothesis testing survey research. In evaluating possible research methods, three seemed appropriate to the general problem of this study. These three are: hypothesis testing field study, exploratory field study, and hypothesis testing survey research.

Field studies are ex-post facto scientific inquiries based on direct observations of events by the researcher at the scene of the action. They are aimed at discovering relationships and interactions among variables in real social structures. Field studies are divided into two broad types: hypothesis testing and exploratory. A hypothesis testing field study is aimed at discovering relationships and yields precise descriptive statements about large populations.[13] This type of field study could have been used to test the hypothesis of this study. The method, however, was rejected for one basic reason and that is the expenses associated with visiting the colleges and businesses to gather the data to test the hypotheses. Although survey research, whether it be via a mailed questionnaire or telephone interviews, is not as reliable as field interviews, it is much more economical.

The exploratory field study seeks what is, rather than

predicts what relations may be found. This type of study normally consists of a limited number of on site visits and has three basic purposes: to discover significant variables in the field situation, to discover relations among variables, and to lay the ground work for later, more systematic and rigorous hypothesis testing.[14] This type of field study is more qualitative than quantitative, and it does not yield precise descriptive statements about large populations. Any conclusions drawn are only suggestive rather than definitive.[15] In the case of the problem presented in this study, much of the exploratory work has already been conducted. The reviewed dissertations on institutional research were descriptive in nature; the SPPIA was the result of considerable indepth field work, as was the FARE study. Thus, significant variables have already been identified, leaving the impression that the exploratory field research has been largely completed. Hypothesis testing is the next logical step.

Having determined that the objective of the study is to test the hypotheses presented at the beginning of this chapter, and having concluded that a field study or telephone survey were too expensive a procedure to test these hypotheses, a mailed questionnaire survey research method was chosen for this study. Survey research studies large or small populations by selecting samples chosen from the population to discover the relative incidence, distributions, and interrelations of sociological and psychological variables.[16] In conducting survey research via a mailed questionnaire,

several inherent weaknesses have to be addressed and overcome in order for the research to be successful. The first problem with a mailed questionnaire is the understandability of the questions asked. This problem can be resolved, to a great extent, by pre-testing the questionnaire on selected respondents. A second major problem is a possible low response rate, in many cases less than fifty percent. In this project it was felt that the response rate should exceed fifty percent, based on the following considerations. First, the researcher obtained an endorsement for the study from the Oklahoma City Chapter of the Institute of Internal Auditors, Inc. Next, the number and difficulty of the questions were held to a minimum. Lastly, follow-up requests by mail were used to increase the response rate.

The primary advantage of survey research methodology is its relative low cost, particularly with a population which is geographically disbursed. Survey research has the advantage of wide scope, yet it does not penetrate deeply below the surface. In this initial study, indepth data is not being sought. Only one of five general standards of internal auditing is being examined. It is a quantitative rather than a qualitative standard. The questionnaire is designed to solicit facts about inputs rather than outputs, and is only the first step in a total evaluation of the internal independent appraisal function within organizations.

Summary

Four major topics have been covered in this research design and methodology chapter. The primary hypotheses of the study were presented first along with six supplemental areas of investigation. The second part of the chapter was devoted to the chronological development of the three questionnaires used in the study along with the data collection techniques used and the actual response rates. The third section dealt with the statistical method selected to test the primary hypotheses of the study. A discussion of the research constraints and justification of the research method selected concluded the chapter.

ENDNOTES

[1]Survey of Internal Auditing 1979, p. 90.

[2]The Institute of Internal Auditors, Survey of Internal Auditing 1975 (Orlando, Florida: The Institute of Internal Auditors, Inc., 1976), p. 69.

[3]Ibid.

[4]Center for Educational Statistics, Educational Directory, Colleges and Universities, 1980-81.

[5]Kerlinger, p. 309-310.

[6]W. Edwards Deming, Sample Design in Business Research (New York: John Wiley and Sons, Inc., 1960), p. 28.

[7]V. Gourveitch, Statistical Methods: A Problem Solving Approach (Boston: Allyn and Bacon, Inc., 1965), pp. 271-272.

[8]Disclosure, Inc., "Disclosure II Data Base" (Bethesda, Maryland: Dialog, November 1981).

[9]William C. Merrill, and Karl A. Fox, Introduction to Economic Statistics (New York: John Wiley and Sons, Inc., 1970), p. 299.

[10]Ibid.

[11]Robert D. Mason, Statistical Techniques in Business and Economics, 3rd edition (Homewood, Ill: Richard D. Irwin, Inc., 1974), p. 302.

[12]William C. Cochran, Sampling Techniques, Third Edition (New York: John Wiley and Sons, Inc., 1977), p. 153.

[13]Kerlinger, pp. 405-407.

[14]Ibid.

[15]Earl R. Babbie, The Practice of Social Research (Belmont, California: Wadsworth Publishing Company, 1975), p. 220.

[16]Kerlinger, p. 410.

CHAPTER IV

RESEARCH FINDINGS

Introduction

This chapter is divided into three separate sections. The first section contains the results of the test procedure used to determine the bias, if any, of not considering the non-respondents to the survey questionnaires. The second section presents the results of the statistical tests of the three primary hypotheses. The third section presents and discusses the other research findings from the three questionnaire surveys. These other research findings are presented in terms of frequencies, percentages and other forms of descriptive statistics.

Non-Respondent Test Procedures

As discussed in Chapter III, a potential problem can result from not considering the non-respondents to the questionnaire in each test group. The important factor to be resolved in this study is not whether the characteristics of the non-respondents in each test group are identical to the respondents in that test group; it is whether the differences between the non-respondents and the respondents in each test group are similar between test groups. The three primary

hypotheses involve tests of significance between certain data gathered from the two independent test groups. In this study no attempt is made to determine or forecast the exact proportion of financial or manpower resources devoted to the five SPPIA Scope of Work standards. Thus, the fact that there may be a difference between the proportion of resources devoted to this standard by the non-respondents as compared to the proportion of resources devoted to this standard by the respondents is not critical to the research questions raised. It is important, however, to determine the characteristics of the non-respondents in each test group as compared to the respondents in each group and to determine if the differences between the respondents and non-respondents are consistent between test groups.

In the review of the questionnaires and letters of transmittal used, there appeared to be nothing in these documents which would cause the recipients in one test group to respond more readily than the recipients in the other test group. Someone might not respond to the questionnaire because his firm's interest and commitment to the internal audit function was minimal or because his firm was reluctant to disclose this minimal commitment. This type of recipient would be found in both test groups, not just in one. Thus, if the commitment to the independent appraisal function of the non-respondents in each test group was lower than that of the respondents, this difference would somewhat "cancel out" and not bias the results of the study.

Each test group was mailed an initial questionnaire; after one month all non-respondents were mailed a second copy of the questionnaire and a follow-up request letter. The data from the respondents to the first questionnaire and from respondents to the second questionnaire were separated for the purpose of this test. It was assumed that the respondents to the second questionnaire were in fact non-respondents to the initial questionnaire. An analysis of the data from the first and second respondents is presented in Table 4.

Three groups of data are presented in Table 4. The data in the first two columns are from the usable responses to the Higher Education Test Group questionnaire. The middle two columns contain data from all the usable responses to the Private Corporation Test Group questionnaire. The final two columns reflect data from the usable responses to the Private Corporation Test Group data, excluding the data from the six public utilities that return a usable questionnaire.

The data from the Private Corporation Test Group questionnaire revealed public utilities' unusual ratio of resources committed to the independent appraisal function. They had a very high ratio of F.T.E. professional auditors to total F.T.E. employees, yet a very low percent of total operating expenditures for internal auditing. These six companies had a combined ratio of F.T.E. professional auditors devoted to the five SPPIA Scope of Work Standards per one thousand F.T.E. employees of 2.60, and a percent of total operating expenditures devoted to the five SPPIA Scope of Work standards of

TABLE 4

RESULTS OF SELECTED RESPONSES TO FIRST AND SECOND MAILINGS OF THREE PRIMARY QUESTIONNAIRES

Item	Higher Education Test Group		Private Corporation Test Group		Private Corporation Test Group-Adjusted	
	First Requests	Second Requests	First Requests	Second Requests	First Requests	Second Requests
Number of usable responses	38*	18*	50	30	49	25
Percent of total in each test group	67.9%	32.1%	62.5%	37.5%	66.2%	33.8%
Number of FTE professionals devoted to five the SPPIA Scope of Work Standards	234.68	118.65	330.83	258.56	312.43	163.22
Percent of total in each test group	66.4%	33.6%	56.2%	43.8%	65.7%	34.3%
Number of FTE professionals devoted to the five SPPIA Scope of Work Standards per each 1000 FTE employees**	.853	.729	.793	.858	.758	.621
Operating expenditures devoted to the five SPPIA Scope of Work Standards ($000)	$6,063	$3,243	$9,163	$7,277	$8,747	$5,158
Percent of total in each test group	65.2%	34.8%	55.8%	44.2%	62.9%	37.1%
Operating Expenditures devoted to the five SPPIA Scope of Work Standards as a percent of total expenditures**	.0007466	.0006730	.0009884	.0005444	.0010154	.0006710

*A usable response was one where both the university internal audit department and university institutional research department responded to the questionnaire.

**The procedure used to compute these percentages is presented on pages 89-90.

only .0004475. Only one utility responded to the first questionnaire, and five responded to the second questionnaire. Thus, a more meaningful comparison could be made between the first and second respondents in each test group by excluding these six public utility companies from this test. Therefore, the narrative analysis of Table 4 presented in the next paragraph will be between the Higher Education Test Group data and the Private Corporation Test Group-Adjusted data.

The Higher Education Test Group data compared to the Private Corporation Test Group-Adjusted revealed that the number of usable responses to the first requests as a percent of total usable responses in each group is almost identical, 67.9 percent in the Higher Education Test Group and 66.2 percent in the Private Corporation Test Group-Adjusted. Additionally, the percentage distributions between first and second respondents of the absolute number of F.T.E. professionals, and the absolute number of operating expenditures devoted to the five SPPIA Scope of Work standards in each test group were similar. The distribution of the total F.T.E. professionals in the Higher Education Test Group was 66.4 percent first respondents and 33.6 percent second respondents. In the Private Corporation Test Group-Adjusted it was 65.7 percent and 34.3 percent respectively. The distribution of total SPPIA operating expenditures in the Higher Education Test Group was 65.2 percent first respondents and 34.8 percent second respondents. These same percentages were 62.9 percent and 37.1 percent in the Private Corporation Test

Group-Adjusted. Finally, the number of usable responses as a percent of the initial number of firms or universities surveyed is almost identical. In universities this percentage is 47.9 percent (56 of 117) and in the Private Corporation Test Group it is 45.2 percent (80 of 177).

There is a consistent drop in the resources committed to the five SPPIA Scope of Work specific standards between the first and second respondents in each test group. In the Higher Education Test Group there is a 14.5 percent drop (.853 to .729) in the number of F.T.E. professionals devoted to the five SPPIA Scope of Work Standards per each one thousand employees. In the Private Corporation Test Group-Adjusted data this drop is 18.1 percent (.758 to .621). Also, in the Higher Education Test Group there is a 9.9 percent drop (.0007466 to .0006730) between the first and second respondents in the computation of operating expenditures devoted to the five SPPIA Scope of Work Standards as a percent of total expenditures. In the Private Corporation Test Group-Adjusted this percentage drop was somewhat larger, 33.9 percent (.0010154 to .0006710). The drop is consistent between groups in that the drop in the commitment of resources to the independent appraisal function is, in all cases, lower in the responses to the second request as compared to the responses to the first requests.

To summarize, it does appear that, based on the analysis of the data presented in Table 4, the proportion of total resource commitment to the five SPPIA Scope of Work Standards

by the schools and firms that did not respond to the first mailing of the questionnaire is less than that of those that did respond to the first mailing of the questionnaire. However, this drop in commitment does appear to be consistent among test groups. Therefore, the fact that questionnaires were not obtained from the non-respondents appears not to have biased the results of the tests of the three primary hypotheses of the study.

Results of Tests of Primary Hypotheses

Hypothesis #1 states that "there is no difference between the proportion of institutions of higher education that have an independent internal auditing department responsible for performing the five SPPIA Scope of Work standards, and the proportion of private corporations, of similar size to the institutions of higher education, that have an internal auditing department responsible for performing the five SPPIA Scope of Work standards." The statistical test used to test this hypothesis is presented in Chapter III, pages 69 - 71.

The data used to test this hypothesis are presented as follows:

	Higher Education Test Group	Private Corporation Test Group
Population size	$N_1 = 117$	$N_2 = 2247$
Number of Usable Responses for this test (sample size)	$n_1 = 81$	$n_2 = 96$
Number of respondents in each test group that have an independent internal auditing department	$X_1 = 75$	$X_2 = 82$
Proportion of respondents in each test group that have an independent internal auditing department	$\frac{X_1}{n_1} = .9259$	$\frac{X_2}{n_2} = .8542$

Applying the statistical calculations described in Chapter III (pages 69 - 71) to the above data, the Z value computed is 1.93. This calculation is presented as follows. The estimator of p is $\hat{p}$ and equals $\frac{75 + 82}{81 + 96} = .8870$ and Z is computed as:

$$Z = \frac{.9259 - .8542}{\sqrt{.8870\ (1 - .8870)\left[\frac{1}{81}\left(\frac{117 - 81}{117 - 1}\right) + \frac{1}{96}\left(\frac{2247 - 96}{2247 - 1}\right)\right]}}$$

$$Z = 1.93$$

The Null Hypothesis H_o, $p_1 = p_2$ is accepted at the 0.01 level of significance if $-2.58 \leq Z \leq 2.58$; at the 0.05 level of significance, H_o is accepted if $-1.96 \leq Z \leq 1.96$; and at the 0.10 level of significance, H_o is accepted if $-1.64 \leq Z \leq 1.64$.

The conclusion that is drawn from the above test is that at the 0.01 and 0.05 levels of significance, the null hypothesis is accepted; however, at the 0,10 level of significance the null hypothesis is rejected and the alternative hypothesis, $p_1 \neq p_2$ is accepted. The rejection of the null

hypothesis at the 0.10 level of significance would mean that there is a ninety percent assurance that the true proportion of universities that have an independent internal auditing department does not equal the true proportion of private corporations that have an independent internal auditing department. The Z value computed of 1.93 corresponds to an actual probability of a "Type 1" error, rejecting the null hypothesis when it is true, of 0.0536.

Hypothesis #2 states that "there is no difference between the proportion of total expenditures devoted to the five SPPIA Scope of Work standards by offices responsible for conducting internal independent appraisals in institutions of higher education, and the proportion of total expenditures devoted to the five Scope of Work standards by internal audit departments in private corporations of similar size to the universities studied." The statistical test used to test this hypothesis and Hypothesis #3 is presented in detail on pages 71 - 74 of Chapter III.

Both Hypothesis #2 and #3 involve a computation of total resources devoted to the independent appraisal function in either private corporations or institutions of higher education. This computation was made in a consistent manner in both test groups. For example, if a private corporation indicated in its questionnaire that eighty-five percent of the available time of the professional staff of its internal audit department was devoted to the five SPPIA Scope of Work standards, then the financial and manpower resources of that

department would be multiplied by .85 to arrive at the financial and manpower resources devoted to this standard. In a university, the same type of computation was made for both the internal audit department and institutional research department and then the financial and manpower resources devoted to the five SPPIA Scope of Work standards in each department were summed to arrive at a university's total commitment to this standard.

The data used to test Hypothesis #2 are presented as follows:

	Higher Education Test Group	Private Corporation Test Group
Total operating expenditures devoted to the five SPPIA Scope of Work Standards by all the sample units	$ 9,232,900	$ 16,440,180
Total operating expenditures of all the sample units	$12,939,651,072	$22,629,376,000
Number of usable responses for this test (sample units)	55	49
Population size	117	2247
Estimate of the ratio of SPPIA Scope of Work expenditures to total expenditures ($\hat{R}$)	.00071354	.00072650

Using the data from the individual sample units and the above data, the variance of $\hat{R}_E$ and $\hat{R}_B$ was found to be .0000000043752 and .000000054941 respectively. The standard error $(\hat{R}_E - \hat{R}_B) = \sqrt{Var(\hat{R}_E) + Var(\hat{R}_B)}$ was computed as .000241487, and Z is computed as follows:

$$Z = \frac{.00071354 - .00072650}{.000241487}$$

$$Z = -.054$$

The null hypothesis H_o, $R_E = R_B$ is accepted at all three levels of significance, 0.01, 0.05 and 0.10. The Z value computed of -.054 corresponds to an actual probability of a "Type 1" error, rejecting the null hypothesis when it is correct, of a very high 0.9564.

Hypothesis #3 states that "there is no difference between the proportion of full-time equivalent employees devoted to the five SPPIA Scope of Work standards in offices responsible for conducting internal independent appraisals in institutions of higher education, and the proportion of full-time equivalent employees devoted to the five Scope of Work standards by the internal audit department in private corporations of similar size to the universities studied." Like Hypothesis #1 and Hypothesis #2, this hypothesis is also tested at the 0.01, 0.05 and 0.10 alpha levels of significance. The data used to test Hypothesis #3 are presented below.

	Higher Education Test Group	Private Corporation Test Group
Total number of F.T.E. professionals devoted to the five SPPIA Scope of Work standards by all sample units	353.33	589.41
Total number of F.T.E. employees of all the sample units	437,780	718,850
Number of usable responses for this test (sample units)	56	80
Population size	117	2247
Estimate of the ratio of F.T.E. professionals devoted to the five SPPIA Scope of Work standards to total F.T.E. employees	.0080710	.0081993

Using data from the individual sample units and the above data, the variance of $\hat{R}_E$ and $\hat{R}_B$ was found to be .0000000040577 and .000000026820 respectively. The standard error $(\hat{R}_E - \hat{R}_B) = \sqrt{Var(\hat{R}_E) + Var(\hat{R}_B)}$ was computed as .000175664, and Z is computed as follows:

$$Z = \frac{.0080710 - .0081993}{.000175664}$$

$$Z = -.073$$

The null hypothesis H_o, $R_E = R_B$ is accepted at all three levels of significance, 0.01, 0.05, and 0.10. The Z value computed of -.073 corresponds to an actual probability of a "Type 1" error, rejecting the null hypothesis when it is correct, of a very high 0.9418.

In summary, the results of the test of Hypothesis #1 is that the null hypothesis is accepted at the 0.01 and 0.05

alpha levels of significance. At the 0.10 alpha level of significance the null hypothesis is rejected. Hypothesis #2 and Hypothesis #3 were accepted at all three alpha levels of significance.

Other Research Findings

In addition to gathering the necessary data to test the three primary hypotheses of the study, other data were obtained to provide additional insight into the independent appraisal function at institutions of higher education as compared to this same function at a cross-section of private corporations. The general conclusion drawn from this supplemental data (presented in this section of Chapter IV) is that the data reinforces the results of the testing of the three primary hypotheses of the study. This supplemental data reinforces the findings that no significant difference exists between the independent appraisal function in these two test groups.

Position Title and Reporting Level of the Independent Appraisal Function

Tables 5, 6 and 7 present data concerning the position title of the head of the internal audit departments in each test group, and the position title of the head of the institutional research function in the Higher Education Test Group. The title of Director or Manager of Internal Auditing or Audits was predominate in each test group, 63 percent in universities and 65.9 percent in private corporations. The title of Director of Institutional Research was predominate (51.3 percent) for the head of the Institutional Research function.

Tables 8, 9, and 10 present data concerning the position title of the individual to whom the heads of the internal auditing and institutional research departments report. In the internal audit area, 35.0 percent of the university heads report to the executive vice president or a higher level; in private corporations this percentage is 29.9 percent. However, at the board of directors level or higher, only 7.5 percent

TABLE 5

POSITION TITLE OF HEAD OF INTERNAL AUDIT FUNCTION- PRIVATE CORPORATION TEST GROUP

Title	Number	Percent Of Total
Director-Manager of Internal Audits	54	65.9
Corporate Audit Manager	8	9.8
Vice President and Auditor	3	3.7
Second Vice President - Internal Audit	3	3.7
Other Designations	14	16.9
Total	82	100.0%

*Other designations include Manager-Planning and Control; Supervisor; Director-Audit and Operations Review; Assistant Treasurer; Director-Audit and Taxes; Manager-Audit Services; Financial Auditor, Corporate Secretary; Assistant to the Controller; Chief Auditor, and Director - Internal Control.

Table 6

POSITION TITLE OF HEAD OF INTERNAL AUDIT FUNCTION - HIGHER EDUCATION TEST GROUP

Title	Number	Percent Of Total
Director of Internal Auditing or Audits	46	63.0
Chief Campus Auditor	17	23.3
Director of Audits	2	2.7
Other Designations*	8	11.0
Total	73	100.0%

*Other designations include, Director, Division of Organization and Management Analysis; Director, Accounting, Auditing and Budget; Assistant Budget Director and Internal Auditor; Director, Operations Analysis; Assistant Vice President for Administration, and Director of Internal Audits; Director, Auditing, Systems and Procedures; Auditor II; and Director, University Administration.

TABLE 7

POSITION TITLE OF HEAD OF INSTITUTIONAL RESEARCH FUNCTION - HIGHER EDUCATION TEST GROUP

Title	Number	Percent Of Total
Director of Institutional Research	40	51.3
Coordinator of Instutional Studies	7	9.0
Director of Planning and Analysis	7	9.0
Associate Vice President for Planning and Institutional Research	3	3.9
Director of Institutional Studies and University Planning	2	2.6
Associate Director, Institutional Research	2	2.6
Director of Analytical Studies	2	2.6
Other Designations*	15	19.0
Total	78	100.0%

*Other Designations included, Director of Budget and Institutional Services; Director of Budget; Manager, Office of Statistics and Reports; Director of Resource Planning; Director of Administrative Services; Director of Academic Program Review; Director, Comptroller and Information Systems; Manager of Planning; Director of Planning and Budgeting; Director, Office of Analytical Services and Budget; Institutional Studies and Data Resource Administration; Associate Director of Budget and Planning; Associate Vice President, Research and Special Projects; Assistant Vice President, Budget and Planning; and Coordinator of Student Affairs Research.

TABLE 8

POSITION TITLE OF INDIVIDUAL TO WHOM THE DIRECTOR OF THE INTERNAL AUDIT FUNCTION REPORTS - PRIVATE CORPORATION TEST GROUP

Title	Number	Percent Of Total
Chairman, Board of Directors	4	4.8
Vice Chairman, Board of Directors	2	2.4
Audit Committee, Board of Directors	5	6.0
President	9	10.7
Executive Vice President	5	6.0
Executive Vice President - Finance and Administration	12	14.3
Senior Vice President - Planning and Controlling	3	3.6
Vice President - Finance	16	19.0
Vice President and Controller	8	9.5
Vice President - Treasurer	6	7.1
Vice President - Corporate Development	1	1.2
Vice President and Secretary	1	1.2
Comptroller	9	10.7
Chief Financial Officer	3	3.5
Total	84	100.0%

Note: Some respondents indicated they report directly to two separate individuals.

TABLE 9

POSITION TITLE OF INDIVIDUAL TO WHOM THE DIRECTOR OF THE INTERNAL AUDIT FUNCTION REPORTS - HIGHER EDUCATION TEST GROUP

Title	Number	Percent of Total
Board of Regents	2	2.5
Audit or Finance Committee - Board of Regents	3	3.7
Secretary to Board of Trustees	1	1.3
President	19	23.8
Executive Vice President	3	3.7
Vice President of Financial Affairs	19	23.8
Vice President-Finance and Administration	7	8.7
Vice President of Administration	6	7.5
Vice President for Operations	2	2.5
Assistant Vice President and Controller	1	1.3
University Secretary and Controller	2	2.5
Comptroller	2	2.5
Assistant Vice President for Finance and Systems Management	4	5.0
Treasurer	3	3.7
Other Designations Below Assistant Vice President Level	6	7.5
Total	80	100.0%

Note: Some respondents indicated they report directly to two separate individuals.

TABLE 10

POSITION TITLE OF INDIVIDUAL TO WHOM THE DIRECTOR OF THE INSTITUTIONAL RESEARCH FUNCTION REPORTS - HIGHER EDUCATION TEST GROUP

Title	Number	Percent Of Total
Chancellor	5	6.2
President	7	8.6
Executive Vice President	4	4.9
Provost	6	7.4
Vice President, Academic Affairs	13	16.0
Vice President for Administration	10	12.4
Vice President, Finance and Operations	3	3.7
Vice President and University Dean for Graduate Studies and Research	1	1.3
Associate Vice President for Budget and Planning	10	12.4
Associate Provost	1	1.3
Assistant Vice President Level	7	8.6
Assistant to the President	7	8.6
Other Designation below Assistant Vice President Level	7	8.6
Total	81	100.0%

Note: Some respondents indicated they reported directly to two separate individuals.

of the internal audit directors at the universities report directly to that level; in private corporations the percentage is 13.2 percent. In the universities surveyed the institutional research office appears to report to a somewhat lower level of management than does the head of internal auditing. Only 19.7 percent of the institutional research heads report to the executive vice president level or higher. It also appears that institutional research is more an academic staff function than is internal auditing. Sixteen percent of the heads of this department reported to the academic vice president whereas none of the internal audit directors report to the academic vice president. Noteworthy is the fact that 3.7 percent of the institutional research directors report to the Vice President, Finance and Operations; and 12.4 percent report to the Associate Vice President for Budget and Planning. Both of these reporting levels are obviously outside the academic area and in the finance and budgeting areas.

Total Employees, Employment Categories, Academic Backgrounds and Professional Certifications of Professional Staff

Tables 11 and 12 contain data covering the total number of employees and the distribution of these totals among employment categories. As noted in Table 11, fourteen of the ninety-six responding private corporations did not have an internal audit department, and the mode employment range was in the four-six category. Six of eighty-one universities did not have an internal audit department, and the mode employment range was in the four-six category also. Of the ninety

TABLE 11

TOTAL EMPLOYEES IN INTERNAL AUDIT DEPARTMENTS IN EACH TEST GROUP AND TOTAL EMPLOYEES IN INSTITUTIONAL RESEARCH DEPARTMENTS IN HIGHER EDUCATION TEST GROUP

	Internal Audit - Corporations		Internal Audit - Universities		Institutional Research - Universities	
Total Employees	Number	Percent Of Total	Number	Percent Of Total	Number	Percent Of Total
None - No Department	14	14.5	6	7.4	12	13.3
One - Three	14	14.5	17	21.0	15	16.7
Four - Six	22	22.9	21	25.9	23	25.6
Seven - Nine	17	17.7	17	21.0	19	21.1
Ten - Twelve	9	9.4	11	13.6	9	10.0
Thirteen - Fifteen	5	5.2	5	6.2	6	6.7
Sixteen - Eighteen	1	1.0	1	1.2	2	2.2
Nineteen - Twenty-one	4	4.2	2	2.5	1	1.1
Over Twenty-one	10	10.4	1	1.2	3	3.3
Total	96	100.0%	81	100.0%	90	100.0%

TABLE 12

TOTAL AND AVERAGE NUMBER OF EMPLOYEES BY EMPLOYMENT CATEGORY IN THE INTERNAL AUDIT DEPARTMENT IN EACH TEST GROUP, AND IN THE INSTITUTIONAL RESEARCH DEPARTMENT IN THE HIGHER EDUCATION TEST GROUP

Employment Category	Internal Audit Department-Corporations			Internal Audit Department-Universities			Institutional Research Department-Universities		
	Number	Percent Of Total	Average	Number	Percent Of Total	Average	Number	Percent Of Total	Average
Professional Auditors or Professionals	797	88.7	9.7	401	71.8	5.4	363	59.6	4.7
Clerical	88	9.8	1.1	65	11.6	0.9	130	21.3	1.7
Part-Time Assistants	5	0.6	0.06	85	15.2	1.1	93	15.3	1.2
Other	8	0.9	0.1	8	1.4	0.1	23	3.8	0.3
Total	898	100.0%		559	100.0%		609	100.0%	

universities that responded to the institutional research questionnaire, twelve did not have an institutional research department. Again, the mode employment range is in the four-six category. The internal audit departments in the responding private corporations have somewhat larger total staffs as compared to the responding internal audit and institutional research departments in the universities. Of the eighty-two private corporations that had an internal audit department, only 64.6 percent had total employees in the one to nine range. In university internal audit departments this percentage was 73.3 percent, and in the institutional research office the percentage was 73.1 percent. The mean number of total employees in these three groups were: internal audit department - corporations, eleven; internal audit department - universities, seven; and institutional research - universities, eight. Finally, the range of employees in the private corporation internal audit departments was from one to sixty-six; in university internal audit departments it was one to forty; and in institutional research departments it was one to thirty-eight.

Table 12 presents the total and average number of employees by employment categories in the three types of departments surveyed. An obvious conclusion is that universities employ a much larger number of part-time assistants. Also, the average number of professionals in each of the three offices was 9.7 for the internal audit department in private corporations; 5.4 for the internal audit department

in universities; and 4.7 for the institutional research office in universities.

With respect to the academic degrees of the professional staff in the responding offices (Tables 13, 14, and 15), the number of professionals with academic degrees is highest in the internal audit department in universities. Ninety-seven percent had at least a bachelor's degree and 21.4 percent had a master's degree. These percentages were 84.1 percent and 15.4 percent in the internal audit departments or private corporations. Although only 83.5 percent of the professionals in institutional research offices had a bachelor's degree, 57.3 percent did have a master's degree, and 25.9 percent possessed a doctor's degree.

The certifications of the professional auditors in the internal audit departments surveyed is presented in Tables 16 and 17. In private corporations 29.2 percent of the professional auditors were CPA's and 5.1 percent were Certified Internal Auditors. In universities these percentages are somewhat higher than those for the private corporations. Thirty-four percent were CPA's and 9.7 percent were Certified Internal Auditors.

As indicated by the data concerning academic degrees and professional certifications, the internal audit offices in the two test groups have somewhat similar percentages. However, the percentages were slightly higher in all categories for the university internal audit offices as compared

TABLE 13

ACADEMIC DEGREES OF PROFESSIONAL STAFF IN INTERNAL AUDIT DEPARTMENTS - PRIVATE CORPORATION TEST GROUP

Degrees Held	Number	Percent Of Total Professional Auditors (797)
Bachelor's	670	84.1
Master's	123	15.4
Doctor's	1	0.1

TABLE 14

ACADEMIC DEGREES OF PROFESSIONAL STAFF IN INTERNAL AUDIT DEPARTMENTS - HIGHER EDUCATION TEST GROUP

Degrees Held	Number	Percent Of Total Professional Auditors (401)
Bachelor's	388	96.8
Master's	86	21.4
Doctor's	3	0.7

TABLE 15

ACADEMIC DEGREES OF PROFESSIONAL STAFF IN INSTITUTIONAL RESEARCH DEPARTMENTS - HIGHER EDUCATION TEST GROUP

Degrees Held	Number	Percent Of Total Professionals (363)
Bachelor's	303	83.5
Master's	208	57.3
Doctor's	94	25.9

TABLE 16

PROFESSIONAL CERTIFICATIONS OF PROFESSIONAL AUDITORS - PRIVATE CORPORATION TEST GROUP

Title	Number	Percent Of Total Professional Auditors (797)
Certified Public Accountant	233	29.2
Certified Internal Auditor	41	5.1
Certified Management Accountant	2	0.2
Certified Information System Auditor	21	2.6

TABLE 17

PROFESSIONAL CERTIFICATIONS OF PROFESSIONAL AUDITORS - HIGHER EDUCATION TEST GROUP

Title	Number	Percent Of Total Professional Auditors (401)
Certified Public Accountant	137	34.2
Certified Internal Auditor	39	9.7
Certified Management Accountants	4	1.0

to the internal audit offices in the private corporations surveyed.

Individuals or Groups that Receive Activity Reports from the Independent Appraisal Departments

Tables 18 and 19 present information concerning the individuals or groups that routinely receive reports of the findings and recommendations of all internal audits performed. In universities 43.2 percent of the respondents indicate either the governing board or the audit committee of the governing board received these routine reports. In private corporations this percentage was 45.7 percent. Although these percentages are almost identical between the two test groups, at the president and executive vice president levels there is an appreciable difference. In universities the president receives these reports in 54.3 percent of the schools responding to this question and the executive vice president in 30.0 percent of the schools. In private corporations these percentages are 69.1 percent and 72.8 percent respectively. The external auditor receives the results of all internal audits at 82.7 percent of the responding corporations, whereas at the responding universities this percentage was only 44.3 percent. The percentages for the financial vice president were almost identical in both groups: 91.4 percent in universities and 86.4 percent in private corporations.

In institutional research offices (Table 20), the reports of the findings and recommendations of all reports are trans-

TABLE 18

INDIVIDUALS OR GROUPS THAT ROUTINELY RECEIVE REPORTS OF THE FINDINGS AND RECOMMENDATIONS OF ALL INTERNAL AUDITS PERFORMED - HIGHER EDUCATION TEST GROUP

Name	Number	Percent of Usable Responses to this Question (Total 70)
Audit Committee - Governing Board	19	27.1
Governing Board	13	18.6
Chief Executive Officer	38	54.3
Executive Vice President	21	30.0
External Auditors	31	44.3
Financial Vice President	64	91.4

TABLE 19

INDIVIDUAL OR GROUP THAT ROUTINELY RECEIVE REPORTS OF THE FINDINGS AND RECOMMENDATIONS OF ALL INTERNAL AUDITS PERFORMED - PRIVATE CORPORATION TEST GROUP

Name	Number	Percent of Usable Responses to this Question (Total 81)
Audit Committee - Board of Directors	30	37.0
Board of Directors	5	6.2
President	56	69.1
Executive Vice President	59	72.8
External Auditors	67	82.7
Financial Vice President	70	86.4

TABLE 20

INDIVIDUALS OR GROUPS THAT ROUTINELY RECEIVE REPORTS OF THE FINDINGS AND RECOMMENDATIONS OF ALL INSTITUTIONAL RESEARCH REPORTS ISSUED - HIGHER EDUCATION TEST GROUP

Name	Number	Percent of Usable Responses to this Question (Total 63)
Audit Committee - Governing Board	3	4.8
Governing Board	8	12.7
Chief Executive Officer	41	65.1
Executive Vice President	32	50.8
Vice President for Academic Affairs	57	90.5
Financial Vice President	41	65.1

mitted to the governing board or audit committee of the governing board at 17.5 percent of the responding schools. In 65.1 percent of the schools the president receives these findings and the executive vice president receives the reports at 50.8 percent of the schools responding. These two percentages are higher for the institutional research offices than they are for the internal audit departments at the responding universities. Interestingly, the vice president for academic affairs receives these reports at 90.5 percent of the responding schools, and the financial vice president receives these reports at 65.1 percent of the responding schools.

In terms of the individuals or groups that receive a periodic activity report (at least annually) highlighting significant audit or study findings and recommendations (Table 21), it is fairly obvious that such reports are more widely used and distributed in the responding private corporations than in the responding universities. Of some significance is the fact that the university president and executive vice president received periodic reports from the institutional research office at 78.3 percent and 46.7 percent of the responding universities. These same percentages for the internal audit department at the responding universities was 53.2 percent and 27.4 percent respectively. Finally, it is somewhat surprising to learn that in 70.0 percent of the responding schools, the financial vice president received the periodic activity report of the institutional research office.

TABLE 21

INDIVIDUALS OR GROUPS THAT RECEIVE A PERIODIC ACTIVITY REPORT (AT LEAST ANNUALLY) HIGHLIGHTING SIGNIFICANT AUDIT OR STUDY FINDINGS

Name	Internal Audit Department-Corporations		Internal Audit Department-Universities		Institutional Research Department-Universities	
	Number	Percent Of Usable Responses to this Question (Total 80)	Number	Percent Of Usable Responses to this Question (Total 62)	Number	Percent Of Usable Responses to this Question (Total 60)
Audit Committee - Board of Directors	68	85.0	24	38.7	1	1.7
Board of Directors	12	15.0	13	21.0	13	21.7
President	58	72.5	33	53.2	47	78.3
Executive Vice President	47	58.8	17	27.4	28	46.7
External Auditors	55	68.8	26	41.9		
Financial Vice President	62	77.5	48	77.4	42	70.0

Distribution of Available Time of Professional Staff in Internal Audit and Institutional Research Departments

Tables 22 and 23 present the percent of total available time of the internal audit or institutional research staff devoted to the five SPPIA Scope of Work standards. Interestingly, this mean percentage for the internal audit departments in the responding universities was 77.6 percent, and in responding private corporations it was a comparable 79.7 percent. In universities the standard deviation of this distribution was 11.0 percent, and in private corporations it was slightly higher, 12.2 percent.

A significant objective of this study was to determine if institutional research offices in universities were performing the SPPIA Scope of Work standards. Table 23 presents the results of this question posed to the directors of institutional research departments. The answers range from 0 percent (nine schools) to 91-95 percent (two schools). The average percent of time devoted to the SPPIA Scope of Work standards was 32.1 percent, and with such a wide range of responses the standard deviation was a relatively high 24.8 percent.

Table 24 relates to the percent of time the internal audit departments in the two test groups devote to professional training and development activities. In responding universities this mean percentage is 7.3 percent, and in responding private corporations it is slightly greater at 7.6 percent.

TABLE 22

PERCENT OF TOTAL AVAILABLE TIME OF INTERNAL AUDIT STAFF DEVOTED TO THE FIVE SPPIA SCOPE OF WORK STANDARDS

Ranges of Percent of Time	Higher Education Test Group		Private Corporation Test Group	
	Number	Percent Of Total	Number	Percent Of Total
41-45%	0	0.0	2	2.4
46-50%	3	4.1	1	1.2
51-55%	0	0.0	0	0.0
56-60%	5	6.8	2	2.4
61-65%	4	5.4	8	9.8
66-70%	9	12.2	10	12.2
71-75%	12	16.2	7	8.5
76-80%	13	17.6	13	15.9
81-85%	14	18.9	13	15.9
86-90%	7	9.5	9	11.0
91-95%	6	7.9	14	17.1
96-100%	1	1.4	3	3.6
Total	74	100.0%	82	100.0%
Mean		77.6%		79.7%
Standard Deviation		11.0%		12.2%

TABLE 23

PERCENT OF TOTAL AVAILABLE TIME OF INSTITUTIONAL RESEARCH STAFF DEVOTED TO THE FIVE SPPIA SCOPE OF WORK STANDARDS

Ranges Of Percent Of Time	Number Of Schools*	Percent Of Total
0%	9	11.3
1 - 5%	5	6.3
6-10%	7	8.8
11-15%	4	5.0
16-20%	8	10.0
21-25%	5	6.3
26-30%	12	15.0
31-35%	2	2.5
36-40%	6	7.5
41-45%	1	1.2
46-50%	5	6.3
51-55%	0	0.0
56-60%	5	6.3
61-65%	0	0.0
66-70%	5	6.3
71-75%	1	1.2
76-80%	3	3.8
81-85%	0	0.0
86-90%	0	0.0
91-95%	2	2.2
96-100%	0	0.0
Total	80	100.0%

Mean 32.1% Standard Deviation 24.8%

*Schools that have an Institutional Research Office.

TABLE 24

PERCENT OF TOTAL AVAILABLE INTERNAL AUDIT DEPARTMENT STAFF TIME DEVOTED TO STAFF TRAINING, PROFESSIONAL MEETINGS, CONVENTIONS AND OTHER TYPES OF CONTINUING EDUCATION ACTIVITIES

	Higher Education Test Group		Private Corporation Test Group	
Range Of Percent of Time	Number Of Schools	Percent Of Total	Number Of Firms	Percent Of Total
0%	0	0.0	1	1.2
1 - 5%	37	50.0	48	57.3
6 -10%	29	39.1	24	29.3
11-15%	6	8.1	4	4.9
16-20%	2	2.8	4	4.9
Over 20%	0	0.0	2	2.4
Total	74	100.0%	82	100.0%
Mean		7.3%		7.6%
Standard Deviation		4.1%		5.2%

Finally, Table 25 presents data concerning the percent of available internal audit staff time devoted to non-SPPIA activities and non-continuing professional education activities. In responding universities this percentage is 15.1 percent, and in responding private corporations it is 12.8 percent. The fact that such a low percentage of time is devoted to non-SPPIA and non-professional education activities is important for it challenges a concern that is often expressed in the literature of internal auditing, that internal auditors are assigned many duties that do not relate to the internal audit function. The responses received in this study do not indicate such a problem exists. In general, internal audit staffs were performing SPPIA Scope of Work activities and professional education activities during approximately 86.5 percent of their available time.

Distribution of Available Time Devoted to SPPIA Scope of Work Standards Among the Five Specific Scope of Work Standards

The SPPIA Scope of Work standard is divided into five specific Scope of Work standards. These five specific standards are:

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

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

TABLE 25

PERCENT OF TOTAL AVAILABLE INTERNAL AUDIT DEPARTMENT STAFF TIME TIME DEVOTED TO NON-SPPIA ACTIVITIES AND NON-CONTINUING EDUCATION ACTIVITIES

Range of Percent of Time	Private Corporation Test Group		Higher Education Test Group	
	Number Of Firms	Percent Of Total	Number Of Schools	Percent Of Total
0%	15	18.3	6	8.1
1 - 5%	17	20.7	11	14.9
6 -10%	12	14.6	18	24.3
11-15%	15	18.3	9	12.2
16-20%	7	8.5	11	14.9
21-25%	4	4.9	8	10.8
26-30%	8	9.8	5	6.8
31-35%	1	1.2	3	4.1
36-40%	0	0.0	1	1.3
41-45%	1	1.2	1	1.3
Over 45%	2	2.5	1	1.3
Total	82	100.0%	74	100.0%
Mean		12.8%		15.1%
Standard Deviation		11.8%		10.9%

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

340 Economic and Efficient Use of Resources - Internal auditors should appraise the economy and efficiency with which resources are employed.

350 Accomplishment of Established Objectives and Goals for Operations of Problems - Internal auditors should review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.

One can conclude that of the five standards, standards 310, 320, and 330 are more traditional to the internal audit function, and standards 340 and 350 relate more to operational auditing activities.

Tables 26 and 27 present the distribution of available time spent on the five specific SPPIA Scope of Work standards. As might be expected, the majority of the available time was spent on standards 310, 320, and 330. In responding universities this combined percentage was 76.0 percent, and in responding private corporations it was 78.4 percent, with specific standard 320 receiving the highest percentage in both groups. In fact, the ranking of time devoted to the five standards was the same in both test groups. This ranking from most to least time devoted was for specific standards 320, 310, 330, 340, and 350.

Table 28 presents the same data for the responding institutional research offices. As expected, institutional research offices devoted a much smaller percentage of their

TABLE 26

TIME DEVOTED TO SPPIA SCOPE OF WORK STANDARD DIVIDED BETWEEN THE FIVE SPECIFIC SCOPE OF WORK STANDARDS AT PRIVATE CORPORATIONS THAT HAVE AN INTERNAL AUDIT DEPARTMENT

Standard	Mean Percentage	Standard Deviation
310	30.1	16.1
320	31.2	14.4
330	17.1	8.3
340	12.3	10.2
350	9.3	9.5
Total	100.0%	

TABLE 27

TIME DEVOTED TO SPPIA SCOPE OF WORK STANDARD DIVIDED BETWEEN THE FIVE SPECIFIC SCOPE OF WORK STANDARDS AT SCHOOLS THAT HAVE AN INTERNAL AUDIT DEPARTMENT

Standard	Mean Percentage	Standard Deviation
310	23.1	13.2
320	34.9	18.1
330	18.0	11.9
340	12.4	9.9
350	11.6	10.1
Total	100.0%	

TABLE 28

TIME DEVOTED TO SPPIA SCOPE OF WORK STANDARD DIVIDED BETWEEN THE FIVE SPECIFIC SCOPE OF WORK STANDARDS AT SCHOOLS THAT HAVE AN INSTITUTIONAL RESEARCH OFFICE PERFORMING SPPIA SCOPE OF WORK ACTIVITIES

Standard	Mean Percentage	Standard Deviation
310	27.6	23.8
320	18.1	20.4
330	1.1	2.3
340	28.3	24.8
350	24.9	21.8
Total	100.0%	

time to standards 310, 320, and 330 (46.7 percent) and a large percentage of their time (53.3 percent) to standards 340 and 350. Specific standard 330 received the lowest allotment (1.1 percent). The rankings from highest to lowest time devoted were for standards 340, 310, 350, 320, and 330.

Other Private Corporation Departments Performing SPPIA Scope of Work Standard Activities

As discussed in Chapter III no other department other than the internal auditing department was surveyed in the Private Corporation Test Group. This decision was made because no evidence was found in the literature review to indicate there were any other independent departments performing this function. A question was included, however, in the Private Corporation Test Group questionnaire asking if any other independent department was performing SPPIA Scope of Work activities. In response to this question there were seventeen yes answers and sixty-eight no responses. Of the seventeen yes answers, no department was mentioned more than twice. The five departments mentioned twice were Corporate Controller, Industrial Engineer, Financial Analysis, Security, and Quality Control. Other departments mentioned once included Corporate Planning and Development, Corporate Treasurer, Internal Systems Department, Rate Department, Organizational Control, Systems Review, Legal, Procurement, and Mill Services. Two conclusions are apparent. First, of the departments mentioned above, very few fit the category of an independent

appraisal department. Second, since no department was mentioned more than twice, there obviously is no other department common to most corporations performing SPPIA Scope of Work activities. Thus, the decision to survey only internal audit departments in the Private Corporation Test Group appears to be justified.

Summary

In the first section of this chapter the test procedure used to determine the bias, if any, of disregarding the non-respondents to the survey questionnaires is presented. The results of this procedure revealed that although it can be expected that the non-respondents in each test group were probably less committed to the internal auditing functions than the respondents, this drop in commitment appears to be consistent in both test groups. Therefore, it was assumed that the testing of the three primary hypotheses was not biased by not considering the non-respondents in the two test groups.

The results of the tests of the three primary hypotheses are presented in the second section of this chapter. Hypothesis #1 deals with the proportion of universities and private corporations that have an internal audit department and was tested at the 0.01, 0.05 and 0.10 levels of significance. The null hypothesis was accepted at the 0.01 and 0.05 levels. However, the proportion of universities that have an internal audit department is sufficiently higher than the proportion of private corporations so that the null hypothesis was

rejected at the 0.10 significance level. Hypothesis #2 and Hypothesis #3 deal with the financial and human resources as a percent of total resources devoted to the independent appraisal function in the two test groups. Both hypotheses were tested at the 0.01, 0.05, and 0.10 levels of significance and the null hypothesis was accepted in all cases. In fact, the probability of rejecting the null hypothesis when it is correct was in excess of ninety percent for both Hypothesis #2 and Hypothesis #3.

The final section of the chapter presented descriptive statistical data concerning the responding internal audit departments in both test groups and the responding institutional research offices in the higher education test group. This supplemental data supports the results of the test of the three primary hypotheses. A basic conclusion that can be reached from the tests of the three primary hypotheses is that the independent appraisal function in universities is not behind the independent appraisal function in private corporations in terms of resources committed to this function. The data presented in the third section of the chapter confirmed that in most other areas of importance - such as the proportion of time devoted to the SPPIA Scope of Work standards; the academic degrees and professional certification of the audit staff; and the professional educational activities, the departments in the two test groups were quite similar. This section also presented data relating to the institutional research offices in universities. This data confirms that

institutional research offices are spending a significant part of their available time (32.1 percent) performing SPPIA Scope of Work standard activities. Also, this office possesses many characteristics similar to an internal audit department. The institutional research offices do tend to be somewhat more concerned with the academic area and more involved in the operational audit area (specific standards 340 and 350) as opposed to the more traditional financial audit areas.

CHAPTER V

SUMMARY, CONCLUSIONS, AND LIMITATIONS

Summary of the Study

This study consisted, in part, of an evaluation and analysis of the independent appraisal function in institutions of higher education. A significant part of this study also compared this independent appraisal function in universities to the same function in similar sized private business enterprises. The main thrust of this comparison tested three primary hypotheses which dealt with (1) the commitment to establish an independent appraisal function and (2) the proportion of total financial and manpower resources devoted to this function.

A final purpose of this study was to identify the independent staff departments that perform this independent appraisal function in universities and private corporations. The initial review of the literature indicated that the internal auditing department performed this function in all types of organizations. However, in institutions of higher education an additional department, the office of institutional research, also appeared to perform this independent appraisal function.

The Institute of Internal Auditors, Inc. (IIA) defines internal auditing as an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization. Many definitions of institutional research are quite similar to this official definition of internal auditing. In essence, both staff functions are internal to the organization, both conduct appraisals of the organization, and both collect data about the activities of the organization as a service to management.

In June, 1978, the Standards for the Professional Practice of Internal Auditing (SPPIA) were adopted by the Board of Directors of the IIA. These standards, the first official document issued with the intent of representing the practice of internal auditing as it should be, are meant to serve the entire internal auditing profession - in all types of businesses and organizations. Five general standards and twenty-five specific standards were issued. Of distinct importance to this study were the Scope of Work general standard and the five specific Scope of Work standards. Also of importance is the IIA's position that the SPPIA apply to any unit or activity within an organization which performs internal auditing functions, and that the SPPIA apply to independent departments within an organization rather than external agencies.

Three factors which influenced the decision to conduct this study grew out of two prior studies of the internal audit function in institutions of higher education (Streetman, Drucker) which were critical of the commitment of universities

to internal auditing. Each study had concluded that universities lagged behind private industry in using internal auditing as a tool for controlling and improving operations. However, these two studies: (1) were conducted prior to the publication of the SPPIA when no official IIA standards existed against which to measure performance; (2) did not survey similar sized private corporations to determine their commitment to this function; and (3) did not consider the commitment of any other department, specifically the institutional research department, to this independent appraisal function.

A mailed questionnaire survey procedure was used to gather the necessary data to test the three primary hypotheses and obtain the supplemental data used in the study. Questionnaires were initially mailed to the directors of internal auditing and directors of institutional research at every four-year United States university with an enrollment of 15,000 or more. A similar questionnaire was mailed to the directors of internal auditing at 177 private United States business corporations of a size similar to that of the responding universities. Responses were received from: 81 university internal audit departments, representing a sample size of 69.2 percent of the total population; 90 institutional research departments, representing a sample size of 76.9 percent of the total population; and 96 private corporation internal audit departments, representing 4.3 percent of the

total population of private corporations with total employees in the 1,000 to 24,000 range.

Hypothesis #1, stated in the null form, statistically tested the difference between the proportion of universities and the proportion of private corporations that had made a decision to establish an internal auditing department. The statistical method used to test this hypothesis was one that involved a difference between two sample proportions where large samples were obtained. Hypothesis #2 and Hypothesis #3 were also stated in the null form. Hypothesis #2 essentially stated that there was no difference in the proportion of financial resources devoted to accomplishing the five SPPIA Scope of Work standards in universities as compared to the proportion of financial resources devoted to the five SPPIA Scope of Work standards by private corporations. Hypothesis #3 involved the same comparison as Hypothesis #2 except the proportion of financial resources was replaced by the number of F.T.E. employees devoted to accomplishing the five SPPIA Scope of Work standards as a percent of total F.T.E. employees. A ratio estimate method was used to test Hypotheses #2 and #3. Other data obtained in the questionnaires were used to make additional comparisons between the responding university internal audit offices and institutional research offices, and the responding private corporation internal audit offices.

Conclusions

1. In the surveyed universities that had an internal

auditing department, 77.6 percent of the total available professional staff time was devoted to the five SPPIA Scope of Work specific standards. In the responding universities that had an institutional research department, 32.1 percent of the total available professional staff time was devoted to the five SPPIA Scope of Work standards. In the responding private corporations 79.7 percent of the total available professional staff time was devoted to the five SPPIA Scope of Work standards. Also, no other independent office common to the majority of the responding corporations was found to be devoting significant amounts of time to the five SPPIA Scope of Work standards. Thus, it can be concluded that in the responding universities, two separate independent staff departments are devoting a significant portion of their available time to accomplishing the five SPPIA Scope of Work standards. These two departments are the internal audit department and the institutional research department. In the private corporations surveyed only the internal audit department devoted a significant portion of its time to the five SPPIA Scope of Work standards.

2. Of the eighty-one universities responding to the internal audit questionnaire, seventy-five universities (92.59 percent) indicated they had an established internal auditing department performing the SPPIA Scope of Work standard. Eighty-two of the ninety-six responding private corporations (85.42 percent) had an established internal auditing department performing the SPPIA Scope of Work standards.

Using these two proportions, Hypothesis #1 was statistically tested at the 0.01, 0.05, and 0.10 alpha levels of significance. The hypothesis was accepted at the 0.01 and 0.05 levels of significance. At the 0.10 level of significance the null hypothesis was rejected. The sample data indicates that a larger proportion of universities have an established internal auditing department and one can be 90 percent confident that if data was available from the total population of both test groups, this difference in commitment by universities to an established internal auditing department would be found to exist.

3. Hypothesis #2 basically stated that there was no difference between the proportion of total expenditures devoted to the five SPPIA Scope of Work standards by offices responsible for performing internal independent appraisals in universities, and the proportion of total expenditures devoted to these same standards by the internal audit department in private corporations. The internal audit offices at the responding private corporations were spending .072650 percent of total financial expenditures in performing the five SPPIA Scope of Work standards. This percentage was slightly less for the universities that had an established appraisal function, .071354 percent. These data were tested at the 0.01, 0.05, and 0.10 alpha levels of significance and the null hypothesis was accepted in all three tests. The actual probability of rejecting the null hypothesis when it is true was found to be a very high 0.9564.

4. Hypothesis #3 was exactly the same as Hypothesis #2 except the proportion of financial resources devoted to this independent appraisal function was replaced by the proportion of F.T.E. professional staff employees devoted to the independent appraisal function. The responding internal audit departments in the private corporations had .81993 professional auditors per each 1,000 F.T.E. employees devoted to the five SPPIA Scope of Work standards. In the universities surveyed the total professionals devoted to the five SPPIA specific Scope of Work standards by the independent appraisal departments was .80710 per each 1,000 F.T.E. employees. These data were tested at the 0.01, 0.05, and 0.10 alpha levels of significance and the null hypothesis was accepted in all three tests. The actual probability of rejecting the null hypothesis when it is true was found to be a very high 0.9418.

5. The reporting level of the head of the internal audit department at the responding universities was somewhat higher than the heads of the internal audit department in the responding private corporations. Thirty-five percent of the university heads reported to the executive vice president or a higher level; in private corporations this percentage was 29.9 percent. However, at the board of directors level the private corporations had a higher percentage than the universities, 13.2 percent compared to 7.5 percent. The responding institutional research offices reported to a somewhat lower management level than did the internal audit department. Only 19.7 percent of the institutional research heads report to the executive vice president level or higher.

6. The average number of professional auditors in each responding corporation with an established internal audit department was 9.7. In university internal audit departments this number was 5.4, and in university institutional research offices the average number of professionals per office was 4.7.

7. In terms of academic degrees and professional certificates of the professional auditors, the percentages for the responding university internal audit departments was consistently higher than the percentages for the responding private corporations. The professionals in the institutional research offices at the responding universities had a larger percentage of individuals with master's and doctor's degrees than did the internal audit professional auditors in either the responding universities or corporations.

8. The distribution of the reports of studies conducted, and the distribution of periodic activity reports by the internal audit department in the responding private corporations was more widespread than it was in either the internal audit office or institutional research offices in the responding universities.

9. The responding university internal audit departments spend 7.3 percent of their available time in continuing education activities and 15.1 percent of their available time performing non-SPPIA and non-continuing education activities. In the responding private corporations these percentages were 7.6 percent and 12.8 percent respectively.

10. The time devoted to the five SPPIA Scope of Work standards broken down by percent of time devoted tc each specific standard was very close between the responding internal audit departments ir the two test groups. This division was as follows:

Specific Standard	University Percentages	Private Corporation Percentages
320	34.9	31.2
310	23.1	30.1
330	18.0	17.1
340	12.4	12.3
350	11.6	9.3

Specific standards 310, 320, and 330 are more traditional to the internal audit function and both test groups placed greater emphasis on them. The responding university institutional research offices devoted the majority (53.2 percent) of their SPPIA time to specific standards 340 and 350 which deal with the economic and efficient use of resources (standard 340), and the accomplishment of established objectives and goals of the organization (standard 350). The responding institutional research offices devoted 27.6 percent of their available SPPIA time to determining the reliability and integrity of information (standard 310) and 18.1 percent of their time on compliance with policies, plans, procedures, laws, and regulations (standard 320).

In conclusion, the results of the tests of the three primary hypotheses and the analysis of the other supplemental data indicate that the independent appraisal function in institutions of higher education does not lag behind the internal audit function in private business corporations of

similar size. In fact, in almost all instances this function in both test groups appeared to be relatively equal.

Limitations

The major constraint of this study is that it cannot be used to determine whether universities should be devoting more or less resources to the independent appraisal function as described in the SPPIA. The purpose of the study was only to determine if there is, or is not, a significant difference between the proportion of total resources devoted to the five SPPIA Scope of Work standards by offices responsible for conducting internal independent appraisals in institutions of higher education and the proportion of total resources devoted to the same SPPIA standards by the internal audit department in private business enterprises.

A second limitation is that the material used to gather the test data for the hypotheses of the study was obtained exclusively from the directors of the responding internal audit and institutional research offices. Thus, the accuracy of the responses was entirely dependent upon the person answering the questionnaire. However, the directors of the departments surveyed were in the best position to provide the data requested. And after reviewing the responses, this researcher concluded that nothing indicated that the directors had encountered any difficulties in answering the questions.

A third limitation is that the study examined inputs to the independent appraisal function rather than outputs. This was done because inputs can be measured quantitatively

much more easily than the outputs can be measured qualitatively, and in many cases, generalizations can be made about the quality of the outputs of a system by examining the amount and quality of the inputs into the system.

Two other limitations were addressed in depth in the body of the study. These were (1) the potential problems that can be caused by not considering the non-respondents to the questionnaire survey, and (2) the use of a stratified random sample procedure to select the private corporations to survey as opposed to a simple random sampling procedure.

Finally, conclusions can be drawn about the total population of the two test groups only as they relate to the three hypotheses statistically tested. The supplemental data gathered was not statistically tested, and therefore any conclusion about responding universities and private corporations that is based upon this supplemental data can only be inferred.

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APPENDIX A

LIST OF FOUR YEAR COLLEGES AND UNIVERSITIES
WITH ENROLLMENTS OF 15,000 OR MORE STUDENTS,
AND THE INVOLVEMENT OF EACH SCHOOL IN THE STUDY

Name of University	Enrollment	Type of Involvement					
		A	B	C	D	E	F
Auburn University	23,139				X		X
University of Alabama	17,606				X		X
Arizona State University	37,755			X	X	X	
University of Arizona	29,500			X		X	
University of Arkansas-Fayetteville	16,572			X	X	X	X
California Polytechnic State Univ.	15,977		—				
California State Polytechnic Univ.	15,448				X		X
California State Univ.-Fullerton	23,125			X	X	X	X
California State Univ.-Long Beach	30,877						
California State Univ.-Los Angeles	22,350				X		X
California State Univ.-Northridge	28,029				X		X
California State Univ.-Sacramento	21,222	X	X		X		X
San Diego State University	31,933				X		X
San Francisco State University	23,845				X		X
San Jose State University	25,821	X					
University of California-Berkeley	30,445	X	X				
University of California-Davis	17,950	X	X	X		X	
University of California-Los Angeles	32,960			X	X	X	
University of Southern California	26,902	X			X		X
Colorado State University	18,255			X	X	X	X
University of Colorado	21,727			X	X	X	X
University of Connecticut	21,650			X		X	
University of Delaware	19,000			X	X	X	X
George Washington University	23,068			X	X	X	X
Univ. of the District of Columbia	15,096						
Florida State University	21,461			X	X	X	X
University of Florida	32,577	X	X	X	X	X	X
University of South Florida	23,518			X	X	X	X
University of Miami	15,449			X	X	X	X

Name of University	Enrollment	Type of Involvement					
		A	B	C	D	E	F
Georgia State University	20,338			X	X	X	X
University of Georgia	22,946			X	X	X	X
University of Hawaii	20,706	X	X	X	X	X	X
Illinois State University	20,535	X	X		X		X
Northern Illinois University	25,259	X	X	X	X	X	X
Northwestern University	15,429				X		X
Southern Illinois Univ.-Carbondale	22,695			X	X	X	X
University of Illinois				X	X	X	X
Ball State University	17,557			X	X	X	X
Indiana State University	31,840	X	X	X	X	X	X
Indiana Univ.-Purdue University	21,453				X		X
Purdue University	31,990	X		X	X	X	X
Iowa State Univ. of Science & Tech.	24,004			X	X	X	X
University of Iowa	24,153			X	X	X	X
Kansas State Univ. of Agriculture and Applied Science	18,619			X		X	
University of Kansas	24,125			X	X	X	X
Wichita State University	16,649			X	X	X	X
University of Kentucky	22,489			X	X	X	X
University of Louisville	19,155			X	X	X	X
Louisiana State University	26,267	X	X		X		X
Towson State University	15,283			X	X	X	X
Univ. of Maryland-College Park	37,192				X		X
Boston University	26,748			X	X	X	X
Harvard University	17,482			X	X	X	X
Northeastern University	40,568	X	X	X		X	
Univ. of Massachusetts-Amherst	24,012				X		X
Central Michigan University	17,638	X	X	X		X	
Eastern Michigan University	20.079			X		X	
Michigan State University	47,350				X		X
University of Michigan-Ann Arbor	36,158			X	X	X	X
Wayne State University	33,408				X		X
Western Michigan University	22,842			X	X	X	X
University of Minnesota	63,715				X		X
University of Missouri	23,545			X	X	X	X

Name of University	Enrollment	Type of Involvement					
		A	B	C	D	E	F
University of Nebraska-Lincoln	23,661			X	X	X	X
Rutgers, The State Univ. of New Jersey	33,667			X	X	X	X
University of New Mexico	22,092			X	X	X	X
City Univ. of New York-Brooklyn	18,067			X	X	X	X
City Univ. of New York-Hunter College	17,989			X		X	
City Univ. of New York-Queens College	18,807			X	X	X	X
Columbia University	17,410				X		
New York University	32,537				X		X
Pace University	20,745	X		X	X	X	X
St. John's University	17,812						
State Univ. of New York at Albany	15,368				X		X
State Univ. of New York at Buffalo	21,759			X			
Syracuse University	20,233	X	X	X	X	X	X
North Carolina St. Univ. at Raleigh	19,597			X	X	X	X
Univ. of N.C. at Chapel Hill	21,060			X	X	X	X
Bowling Green State University	16,907			X		X	
Cleveland State University	17,421			X	X	X	X
Kent State University	17,796	X	X	X		X	
Ohio State University	53,278	X	X	X		X	
University of Akron	23,364			X	X	X	X
University of Cincinnati	39,071			X	X	X	X
University of Toledo	18,246			X	X	X	X
Youngstown State University	15,303			X	X		X
Oklahoma State University	22,003			X	X	X	X
University of Oklahoma	21,090			X	X	X	X
Oregon State University	17,181			X	X		X
Portland State University	16,798			X	X	X	X
University of Oregon	16,916			X	X	X	X
Pennsylvania State University	35,093			X	X	X	X
Temple University	33,593			X		X	
University of Pennsylvania	22,006	X		X	X	X	X
University of Pittsburgh	28,781				X		X
Univ. of South Carolina-Columbia	26,006	X	X				
Memphis State University	21,248			X	X	X	

Name of University	Enrollment	Type of Involvement					
		A	B	C	D	E	F
Univ. of Tennessee-Knoxville	21,248			X	X	X	
North Texas State University	17,228			X	X	X	X
Southwest Texas State University	15,924			X	X	X	X
Texas A & M University	31,331				X		X
Texas Tech University	23,129			X	X	X	X
University of Houston	28,414	X		X		X	
University of Texas-Austin	44,102	X	X	X		X	
University of Texas-Arlington	19,138			X	X	X	X
University of Texas-El Paso	15,751	X	X		X		X
Brigham Young University	29,392	X	X	X	X	X	X
University of Utah	21,992			X	X	X	X
Old Dominion University	17,985			X	X	X	X
University of Virginia	16,464			X		X	
Virginia Commonwealth University	19,190			X	X	X	X
Virginia Polytechnic Inst. & St. Univ.	22,508			X		X	
University of Washington	37,547	X	X	X	X	X	X
Washington State University	16,992			X	X	X	X
West Virginia University	21,289			X	X	X	X
University of Wisconsin-Madison	40,233			X	X	X	X
University of Wisconsin-Milwaukee	25,078			X	X	X	X

Type of Involvement:

A - Mailed Questionnaire No. 1

B - Responded to Questionnaire No. 1

C - Responded to Internal Audit Questionnaire

D - Responded to Institutional Research Questionnaire

E - Usable Internal Audit Questionnaire

F - Usable Institutional Research Questionnaire

APPENDIX B

COPY OF LETTER SENT TO EXECUTIVE VICE PRESIDENT OR PRESIDENT AT TWENTY-FIVE SCHOOLS IN HIGHER EDUCATION TEST GROUP

July 20, 1981

I am conducting a research project involving the independent appraisal and evaluation function within organizations, and I need your help in completing the first step of the project.

The Institute of Internal Auditors, Inc. defines internal auditing as "an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization." Also, the Institute adopted in 1978 the Standards for the Professional Practice of Internal Auditing (SPPIA) which apply to any unit or activity within an organization which performs internal auditing functions. Contained in these standards are five Scope of Work standards which describe the specific duties of the internal audit unit(s) within an organization.

I am interested in identifying the independent departments or offices within universities that are performing the internal audit function as described in the above definition and in the five Scope of Work standards. In my review of the literature, I have identified two departments within universities that could be performing the internal audit function as either a primary or significant secondary function. These two departments are the internal auditing department and the office of institutional research.

To verify my findings, I solicit your help in completing the bottom part of the attachment as it pertains to the university you serve and in returning your response to me in the enclosed self-addressed envelope.

Your assistance will be greatly appreciated.

Sincerely,

William C. Chapman

WCC/ch

Enclosures

APPENDIX C

QUESTIONNAIRE SENT TO EXECUTIVE VICE PRESIDENTS OR PRESIDENTS AT AT TWENTY FIVE SCHOOLS IN HIGHER EDUCATION TEST GROUP

Scope of Work Standard of the
Standards for the Professional Practice of Internal Auditing, 1978,
The Institute of Internal Auditors, Inc.
Altamonte Springs, Florida

300 SCOPE OF WORK - The Scope of the internal audit should encompass the examination and evaluation of the adequacy and effectiveness of the organization's system of internal control and the quality of performance in carrying out assigned responsibilities.

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

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

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

340 Economical and Efficient Use of Resources - Internal auditors should appraise the economy and efficiency with which resources are employed.

350 Accomplishment of Established Objectives and Goals for Operations or Programs - Internal auditors should review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.

QUESTIONS:

1. Name of University _____

2. At the university named above part or all of the internal audit function, as described in the definition of internal auditing and in the five Scope of Work standards, is being performed by the following independent departments.

   (NOTE: It is possible that more than one department will have a primary or significant secondary responsibility for performing the internal audit function. Thus, more than one yes response is possible for this question.)

   1. The internal auditing department Yes ____ No ____
   2. The office of institutional research Yes ____ No ____
   3. Some other department - please specify _____

3. Name and title of respondent.

   Name _____

   Title _____

APPENDIX D
INTERNAL AUDIT QUESTIONNAIRE FOR
HIGHER EDUCATION TEST GROUP
UNIVERSITY SURVEY

CONFIDENTIAL

Your response on this questionnaire will be held in strict confidence. Neither you, your office, nor your university will be identified in the study or in any other report or publication.

GENERAL INSTRUCTIONS

The questionnaire has been pre-tested at two universities, however, if you deem a question unanswerable, either because the answer is unknown or of its confidential nature, please leave the question blank. If possible, the questionnaire should be returned by October 23, 1981.

1. Name of University. _____

2. What is the official title of the director of the internal audit function at your university? _____

3. State the exact title of the individual to whom the director of the internal audit function reports in your university. _____

4. How many employees are employed in the internal audit department of your university? _____

5. List the number of employees in your internal audit department according to the classifications listed below.

   (a) Professional auditors _____
   (b) Clerical or stenographic _____
   (c) Part-time assistants _____
   (d) Other _____

6. Of your professional audit staff, the number given in answer 5(a), list the number of individuals that possess the following professional certifications and/or academic degrees.

   (a) CPA's _____
   (b) CIA's _____
   (c) CMA's _____
   (d) Bachelor's Degree _____
   (e) Master's Degree _____
   (f) Doctor's Degree _____

7. Please place a check mark beside the name of each individual or group that routinely receive a report of the findings and recommendations of all internal audits performed.

   _____ Audit Committee, Governing Board
   _____ Governing Board
   _____ Chief Executive Officer (President/Chancellor)
   _____ Executive Vice President or Equivalent Position
   _____ External auditors
   _____ Financial Vice President or Equivalent Position

8. Please place a check mark beside the name of each individual or group that receives a periodic activity report (at least annually) that highlights significant audit findings and recommendations.

_____ Audit Committee, Governing Board

_____ Governing Board

_____ Chief Executive Officer (President/Chancellor)

_____ Executive Vice President or Equivalent Position

_____ External auditors

_____ Financial Vice President or Equivalent Position

9. Does the director of internal auditing have a formal statement of the purpose, authority and responsibility of the internal auditing department?
Yes _____ No _____

10. The SCOPE OF WORK (Standard 300) standard of the Standards for the Professional Practice of Internal Auditing, issued by the Institute of Internal Auditors, Inc., states: "The scope of the internal audit should encompass the examination and evaluation of the adequacy and effectiveness of the organization system of internal control and the quality of performance in carrying out assigned responsibilities." This standard contains five specific standards. These are:

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

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

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

340 Economical and Efficient Use of Resources - Internal auditors should appraise the economy and efficiency with which resources are employed.

350 Accomplishment of Established Objectives and Goals for Operations or Programs - Internal auditors should review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.

Considering the total available time of your internal audit staff (professional auditors and part-time assistant auditors) as 100%, please estimate the percentage of that time devoted to the following activities.

(a) Percent of time devoted to the five SPPIA Scope of Work standards. _____%

(b) Percent of time devoted to staff training, professional meetings, conventions, and other types of continuing education activities. _____%

(c) Percent of time devoted to non-SPPIA Scope of Work duties and activities. _____%

TOTAL 100 %

11. Using the percentage selected in question 10(a), would you please divide this percentage between the work performed to accomplish each of the five Scope of Work standards. (For example, if you marked 70% in question 10(a), then your response to question 11 might be, #310 - 15%; #320 - 25%; #330 - 5%; #340 - 18%; and #350 - 7%. The total of the five equaling 70%).

Standard #310 _____%
Standard #320 _____%
Standard #330 _____%
Standard #340 _____%
Standard #350 _____%

12. What is the total number of employees (full and part-time) at your university? (Round to nearest hundred) _____. Of this number how many are full-time? _____. Part-time? (Part-time includes part-time student employees) _____.

13. What were the total university expenditures for the most recently completed accounting year, divided into the following categories.

(a) University Current Operating Expenditures including Grants, Federal Programs, etc. _____

(b) University Capital Expenditures _____

(c) University Expenditures for Auxiliary Enterprises, Service Units and Other Activities _____

(Please note, if total expenditures are not divided into the above categories, a total for all university expenditures is acceptable. Total _____)

14. What were the total Direct Operating Expenditures (salaries, supplies, etc.) for your internal auditing department for the most recently completed accounting year? (Round to nearest $10,000) _____.

APPENDIX E

INSTITUTIONAL RESEARCH QUESTIONNAIRE FOR HIGHER EDUCATION TEST GROUP

UNIVERSITY SURVEY

CONFIDENTIAL

Your response on this questionnaire will be held in strict confidence. Neither you, your office, nor your university will be identified in the study or in any other report or publication

GENERAL INSTRUCTIONS

The questionnaire has been pre-tested at two universities, however, if you deem a question unanswerable, either because the answer is unknown or of its confidential nature, please leave the question blank. If possible, the questionnaire should be returned by October 23, 1981.

1. Name of University. _____

2. What is the official title of the director of the institutional research function at your university? _____

3. State the exact title of the individual to whom the director of the institutional research function reports in your university. _____

4. How many employees are employed in the institutional research department of your university? _____

5. List the number of employees in your Institutional Research department according to the classifications listed below.

   (a) Professionals _____

   (b) Clerical or stenographic _____

   (c) Part-time assistants _____

   (d) Other _____

6. Of your professional staff, the number given in answer 5(a), list the number of individuals that possess the following academic degrees.

   (a) Bachelor's Degree _____

   (b) Master's Degree _____

   (c) Doctor's Degree _____

7. Please place a check mark beside the name of each individual or group that routinely receive a report of the findings and recommendations of all institutional research studies performed.

   _____ Audit Committee, Governing Board

   _____ Governing Board

   _____ Chief Executive Officer (President/Chancellor)

   _____ Executive Vice President or Equivalent Position

   _____ Vice President for Academic Affairs or Equivalent Position

   _____ Financial Vice President or Equivalent Position

8. Please place a check mark beside the name of each individual or group that receives a periodic activity report (at least annually) that highlights significant institutional research findings and recommendations.

_____ Audit Committee, Governing Board

_____ Governing Board

_____ Chief Executive Officer (President/Chancellor)

_____ Executive Vice President or Equivalent Position

_____ Vice President for Academic Affairs or Equivalent Position

_____ Financial Vice President or Equivalent Position

9. The SCOPE OF WORK (Standard 300) standard of the Standards for the Professional Practice of Internal Auditing, issued by the Institute of Internal Auditors, Inc., states: "The scope of the independent appraisal function should encompass the examination and evaluation of the adequacy and effectiveness of the organization system of internal control and the quality of performance in carrying out assigned responsibilities." This standard contains five specific standards. These are:

310 Reliability and Integrity of Information - The independent appraisal function should review the reliability and integrity of financial and operating information and the means used to identify, measure, classify, and report such information.

320 Compliance with Policies, Plans, Procedures, Laws, and Regulations - The independent appraisal function should review the systems established to ensure compliance with those policies, plans, procedures, laws, and regulations which could have a significant impact on operations and reports and should determine whether the organization is in compliance.

330 Safeguarding of Assets - The independent appraisal function should review the means of safeguarding assets and, as appropriate, verify the existence of such assets.

340 Economical and Efficient Use of Resources - The independent appraisal function should appraise the economy and efficiency with which resources are employed.

350 Accomplishment of Established Objectives and Goals for Operations or Programs - The independent appraisal function should review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.

Considering the total available time of your institutional research staff (professionals and part-time assistants) as 100%, please estimate the percentage of that time devoted to the following activities.

(a) Percent of time devoted to the five SPPIA Scope of Work standards. _____%

(b) Percent of time devoted to staff training, professional meetings, conventions, and other types of continuing education activities. _____%

(c) Percent of time devoted to non-SPPIA Scope of Work duties and activities. _____%

TOTAL 100 %

10. Using the percentage selected in question 9(a), would you please divide this percentage between the work performed to accomplish each of the five Scope of Work standards. (For example, if you marked 40% in question 10(a), then your response to question 10 might be, #310 - 5%; #320 - 10%; #330 - 5%; #340 - 12%; and #350 - 8%. The total of the five equaling 40%).

Standard #310 _____%

Standard #320 _____%

Standard #330 _____%

Standard #340 _____%

Standard #350 _____%

11. What were the total Direct Operating Expenditures (salaries, supplies, etc.) for your institutional research department for the most recently completed accounting year? (Round to nearest $10,000). _____.

APPENDIX F

INTERNAL AUDIT TRANSMITTAL LETTER

HIGHER EDUCATION TEST GROUP

October 5, 1981

I am conducting a research project involving the independent appraisal and evaluation function within universities, and I need your help to complete the second phase of the study.

The Institute of Internal Auditors, Inc. defines internal auditing as "an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization." Also, the Institute adopted in 1978 the Standards for the Professional Practice of Internal Auditing (SPPIA) which apply to any unit or activity within an organization performing this independent appraisal function. Contained in the standards are five Scope of Work standards which describe the specific duties of the internal audit unit(s) within an organization.

My study consists of various statistical comparisons of the total resources devoted to the five SPPIA Scope of Work standards in universities with the total resources devoted to the same five standards in private businesses of similar size as the universities studied. Also, other supplemental data are being collected to further increase the usefulness of the study.

You can assist in the study by completing the enclosed questionnaire as it relates to your internal audit department. A postage paid envelope is enclosed for your convenience in returning the questionnaire. Your response will be kept in absolute confidence, and the information pertaining to your university will only be used to compute the mean responses for all the universities surveyed. A copy of the findings of the study will be mailed to you promptly upon completion of the study.

Your assistance will be greatly appreciated.

Sincerely,

William C. Chapman

WCC/ch

APPENDIX G

INSTITUTIONAL RESEARCH TRANSMITTAL LETTER

HIGHER EDUCATION TEST GROUP

October 5, 1981

I am conducting a research project involving the independent appraisal and evaluation function within universities, and I need your help to complete the second phase of the study.

The Institute of Internal Auditors, Inc. defines internal auditing as "an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization." Also, the Institute adopted in 1978 the Standards for the Professional Practice of Internal Auditing (SPPIA) which apply to any unit or activity within an organization performing this independent appraisal function. Contained in the standards are five Scope of Work standards which describe specific duties for the independent appraisal function within an organization.

My study consists of various statistical comparisons of the total resources devoted to the five SPPIA Scope of Work standards in universities with the total resources devoted to the same five standards in private businesses of similar size as the universities studied. In my review of the literature and in phase one of my research, I have identified two departments within universities that could be performing some or all of the five Scope of Work standards as either a primary or significant secondary function. The two departments are the office of institutional research and the internal audit department.

You can assist in the study by completing the enclosed questionnaire as it relates to your institutional research department. A postage paid envelope is enclosed for your convenience in returning the questionnaire. Your response will be kept in absolute confidence, and the information pertaining to your university will only be used to compute the mean responses for all the universities surveyed. Also, I can assure you that the purpose of the study is not to determine if the institutional research office is performing traditional internal auditing functions. It is only to determine the total resources devoted to the five independent appraisal and evaluation activities described in the SPPIA Scope of Work standards.

Your assistance will be greatly appreciated.

Sincerely,

William C. Chapman

WCC/ch

Enclosure

APPENDIX H

ENDORSEMENT LETTER FROM PRESIDENT OF
OKLAHOMA CITY CHAPTER OF
INSTITUTE OF INTERNAL AUDITORS

The Institute of Internal Auditors, Inc.
OKLAHOMA CITY CHAPTER

GARY B. HARRINGTON
PRESIDENT
710 N.W. 23rd
OKLA. CITY, OKLA.
73103

October 13, 1981

Dear Internal Auditor:

Mr. Bill Chapman is conducting a research study which I believe will be of benefit to the profession of internal auditing. Mr. Chapman has been a member of the Oklahoma City Chapter of the IIA for the past eight years, and I encourage you to support him in his study by participating in his questionnaire survey.

Sincerely,

Gary B. Harrington,
President
Oklahoma City Chapter
Institute of Internal Auditors

APPENDIX I

PRIVATE CORPORATION TEST GROUP FIRMS

Name of Corporation	Number of Employees	Returned Questionnaire	Usable Questionnaire
Alba Waldensian, Inc.	1,600	X	X
ABC Transnational Transport	1,200		
ABS Industries, Inc.	1,000	X	X
A C and S Corporation	2,500		
A & E Plastic Pak Co., Inc.	1,460		
AEL Industries, Inc.	1,041		
Arkansas Louisiana Gas Co.	4,946	X	X
American Micro Systems, Inc.	3,165	X	X
AMI, Inc.	3,700		
APS, Inc.	4,000		
Acton Corporation	3,100		
Adams Drug Co., Inc.	3,900	X	X
The Aerospace Corporation	3,900	X	X
AFIA	4,600	X	X
H. F. Ahmanson & Co.	4,300		
Alabama Bancorporation	3,290		
Alabama By-Products Corp.	3,459		
Alexander & Baldwin, Inc.	3,700	X	X
Allied Chemical Corporation	4,900		
Alterman Investment Fund, Inc.	3,600		
Amdahl Corporation	3,650	X	X
American Biltrite Inc.	3,300	X	X
American Business Products, Inc.	3,050	X	X
Albany International Corporation	6,242	X	X
Angelica Corporation	5,400		
Acme-Cleveland Corporation	6,073		
Alexander & Alexander Services	7,000	X	X
Allegheny Power System, Inc.	5,622	X	X
The Allen Group, Inc.	5,330	X	X
American Family Mutual Ins. Co.	5,960	X	X

Name of Corporation	Number of Employees	Returned Questionnaire	Usable Questionnaire
Arizona Public Service Co.	5,263	X	X
Armstrong Rubber Co.	5,650		
Avondale Mills	5,165		
Ametek, Inc.	7,300	X	X
Advanced Micro Devices, Inc.	8,000	X	X
Allen-Bradley Co.	8,000	X	X
Allied Products Corporation	6,800		
Amerace Corporation	7,020	X	X
Amerada Hess Corporation	7,562		
American District Telegraph Co.	8,500		
American Hoist & Derrick Co.	7,500		
Amstar Corporation	8,366		
Arvin Industries, Inc.	9,000	X	X
Agway, Inc.	10,000		
Allegheny Corporation	9,097		
American Bakeries Company	10,000		
American General Corporation	9,444	X	X
American Hoechst Corporation	10,000		
American National Financial Corp.	11,000		
American Medical International	12,000		
Air Products and Chemicals, Inc.	13,000		
American Broadcasting Companies	12,400		
Ampex Corporation	12,000	X	X
Amsted Industries, Inc.	12,300	X	X
Asarco, Inc.	12,500		
Automatic Data Processing, Inc.	12,700	X	X
ACF Industries, Inc.	13,233		
Alexander's, Inc.	14,000		
American Greetings Corporation	13,123	X	X
Arcata Corporation	14,000		
Arlen Realty & Development	13,500		
AM International, Inc.	20,000		
Allegheny Ludlum Industries	19,900		
Allied Maintenance Corporation	22,800		
AMAX, Inc.	17,400	X	X
Badger Meter, Inc.	1,300		

Name of Corporation	Number of Employees	Returned Questionnaire	Usable Questionnaire
Booz, Allen & Hamilton, Inc.	2,737	X	X
Black & Veatch	3,000	X	X
Blackstone Corporation	2,500	X	X
Beldon Corporation	4,081	X	X
Bayly Corporation	3,600	X	X
Blue Bell, Inc.	3,300		
Bucyrus-Erie Company	6,062		
Blount, Inc.	6,900		
Bally Manufacturing Corporation	5,850	X	X
Bancohio Corporation	6,000	X	X
C. R. Bard, Inc.	5,400	X	X
Barnes Group, Inc.	5,900	X	X
Bassett Furniture Industries, Inc.	7,000	X	X
Bekins Company	6,000	X	X
Battelle Memorial Institute	7,200		
Baltimore Gas & Electric Co.	8,485		
Beloit Corporation	8,167		
Beckman Instruments, Inc.	12,100		
Bankers Trust New York Corp.	11,487		
Ball Corporation	11,450	X	X
Bangor Punta Corporation	14,165	X	X
Becton, Dickinson & Co.	16,800	X	X
The Black & Decker Mfg. Co.	21,000	X	X
Computervision Corporation	2,560	X	X
Comshare, Inc.	1,300	X	X
CF Industries, Inc.	2,900		
Chicago Milwaukee Corporation	1,000		
Carrols Development Corporation	3,500		
Carolina Freight Carriers Corp.	4,500		
CFS Continental, Inc.	3,700	X	X
Curtiss-Wright Corporation	5,453	X	X
Carolina Power & Light Co.	6,247		
Capital Cities Communications	5,180		
Capital Holding Corporation	6,100	X	X
CDI Corporation	7,400	X	X
Consolidated Natural Gas Co.	7,700	X	X

Name of Corporation	Number of Employees	Returned Questionnaire	Usable Questionnaire
Carson Pirie Scott & Co.	9,500		
Cameron Iron Works, Inc.	10,182	X	X
Consumers Power Co.	12,068	X	X
Cone Mills Corporation	14,000	X	X
Crocker National Corporation	16,350		
Campbell Taggart, Inc.	23,161	X	X
Duckwall-Alco Stores, Inc.	3,200		
Dow Corning Corporation	5,200	X	X
Duplan Corporation	6,500		
DeLuxe Check Printers, Inc.	9,361		
Dan River, Inc.	17,000	X	X
DWG Corporation	7,000		
European American Bancorp	3,605		
Eichleay Corporation	5,000		
Economics Laboratory, Inc.	6,147		
Ex-Cell-O Corporation	16,000	X	X
Federal Paper Board Co., Inc.	4,000	X	X
Ferro Corporation	8,350	x	X
First Bank System, Inc.	9,519		
Fairchild Industries, Inc.	12,320		
Fred Meyer, Inc.	13,000	X	X
Frank Briscoe Company	3,000		
Guardian Corporation	1,700	X	X
Guardian Life Ins. of America	1,400	X	X
G C Services Corporation	1,000		
GCA Corporation	2,000	X	X
Guardian Industries Corporation	4,200		
Genuine Parts Company	8,000	X	X
Goldblatt Bros., Inc.	7,900		
GATX Corporation	10,100		
GAF Corporation	15,000		
Getty Oil Company	14,616		
H. B. Zachry Company	8,000		
Hoover Universal, Inc.	8,000	X	X
International Clinical Laboratories	1,000	X	X
International Controls Corp.	1,800	X	X

Name of Corporation	Number of Employees	Returned Questionnaire	Usable Questionnaire
ITEK Corporation	6,100		
International Multifoods Corp.	8,150		
Intel Corporation	15,000	X	X
John Hancock Mutual Life Ins. Co.	16,000	X	X
Kaneb Services, Inc.	6,300	X	X
Koppers Co., Inc.	18,000	X	X
Land O'Lakes, Inc.	8,000		
Lone Star Industries, Inc.	12,300		
Metropolitan Maintenance Co.	1,400		
Manor Care, Inc.	3,200		
Metromedia, Inc.	4,650	X	X
Miller-Wohl Co., Inc.	3,112		
McQuay-Perfex, Inc.	4,000	X	X
Masonite Corporation	7,000	X	X
National Patent Development Corp.	1,482		
National Presto Industries, Inc.	1,317	X	X
National Homes Corporation	1,000		
National Health Enterprises, Inc.	6,700		
Northeast Utilities	7,200	X	X
National Gypsum Company	13,400		
Optical Coating Laboratory, Inc.	1,101		
Purex Industries, Inc.	8,500		
Richardson-Vicks, Inc.	15,000	X	X
R. R. Donnelley & Sons Co.	14,400		
Stowe Mills, Inc.	1,200	X	X
Sea Pines Co.	1,000	X	X
Sigmor Corporation	5,100	X	X
Sonoco Products Company	8,100	X	X
Stanley Works	16,875	X	X
Sherwin-Williams Company	16,600	X	X
Toys R Us, Inc.	6,100		
Tracor, Inc.	6,800	X	X
Trinity Industries, Inc.	5,700	X	X
Timex Corporation	21,000	X	X
The Timken Company	23,772		
United Industrial Corporation	3,500		

Name of Corporation	Number of Employees	Returned Questionnaire	Usable Questionnaire
United Inns, Inc.	4,314		
United Industrial Syndicate, Inc.	6,000		
WANG Laboratories, Inc.	11,670	X	X
9 Questionnaires without names		X	X

APPENDIX J

PRIVATE CORPORATION TEST GROUP QUESTIONNAIRE
CORPORATION SURVEY

CONFIDENTIAL

Your response on this questionnaire will be held in strict confidence. Neither you, your office, nor your corporation will be identified in the study or in any other report or publication.

GENERAL INSTRUCTIONS

The questionnaire has been pre-tested at four corporations, however, if you deem a question unanswerable, either because the answer is unknown or of its confidential nature, please leave the question blank. If possible, the questionnaire should be returned by December 15, 1981.

1. Name of corporation. _____

2. What is the official title of the director of the internal audit function at your corporation? _____

3. State the exact title of the individual to whom the director of the internal audit function reports in your corporation. _____

4. How many employees are employed in the internal audit department of your corporation?
_____

5. List the number of employees in your internal audit department according to the classifications listed below.

   (a) Professional auditors _____
   (b) Clerical or stenographic _____
   (c) Part-time assistants _____
   (d) Other (Please specify) _____

6. Of your professional audit staff, the number given in answer 5(a), list the number of individuals that possess the following professional certifications and/or academic degrees.

   (a) CPA's _____
   (b) CIA's _____
   (c) CMA's _____
   (d) CISA's _____
   (e) Bachelor's Degree _____
   (f) Master's Degree _____
   (g) Doctor's Degree _____

7. Please place a check mark beside the name of each individual or group that routinely receive a report of the findings and recommendations of all internal audits performed.

   _____ Audit Committee, Board of Directors
   _____ Board of Directors
   _____ President of Corporation or Equivalent Position
   _____ Executive Vice President or Equivalent Position
   _____ External Auditors
   _____ Financial Vice President or Equivalent Position

Please place a check mark beside the name of each individual or group that receives a periodic activity report (at least annually) that highlights significant audit findings and recommendations.

_____ Audit Committee, Board of Directors

_____ Board of Directors

_____ President of Corporation or Equivalent Position

_____ Executive Vice President or Equivalent Position

_____ External Auditors

_____ Financial Vice President or Equivalent Position

Does the director of internal auditing have a formal statement of the purpose, authority and responsibility of the internal auditing department?

Yes _____ No _____

The SCOPE OF WORK (Standard 300) standard of the Standards for the Professional Practice of Internal Auditing, issued by the Institute of Internal Auditors, Inc., states: "The scope of the internal audit should encompass the examination and evaluation of the adequacy and effectiveness of the organization system of internal control and the quality of performance in carrying out assigned responsibilities." This standard contains five specific standards. These are:

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

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

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

340 Economical and Efficient Use of Resources - Internal auditors should appraise the economy and efficiency with which resources are employed.

350 Accomplishment of Established Objectives and Goals for Operations or Programs - Internal auditors should review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.

Considering the total available time of your internal audit staff (professional auditors and part-time assistant auditors) as 100%, please estimate the percentage of that time devoted to the following activities. (Note: Available time does not include vacation time, sick leave, or holidays.)

(a) Percent of time devoted to the five SPPIA Scope of Work standards. _____%

(b) Percent of time devoted to staff training, professional meetings, conventions, and other types of continuing education activities. _____%

(c) Percent of time devoted to non-SPPIA Scope of Work duties and activities _____%

TOTAL 100 %

11. Using the percentage selected in question 10(a), would you please divide this percentage between the work performed to accomplish each of the five Scope of Work standards. (For example, if you marked 70% in question 10(a), then your response to question 11 might be, #310 - 15%; #320 - 25%; #330 - 5%; #340 - 18%; and #350 - 7%. The total of the five equaling 70%). It is realized that this division may be difficult, however, even a rough estimate will be extremely beneficial.

Standard #310 _____%
Standard #320 _____%
Standard #330 _____%
Standard #340 _____%
Standard #350 _____%

12. What is the total number of employees (full and part-time) at your corporation? (Round to nearest hundred) _____

If your firm has a large percentage (10% or more) of part-time employees, would you please divide the above number between full-time employees _____ and part-time employees _____.

13. Are there other independent appraisal and evaluation departments within your corporation that devote a significant amount of their time and resources to activities that fall within the Scope of Work duties of the SPPIA?

Yes _____ No _____

If yes, please list the names of the departments.

_____

_____

_____

_____

Questions 14 and 15 relate to corporation expenditures and if this information cannot be released then return the partially completed questionnaire (questions 1-13) in the enclosed envelope. However, since part of the study does consider the financial expenditures devoted to the internal audit function as a percent of total expenses, your completion of these last two questions is very important.

14. What were the total Direct Operating Expenditures (salaries, supplies, etc.) for your internal auditing department for the most recently completed accounting year? (Round to nearest $10,000) _____.

15. What were the total expenses for the most recently completed accounting year, divided into the following categories. (Round to nearest $100,000).

(a) Current operating expenses (selling, administrative, general, etc.)
$ _____.

(b) Direct labor and factory overhead, it not included in 15(a).
$ _____.

If expenses cannot be divided into the 15(a) and 15(b) categories, a total for both 15(a) and 15(b) expenses is acceptable. Total $_____.

(Please note: The purpose of this question is to obtain an estimate of the total operating expenses, excluding the cost of raw materials or purchases of merchandise, devoted to accomplishing the goals and objectives of the organization. It does include depreciation charges. It does not include interest expense, extraordinary items, or the provision for income taxes.)

APPENDIX K

PRIVATE CORPORATION TEST GROUP TRANSMITTAL LETTER

November 20, 1981

I am conducting a research project involving the independent appraisal and evaluation function within various types of organizations, and I need your help to complete the second phase of the study.

The Institute of Internal Auditors, Inc. defines internal auditing as "an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization." Also, the Institute adopted in 1978 the Standards for the Professional Practice of Internal Auditing (SPPIA) which apply to any unit or activity within an organization performing this independent appraisal function. Contained in the standards are five Scope of Work standards which describe the specific duties of the internal audit unit(s) within an organization.

My study consists of various statistical comparisons of the total resources devoted to the five SPPIA Scope of Work standards in non-profit organizations with the total resources devoted to the same five standards in private businesses of similar size as the non-profit organizations studied. Also, other supplemental data are being collected to further increase the usefulness of the study.

You can assist in the study by completing the enclosed questionnaire as it relates to your internal audit department. A postage paid envelope is enclosed for your convenience in returning the questionnaire. Your response will be kept in absolute confidence, and the information pertaining to your organization will only be used to compute the mean responses for all the organizations surveyed. A copy of the findings of the study will be mailed to you promptly upon completion of the study.

The Oklahoma City Chapter of the Institute of Internal Auditors, Inc. has agreed to support me in this study, and your assistance will certainly be appreciated.

Sincerely,

William C. Chapman

WCC/ch