



Factors Influencing the Effectiveness of Internal Audit in the Power Sector of Pakistan

Vol. IV, No. III (Summer 2019) | Pages: 474 – 491 | DOI: 10.31703/grr.2019(IV-III).52

p- ISSN: 2616-955X | e-ISSN: 2663-7030 | ISSN-L: 2616-955X

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Abstract

This study is an attempt to explore those factors which influence the effectiveness of the internal audit in the power sector of Pakistan. The results of the study were obtained on the basis of data collected from internal audit staff members (103) and management (103) of the four large companies of the power sector. The relationship of three factors, i.e., competencies of auditor, management support and relation between the audit committee and internal audit, with the effectiveness of internal audit is studied. It is found that increased competencies of management support and internal auditor have a positive influence on the effectiveness of internal audit in the form of an increase in the implementation of internal audit recommendations proposed by the internal audit.

Key Words: Audit Committee, Internal Audit, Effectiveness, Management Support, Competencies

Introduction

The significance of the role of internal audit and its potential to contribute to achieving the overall objectives of the organization has been widely acknowledged lately. Considering the significance and the internal audit's changing role, it has been the area of focus of research for researchers in different corners of the world. The role of internal audit has quite extended over the passage of time, apart from the traditional role of appraising, evaluating and providing assurance of the adequacy of financial, accounting and operational controls, internal audit new focus is on value addition and consultation. Internal audit can only be fruitful when it's effectively achieving its objectives and contribute towards the overall objectives of the organization. Thus, different researchers in different circumstances, areas and different sectors have tried to explore the components that possibly have an impact on the internal audit's effectiveness. A Singaporean study by Goodwin and Yeo (2001) concluded that the strong relationship between the audit committee and internal audit could improve the internal audit's effectiveness. Arena and Azzone (2009) conducted a study on the corporate sector of Italy, where the changing role of internal audit was focused. It concluded that competency of adoption of the risk-based audit approach, the chief audit executive and the relationship between internal audit and audit committee positively relates to the implementation of recommendations of internal audit. Fisher (1991) asserted that corporate businesses need an effective internal audit system, which was later on endorsed.

However, it is not only the corporate sector that needs an effective internal audit system, but the public sector where huge public funds are utilized needs to be accountable, transparent and have an effective service delivery system. Unfortunately, this is not the case in most countries, especially in developing and underdeveloped countries. Despite having a comprehensive set of policy frameworks and established internal audit departments, the systems of these countries fail to deliver. An Ethiopian case study, while exploring the factors behind the ineffectiveness of internal audit in the public sector, concluded that lack of management support and poor internal audit quality are the major reasons behind the ineffectiveness of internal audit Mihret and

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Yismaw (2007). One such study that targeted the Saudi public sector revealed that the incompetencies of the internal audit staff, lack of management support and absence of independence of internal audit could have a significantly negative influence on internal audit's effectiveness Alzeban (, 2010).

Almost all public sector companies of Pakistan are going into losses. The power sector being the largest utilizer of public funds is an important part of the overall governance structure of the country. Due to the inefficiencies in the power sector, the economy of Pakistan has sustained 18 billion US dollars of losses alone as per the World Bank report "In the Dark: How Much Do Power Sector Distortions Cost South Asia" (2018). Despite having well established internal audit divisions, the internal audit has failed to achieve its objectives. It is due to this reason that the researcher has selected the power sector of Pakistan to know those factors that have an impact on the internal audit's effectiveness.

Significance/contribution of the Research work

The significance of the function of internal audit helps to achieve the overall objectives of the organizations, both in the public and private sector, is evident from the above discussion. The significance of internal audit is even more in the context of the Pakistani public sector (and specifically the power sector), where the major reason behind the dismal performance of public sector institutions has always been poor governance. Changing role of IAF has highlighted the importance of corporate governance and the strong linkage of corporate governance and IA. As explained by Lenz (2013) that the IA effectiveness is a risk-based approach by positively influencing corporate governance that helps in achieving organizational goals. Internal audit helps in evaluating and improving the governance structure, which is one of the bases for conducting this study as the new narrative of eliminating corruption and improving governance is building in the country. This research will contribute to highlighting the factors that can possibly improve the internal audit system and, ultimately, the governance structure of the power sector institutions.

Research Question

The research questionnaire designed to achieve this is:

To study the relationship between the implementation of the recommendations of the internal audit (a measure of the effectiveness of internal audit) and three independent variables, including:

- Competencies of internal audit
- Support for management
- The relationship between the audit committee and internal audit

Scope of the Study

The study focuses on examining the determinants of internal audit's effectiveness in the power sector of Pakistan. In this regard, the relationship of management support, three independent variables, competencies of internal audit staff, and the relationship between internal audit and audit committee were checked with the dependent variable i.e. effectiveness of the internal audit. Respondents from four large companies of the power sector, i.e. PESCO, TESCO, NTDCL, and PEDO, were selected. Data were collected through two sets of questionnaires. The first questionnaire consisting of questions related to the independent variable were distributed among the internal audit staff of these companies. The second questionnaire related to the dependent variable was targeted at the management of these companies.

Literature Review

Introduction

In this chapter, the background of Pakistan's power sector and the previous studies on internal audits and their effectiveness. In this chapter's first part, the researcher has discussed the power sector and the challenges faced by it. In the next part, the researcher has provided a comprehensive review of the previous studies on internal audit and the factors that influence it. The chapter goes in a sequence of first describing internal audit,

effectiveness and how to measure internal audit effectiveness. Then what literature says about the different aspects which influence the internal audit's effectiveness and that how it is measured. Finally, the chapter individually discusses the literature on three factors and how to measure them.

Power Sector of Pakistan

Pakistan's power sector, one of the largest public funds utilizer, is an important and major part of the overall governance structure of the government sector. The power sector can mainly be divided into two segments, i.e. Power producers and power distribution companies. The four major power producers are WAPDA, IPPs, KESC, and PAEC. While the distribution companies (DISCO's), which works under Pakistan Electricity Company (PEPCO), are responsible for the distribution of electricity in their respective regions.

The power sector of Pakistan has been facing some critical challenges, especially during the last decade. The major challenges it faces are electricity theft, line losses, Circular debt, and governance. Despite increasing generation capacity from 20,774 in 2013 to 33,801 in 2018, the country is still facing unprecedented load shedding. It is mainly because of the reason that the rate of growth of power generation capacity was far more than improving the distribution and transmission capacity of the country (thenews.com). Apart from it, there are a number of inefficiencies in the power sector, specifically the governance structure. Due to the inefficiencies in the power sector, the economy of Pakistan has sustained eighteen billion US dollars of losses alone as per the World Bank report "In the Dark: How Much Do Power Sectors Distortions Cost South Asia" (2018). The power sector of Pakistan is stuck in a vicious circle of circular debt, and the majority of the companies in the power sector are incurring billions of rupees of losses each year to the national exchequer.

As highlighted, one of the main problems of power distribution companies are poor governance and poor systems of internal control. The internal audit's changing role explains a powerful linkage between governance and internal audit. As explained by a code of corporate governance Auditors (1999), one way through which internal audit can contribute to achieving overall objectives is by positively influencing the corporate governance. However, despite having well established internal audit divisions and policy frameworks, the internal audit function of the power sector has failed to achieve its objectives. It is due to this reason that the researcher has selected the power sector of Pakistan to know those factors that factors influence internal audit's effectiveness.

Literature Review

Traditionally, the internal audit function has focused more on the accounting and financial control of an organization. However, with the passage of time, the role and scope of internal audit extended, resulting in an increase in its importance. Sawyer (1995), while explaining the Internal audit function, said that the core activities and services performed by the internal audit are reviewing, appraising and providing reasonable assurance that the financial, accounting and operational controls of the company are sound and adequate. Further, it should examine the extent to which the established policies, rules, regulations, and laws comply that can have a notable effect on the performance of the organization. The results of the operations against the established goals are carried out by an internal auditor that whether the operations are carried out according to the planning. The primary function of internal audit is represented by the overall internal control system through reviewing and evaluating the performance.

"An independent, objective assurance and consulting activity designed to add value and improve an organization's operation. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes."

Recently, different studies have focused on measuring, identifying and evaluating the factors that positively impact or hinder the internal audit's effectiveness. The effectiveness, in general, is believed to be achieved when the results obtained are consistent with the targets or objectives established. As pointed out by Dinttner (2001), "internal audit effectiveness is an achievement of the tasks identified by the internal auditing objectives". Van Gansbergh (2005) says that it is reflected in the form of effective service delivery, which in turn drives the demand for quality internal audit services while explaining the internal audit's effectiveness in the public sector.

There is no consensus over the techniques of evaluating and measuring IA effectiveness, both in the public and private sector, and different modes have emerged over the period. Some studies relate effectiveness to the

IA Plan, implementation and communication of the audit findings and the extent to which IA procedures comply with the IIA standards Fadzil et al. (2005). The shortcoming with this approach is that it does not give any consideration to the requirements of the stakeholders and the effectiveness is assumed to be gained purely by the execution of the IA audit plan and procedures. While the current approach focuses more on the value addition and satisfaction of stakeholders as the performance indicators of IA. In order to counter this criticism and provide measures that are more relevant to the current trends of value addition and meeting the needs of the stakeholders, output measures were introduced. Among these measures, special attention has been given to the needs of the auditees (Barrett, 1986; Ziegenfuss, 2000; Frigo, 2002). Survey results of the study by Ziegenfuss (2000) indicated that most of the CAE's views satisfaction of auditees and implementation of recommendations of IA as a performance measure for the IA audit department. The first measure though suitable but is not practical in a study involving an extensive sample of a large number of companies, including representatives from each company. The second measure also has certain limitations, i.e. it is partially beyond the control of internal audit Salierno, (2000). Not stopping here, other studies further extended the criteria of measuring internal audit effectiveness and included some other measures. For example, in one such study Dittenhofer, (2001) highlighted that effectiveness of internal audit is not merely meeting expectations and satisfying the needs of the auditees, it said that in order to evaluate the effectiveness of IA, the internal audit's ability is to measure the achievement of auditee objectives and to provide solutions to the problems faced by the auditee in achieving those objectives should be considered. This means that apart from using the traditional audit procedures of evaluating the compliance to rules and regulations, checking the accuracy of financial reporting and giving assurance of efficiency and effectiveness of operations, IA must go one step further and check that whether established procedures and controls are actually contributing towards the achievement of targeted goals and objectives of the auditee. As there is no easy way of measuring the effectiveness and efficiency of auditee's operations, internal auditors can ascertain it by what is called 'results examination', i.e. checking that whether actions of auditee are resulting in its objectives' achievements.

Some researchers have measured the effectiveness of the internal audit in terms of economic value, i.e. as a result of the activities of internal audit, how much cost saving is done Cashell and Aldhizer, (2002). Measures that are most commonly used as per the views of CAE's and audit committee members taken are the consistency of IAF with respect to the annual audit plan, timely completion of work and implementation of recommendations Soh and Bennie (2011). Also, some researchers have studied the internal audit's effectiveness in terms of its support and impact on corporate governance.

Previous Research about Factors Affecting Internal Audit

The results of one Ethiopian case study of the institution of public sectors reveals that IA is strongly affected by the quality of the internal audit, Management support and weakly influenced by attributes of the auditee and organizational setting. Where the internal audit quality is assessed through IA departments potential to give beneficial recommendations and findings, which is said to be dependent on the IA staff competencies, audit plan, its execution, and communication. Management support is found to be highly relevant to the effectiveness of IA and is measured through the extent to which findings and recommendations are implemented. Organizational setting referring to the context in which the auditor operates, i.e. organizational profile, internal organization, internal audit budget status and policies and procedures that guide the auditee, weakly relates to the internal audit's effectiveness Mihret and Yismaw (2007).

In one other study, Arena and Azzone (2009) tried to identify the drivers of an organization internal audit's effectiveness in the context of internal audit's changing role. The research, based on data collection from respondents of the top 300 companies of Italy, examined the three major dimensions that can positively influence the internal's audits effectiveness of the organization. The dimensions commonly supported by other researchers as well were resources and characteristics of IA staff, the strength of links between AC and IA, the process and activities used by the internal audit, i.e. adopting the new audit roles. Resources and characteristics of IA staff are shown as a function of the size of IA and IA competencies, which in turn were measured through the number of internal auditors and ratio between IA staff and employees.

The strength of the relationship between the AC and IA, its involvement in the activities of internal audit, reviewing the audit plan and results can impact positively on the internal audit's independence is evident from

the study conducted in Singapore by Goodwin and Yeo (2001). While independence being one of the general standards of SPPIA (1978), is an obvious factor of internal audit effectiveness, it supports the results of other studies of using AC and IA relationship strengths as a factor of IA effectiveness.

One other study that was focused on the Malaysian public sector to identify the factors that affect the internal audit's effectiveness and factors that may contribute positively to enhance its effectiveness was conducted by Ahmad *et al.* (2009). Responses were taken from internal audit heads, internal audit officers and other staff belonging to different public sector agencies. Upon analyzing the data collected, the results of the study revealed some problems that hinder effectiveness and some factors that contribute positively to the effectiveness. Problems identified were ranked according to the frequency of their mentioning in responses given by the respondents. The major problem highlighted by most of the respondents was lack of staff followed by a lack of professional training and competencies of the internal audit staff. The negative attitude of the auditee towards the role of IA and of cooperation on the part of auditees and is also one of the problems. The findings suggested that with enough support from top management, the internal audit effectiveness can be increased by solving most of the problems mentioned, *i.e.* lack of staff, negative attitude of auditees, shortage of resources, lack of interest of auditees in the implementation of the Internal auditor's recommendations. Concluding that quality and management support are the two major dimensions that can add to the internal audit's effectiveness.

In order to give an insight into the changing roles of IA function, perceptions about the factors that influence the internal audit effectiveness and different performance measures against which effectiveness of internal audit can be evaluated, a study was conducted through semi-structured interviews with Six CAEs and Six ACC's by Soh and Bennie (2010). Findings of the study, which relates to those factors which are affecting the internal audit's effectiveness, revealed that an in-house IAF could contribute more positively as compared to the outsourced IAF. However, a co-sourced arrangement was perceived to best in case the organization want to have access to a range of expertise along with deep knowledge about the processes, culture, and system of an organization. The second dimension that was emphasized was related to characteristics of IA staff, *i.e.* having staff with appropriate skills, especially having strong accounting and IT background. The third dimension, which was found quite consistent with the previous research, is that IAF effectiveness strongly depends on the relationship of IA with its stakeholders, positioning of internal audit and its reporting line. In this regard, its relationship with AC and Management was found to be highly crucial; the audit committee has a crucial role in ensuring independence and objectivity and providing a valuable status to the IAF.

Though a lot of common factors which affects the internal audit's effectiveness can be observed in previous literature, however, no universal model has emerged, indicating that these factors are unique to the different conditions and status of the organization.

Characteristics/Competencies of the IA Staff

The internal auditor is a technical field and consisting of a vast and complex range of activities, needs to carry out mandatory professional skills, knowledge and also other expertise in order to perform their duties better. The same is required by Auditors (1999). Competence means having the ability to perform to established standards. In the case of an internal audit, different researchers have used a number of components as indicators of the competencies of the internal audit department. Broadly three main dimensions, *i.e.* relevant educational and professional qualification level, professional work experience and training, have been used as indicators of competencies. For example, professional experience and educational level are considered as main indicators of Internal Auditor's competence by Desai *et al.* (2010). The IIA 1210-1 related to Proficiency recommends the professional competence of internal auditors by setting the requirement of establishing proper criteria of relevant education and professional experience before hiring internal audit staff. While assessing the professional competence of internal auditors, the employers should take into consideration a wide range of skills, knowledge, and expertise relating to accounting, finance, risk management, and controls. Engle (1999) stressed the importance of competencies of internal audit and emphasized organizations to make it top of the priority as it can result in effective IA and contributing towards the achievement of overall goals, reducing the cost of external auditors as an organization can rely to a great extent on internal auditors, can provide accurate financial statements thereby reducing the chances of disagreement between external and internal audit. The study of Cooper *et al.*,

(1994) recommended the importance of the educational level of IA as 80% of respondents highlighted the importance of having internal audit programs at the university level.

Soh and Bennie (2010), in their study about the roles, effectiveness, and evaluation of internal audit, interviewed six CAEs and six ACCs and identified three dimensions that influence the internal audit's effectiveness. One of these dimensions is the staffing and competencies of the internal audit department. The majority of ACCs and CAEs in their interviews referred to the characteristics of the human resource of IAF as an important contributor towards ensuring internal audit's effectiveness. The internal audit department staff should have a wide range of skills, including finance, accounting, operational risk assessment and IT. Some of the respondents also brought attention to the characteristics of CAE and his personal authority. CAE should be such that he smoothly goes along with all stakeholders and stand on his opinion, regardless of pressure situations. In short, this dimension emphasized the right people who have the right skills need to be placed, especially in CAE's role.

A research was conducted in the Ethiopian public sector to study the influence of four different factors on the internal audit's effectiveness Yismaw and Mihret (2007). The study's finding showed the management support and quality of internal audit has a strong impact on the internal audit's effectiveness. The quality of internal audit was assumed to be reflected in the form of useful findings and recommendations that largely depends on the expertise of the staff, scope of work, planning, execution and communication of internal audit. All these components of internal audit quality require extensive knowledge and skills, which makes it imperative for internal audit staff to have all extensive knowledge and skills and upgrade the same through continuous training and development. The study's result revealed that the internal audit office of the educational institute studied in the case study has low technical staff proficiency and high turnover, which resulted in a lower effectiveness of the internal audit function.

Arena and Azzone (2009) conducted research to identify the drivers of the effectiveness of internal audit; they examined it from three aspects, one of which was the impact of CAE on internal audit's effectiveness and competencies of staff of internal audit. The researcher used three indicators as a measure of competencies of internal auditors; the variables adopted were: the membership of CAE to IIA, different professional certification courses achieved by the internal audit staff issued by IIA and achievement of other accounting related certification, e.g. certified public accountants. Results of the study after running the regression model concluded that membership of CAE to IIA positively relates to internal audit's effectiveness, while the other two results variables were insignificant. Based on the above literature, our first hypothesis is:

H1: Internal auditors' competencies positively influences the internal audit's effectiveness.

The Support of Management

The literature on management provides sufficient evidence to complement the importance of management support in making successful any programs and bringing changes in an organization. As pointed out by Fernandez and Rainey (2006), the role of top management can't be ignored because it is top management who can mobilize the masses in contributing towards the achievement of the goals and implementing the ideas of few thinkers. Similarly, management support of internal audit has turned out as a crucial variable in ensuring the internal audit's effectiveness. The new definition of internal audit by IIA have pointed to good governance-which depends largely on senior management's support in ensuring a smooth internal audit. It is due to this that management expectations from the internal audit are changing, and they are giving more importance to internal audit.

The importance of the strong and constructive connection between management support and internal audit is also highlighted by Auditors (2012), which highlights that besides reporting functionally to the audit committee, the CAE should report to the management administratively in order to get the necessary support from them in ensuring smooth operation of their internal audit activities. Such management support can be in the form of recognizing the important role of IA and giving the sufficient status, providing them with enough resources, both budgetary and human, training facilities, authority and support in giving them unrestricted access to necessary resources and information in ensuring the effective operation of internal audit. One way in which the relationship between IA and management can be strengthened is by taking and considering the input of senior management in making an internal audit plan by the CAE. This will open two-way dialogue between both, while internal audit

can communicate about its resource requirements for the effective operation of internal audit and about the progress on the audit plan. Management can, in turn, communicate their perceptions about the riskiness of business activities and cooperate by promptly responding to the problems and objections raised by internal audit Leithhead (, 2000).

The critical influence of management support on the effectiveness of internal order is supported by the public sector studies as well. Yismaw and Mihret (2007), in their research study about identifying the factors that impact internal audit's effectiveness office of a large educational institute of Ethiopia, found that management support has a strong impact on internal audit's effectiveness, as respondents in majority revealed that office of internal audit of the educational institute was not effective because of lack of support from management. Management support here was seen in the context of the commitment of management to implement the recommendations of the internal audit.

H2: *Greater support from management positively relates to internal audit's effectiveness.*

The Relationship between the Audit Committee and Internal Audit

IAF's changing role has highlighted the importance of corporate governance and the strong linkage of corporate governance and IA. As explained by Lenz (2013), the internal audit's effectiveness approach is risk-based that helps in achieving organizational goals by positively influencing corporate governance. An effective and strong relationship between the audit committee and internal audit are declared by the Combined Code on Corporate Governance (2006) as a key to good corporate governance. The audit committee and internal audit are though two different bodies within an organization, but their roles support each other, and their goals are strongly intertwined.

While defining the audit committee's role in evaluating and monitoring IAF, Guidance of FRC on audit committee (2008) has said that the audit committee should ensure direct access and accountability of internal auditor to the audit committee and board chairman, should periodically review the annual IA plan and reports on the results of Internal auditors, the responsiveness of management to findings and recommendations of internal audit, private meeting with CAE at least once in a year and make an overall assessment of internal audit's role in relation to risk management system of the company.

Many guidelines, standards and research studies apart from promoting cooperation have highlighted that internal audit and audit committee enhances each other's performance. As like management, the audit committee does not have any direct access to the information of the same level, internal audit can help it in carrying out its role of oversight of the controls and risk management systems through exchange and availability of information, in case a strong interaction exists between them (Bishop et al., 2000; Raghunandan et al., 1998). The audit committee, in turn, can help internal audit by identifying problems and offering opportunities for improvement. Further, the role of internal audit is strengthened by an active audit committee which helps in communicating problems to the top management. Apart from promoting the role of internal audit, different studies have revealed that there is a strong connection between both can ensure the internal audit's independence Goodwin and Yeo (2001). This can be achieved if the internal audit has direct access to the audit committee. Professional standards should be reported to a certain level within an organization by the internal audit has been acknowledged by the study of Cooper (1994), where the majority of the respondents (CEO's) mentioned that audit committee should be reported by internal audit. The audit committee provides an independent forum to the internal auditor for discussing matters relating to important matters. One of the audit committee's basic responsibility is to ensure that internal audit can speak freely and has the support from the whole organization Allison (1994). Previous research has proved that regular meetups between audit committee and internal audit can lead to internal audit's effectiveness Scarbrough (1998). The audit committee's responsibilities also include the review of annual audit and internal audit activities in order to ensure its completeness tailor them according to the need of the organization, for this purpose audit committee and internal auditors should meet at the beginning of the year as suggested by Kolins (1991). It is also suggested that in order to ensure the independence of internal audit and discuss some findings which are sensitive in nature, audit committee should be accessed privately by CAE Kalbers (1992). In order to review the findings of audit work after completion, it should be reported to the audit committee. It is suggested that the authority of the hiring and firing of the CAE should lay with the audit

committee in relation to the independence of the internal audit. This can result into more objectivity and no fear of threats by internal auditors as they know that they have got the support of the audit committee and decisions of their fate lay with an independent authority (Scarborough 1998; Allison 1994).

The study of Scarborough was further extended through research conducted in Singapore by Goodwin and Yeo (2001) to examine the effect of two factors, i.e. the connection between internal audit and audit committee and also utilizing the internal review as management preparing ground on the freedom and objectivity of internal audit. It was contended in the paper that a solid connection between the internal audit and audit committee could upgrade the freedom of the latter. It was argued in the paper that a strong relationship between the audit committee and internal audit could enhance the independence of the latter.

Additionally, the results of the research directed by Arena and Azzorne (2009) likewise showed that internal audit's effectiveness positively relates to the involvement of the audit committee in the exercises of the internal audit.

The internal audit's effectiveness was estimated through the percentage of recommendations actualized by the auditee, while the strength of the connection between the audit committee and the internal audit was estimated by utilizing frequency meetings between both, reviewing of internal audit work and level of participation of the audit committee in checking and investigating of internal audit work. This leads us to our third hypothesis:

H3: Internal audit's effectiveness is positively influenced by the strength of the relationship between the audit committee and internal audit.

Methods and Methodology

Introduction

This chapter discusses the methodology of the research adopted by the researcher after a thorough review of the relevant studies. The chapter further discusses the dependent and independent variables used in the study, the Data collection tool selected, the Data analysis tool and technique used and who were the respondents of the data.

Research Methodology

There are mainly two approaches to research qualitative research and quantitative research. Quantitative research is deductive in nature, where data is collected and organized in a structured way, different types of statistical tests are applied on empirical variables to establish the relationship among them (Bryman and Bell, 2007). Most likely raw data collected through different research methods are analyzed by using a software programs like MS Excel and SPSS. Research methods like Surveys and experiments are mostly used in quantitative research, as they are best in collecting structured data.

In qualitative research, non-numerical data is used, where the findings of the study are not the results of some statistical procedures or quantifications. It is exploratory and inductive in nature and is used to gain insights into the problem (Collis and Hussey, 2003; Sekaran, 2003; Bryman and Bell, 2007). The data collection methods can vary from semi-structured to unstructured techniques.

Considering the nature and objectives of this study, the researcher has deemed the quantitative approach to be suitable. All the previous studies similar to this one has used a quantitative approach by collecting data through surveys (Goodwin and Yeo 2001; Arena and Azzone 2009; Cohen and Sayag 2010). Furthermore, for structured questionnaires with prescribed responses and standardized measures, a quantitative approach is best suited. Further, for the collection of information, the researcher has used the survey as a research method. The survey research method has been defined as the collection of information by posing a specific set of questions to a sample of individuals [Check & Schutt, \(2012\)](#). This method is useful when the sample of the research involves studying a large group of people, especially knowing about their personal characteristics, relationships and opinions.

Variables to be Studied

The research study involves studying the relationship between three independent variables and one dependent

variable. These variables are:

Independent Variables

The list of the independent variables that are used in the study to know its impact on internal audit's effectiveness are competencies/characteristics of staff of the internal audit, Management support, relationship between audit committee and internal audit.

To measure competencies of the internal audit, relevant education and professional qualification, work experience and continuous training were used as measures like used by previous research (Alzeban (2010), Arena and Azzone (2009)). Indicators for management, the second independent variable, were incorporated into a set of questions. These indicators were the support in performing duties and responsibilities of IA, Provision of enough budgetary and human resources, and involvement of senior management in internal audit plan (Alzeban 2010; Cohen and Sayag 2010).

Finally, the strength of the connection between the audit committee and internal review was estimated by alluding to the frequency of meetings between the audit committee and internal audit, review of the exercises, findings and reports of internal audit, CAE private admittance to the audit committee and recruiting and terminating of the CAE by the AC (Arena and Azzone 2009; Goodwin and Yeo 2001).

Dependent Variable

As evident from the literature review of the study, there are no single standard criteria for measuring the effectiveness of the internal audit. Different researchers have used different proxies, considering the advantages and limitations of each measure. However, various methodologies utilized can be divided into three primary sets: process measures, output measures and result measures.

The process measure relates effectiveness to the IA Plan, implementation and communication of the audit findings and the extent to which IA procedures comply with the IIA standards (Wang 1997 Fadzil et al. 2005). The shortcoming with this methodology is that it does not give any consideration to the requirements of the stakeholders and the assumed effectiveness can be achieved purely by execution of the IA plan and procedures. While the current approach focuses more on the value addition and satisfaction of stakeholders as the performance indicators of IA. Output measure, on the other hand, focuses on using the auditee's satisfaction and implementation of the recommendation of internal audit as an indicator of the effectiveness of the internal audit (Barrett, 1986; Ziegenfuss, 2000; Frigo, 2002). The first measure though suitable but is not practical in a study involving an extensive sample of a large number of companies, including representatives from each company. The second measure also has certain limitations, i.e. it is partially beyond the control of internal audit Salierno, (2000). Outcome measure highlights that effectiveness of internal audit is not merely meeting expectations and satisfying needs of the auditees, it said that in order to evaluate the effectiveness of IA, the internal audit's ability to measure the achievement of auditee objectives and providing solutions to the problems faced by the auditee in achieving those objectives should be considered Dittenhofer, (2001).

Research Methods

Collection of Data Tools

Structured questionnaires targeted at the respondents from 4 different companies of the power sector will be used to collect the data. Collis and Hussey (2003), while defining the questionnaires said that 'it is a set of carefully designed questions, chosen after properly testing them, with an aim to obtain responses from a selected sample'. Questionnaire as a data collection tool can be used both for positivistic or phenomenological approach, the difference is in the design, the means of analysis ad sample size. The main purpose of the questionnaire is to allow the respondents to provide responses to a certain set of questions in a certain order, in order to establish what/how a specific population thinks, behaves or performs (Jankowicz, 2005).

Questionnaires enable the researcher to collect any specific type of information that can be used descriptively or analytically. Further, a large sample of the population can be covered using questionnaires as compared to any other tool along with ensuring anonymity and privacy of the respondents. However, there are certain disadvantages of questionnaires, like low response rate, especially when the respondents have no interest or are

busy, the authenticity of the questionnaires to be filled by the right respondents in case the questionnaires are mailed.

The Questionnaire

After carefully considering the objectives and needs of the study, the researcher selected a close-ended questionnaire as a data collection tool. The reason behind selection is that it can ensure greater anonymity of the respondents, convenience to the respondents in answering the questions can be reached out to a larger population and results into a more credible data. The ideas for the selection and construction of the questionnaire was based on an extensive review of the literature and questions used by the researchers in similar studies. Various researchers have recommended using the questionnaires that are already used successfully in previous studies (Bryman and Bell, 2007). Questionnaire of this study was adopted after an extensive review of the previous similar researches, A number of questions were adopted from the previous researches after making few modifications (Alzeban (2010), Goodwin and Yeo (2001), Cohen and Sayag (2010). For example, to evaluate the internal audit's competencies, the questionnaire constructed is targeted at the internal audit staff of the organizations and the proxies used in the questionnaire are a number of internal audit courses taken by the staff, professional qualifications held, total work experience and annual trainings obtained (Alzeban 2010; Arena and Azzone 2009). For management support, the proxies used are performing duties and responsibilities of IA, Provision of enough budgetary and human resources, and involvement of senior management in the internal audit plan, its questionnaire is adopted from (Alzeban 2010; Cohen and Sayag 2010). The measures and questionnaires constructed for the third independent variable, i.e. relationship between the audit committee and internal audit, are adopted (Arena and Azzone 2009; Goodwin and Yeo 2001).

Questionnaire for internal audit's effectiveness the where the percentage of suggestions implemented by the auditee is utilized as a proxy is estimated through a four-point Likert-type item and is adopted from Arena and Azzone (2009).

Sampling Technique and Sample Size

An important element of the research is the selection of the participants from which the data is to be collected. According to Cooper and Schindler (2008) population is the total number of elements about which the researcher wants to study and from which the sample is selected. The sample is the group of items selected that possibly represents the entire population.

As the objective of the research is to examine the factors that impact the internal audit's effectiveness in Pakistan's power sector. The question arises which companies should be selected as a sample among a number of companies within the power sector. The researcher used nonprobability sample and selected respondents from four large companies of the power sector of Pakistan.

Respondents

Respondents of this study were selected from four companies in the power sector of Pakistan i.e. PESCO, TESCO, NTDC and PEDCO. The first questionnaire which consisted of statements about independent variables were targeted at the internal audit staff of these companies. The second questionnaire which was about the dependent variable was distributed among the management of these companies.

Data Analysis Tool and Technique

The researcher has used the ordinal regression model to examine the hypothesized of the study. Where on a Likert scale, the dependent variable is measured.

$$\%IMP = b_0 + b_1COMP + b_2MS + b_3IA_AC + e_i$$

Analysis

Introduction

This chapter includes the data's analysis collected through questionnaire from the internal audit staff and management of the power sector of Pakistan. The first part of the chapter gives descriptive analysis through tables

in the form of percentages, frequencies, Mean and standard deviations. The second part is an inferential analysis, where data is analyzed through regression. The relationship is found between the independent variable of competencies of internal audit staff, management support, the relationship between the audit committee and internal audit, and internal audit's effectiveness.

Dependent Variable

Table 1. Percentage of Recommendations Suggested by the Internal Audit and Actually Implemented

		Frequency	Percent	Cumulative Percent
Valid	Below 20 %	34	33.0	33.0
	20 – 50 %	53	51.5	84.5
	50 – 80 %	11	10.7	95.1
	Above 80 %	5	4.9	100.0
	Total	103	100.0	

Table 1 expose the dependent variable's descriptive statistics measured through the implementation of suggestions which are suggested by the internal audit that is implemented actually. Implementation of recommendations was measured on a four-point Likert-scale, where below 20 percent was coded as 1 showing a low level of implementation, 20 to 50 percent was coded as '2' showing the medium-low level of implementation, 50 to 80 percent was coded as '3' showing the medium-high level of implementation and above 80 percent was coded '4' showing a high level of implementation.

Results of the responses indicate that 33 percent of respondents think there is below 20 percent of implementation, while 51 percent think there is 20 to 50 percent of implementation. This shows that, according to 84 percent of respondents, the implementation of recommendations is below 50 percent. Only 5 percent of the respondents thought the implementation of recommendations is above 80 percent.

Independent Variables

Table 2. Descriptive statistics: Number of Internal Audit Courses Taken by you During your Study

		Frequency	Percent	Cumulative Percent
Valid	None	47	45.6	45.6
	one course	36	35.0	80.6
	two courses	15	14.6	95.1
	three courses	3	2.9	98.1
	Four or more courses	2	1.9	100.0
	Total	103	100.0	

Table 2 one which is a descriptive explanation of the results of a number of internal audit courses taken by the internal audit staff during their educational study. Responses on the statement were obtained on a scale from '1' None to '5' four or more courses.

The table indicates that 46 % of the staff members took no course of internal audit during their studies, while 35 % of the respondents took only one course during their study. So statistics from the table is an indication that the majority of the internal audit staff in the power sector took either no or only one course relevant to their field during their studies.

Table 3. Which one of the Following Professional Qualifications are Held by You

		Frequency	Percent	Cumulative Percent
Valid	None	45	43.7	43.7
	Other	44	42.7	86.4
	CA/ACCA	9	8.7	95.1

CIA	1	1.0	96.1
More than one qualification	4	3.9	100.0
Total	103	100.0	

Table 3 indicates the descriptive statistics of professional qualifications held by the internal audit staff in the targeted companies. The professional qualification stated are ranked in the order from ‘None (1) to More than one qualification (5)’. The option of ‘Other’ was ranked as ‘2’ because it was observed from the responses that most of the qualification in the others were not directly relevant to the internal audit. CIA was given the highest score, ‘4’, for the individual qualification because it is the most relevant, important and specialist qualification in internal audit Savcuk (2007). Results of the responses show that 43 % of the respondents do not have any professional qualification, while 44 % percent have other professional qualification. This implies that the majority of the internal audit staff in the power sector do not hold professional qualifications relevant to the internal audit.

Table 4. Your Total Work Experience in the Field of Internal Audit

		Frequency	Percent	Cumulative Percent
Valid	Less than 1 year	2	1.9	1.9
	1 – 5 years	40	38.8	40.8
	5 – 10 years	41	39.8	80.6
	10 – 15 years	7	6.8	87.4
	More than 15 years	13	12.6	100.0
	Total	103	100.0	

Table 4 shows the results of the total work experience of internal audit staff in the field of internal audit. It indicates that only 2 % of the internal audit staff have less than 1 year of experience. 39 percent of the respondents have 1 to 5 years of experience, while 40 % of the respondents have 10 to 15 years of experience. These statistics show that overall the internal audit staff of the companies selected is experienced in the relevant field.

Table 5. How many Hours of Training on Average have you Received Annually

		Frequency	Percent	Cumulative Percent
Valid	No training	43	41.7	41.7
	Less than 20 hrs	45	43.7	85.4
	21-40 hrs	15	14.6	100.0
	Total	103	100.0	

Table 5, which shows the results of training received by the internal audit staff, indicates that 42 percent of the respondents said that they had received no training in the field of internal audit during their service, while 43 % indicated that on average, they received less than 20 hours of training annually. This shows that majority of the respondents were not trained enough in the internal audit’s filed. As the IIA, while highlighting the importance of professional training, recommends that internal audit should complete, on average, 40 hours of Continuous professional training annually (IIA, 2000).

Table 6. Management Support for Internal Audit

Statement	No. of cases	Mean	Std. Dev.
1-Top management doesn't give me the help I hope to have	103	2.50	1.21

2-The quantity of representatives in IA is restricted given the measure of auditing work planned and should be done in the near future	103	1.98	0.85
3-Management isn't adequately aware of the necessities of IA, as shown by the small budget allotted to this division	103	2.09	1.07
4-Management doesn't offer sufficient help and encouragement for training and building up the IA staff	103	1.72	0.99
Overall Mean		2.07	1.03

Table 6 shows the statements on different proxies that were used as a tool to show the level of support the internal audit receives from the management and their relationship. Column 3 shows the mean of all the responses given by all the respondents against the respective questions. The responses were recorded on a scale from 1 “strongly agree” to 5 “strongly disagree”.

The result of the overall mean (2.07) of all the statements shows that respondents agree on average that there is a lack of support from management. If we look at the statements individually, the proxy with the lowest mean (1.72) is the support in training and developing of the internal staff from management. It means that the respondents agree with the given statement that “Management fails to provide enough encouragement and support for development and training of staff of IA”. The mean score for not receiving enough budget received and the number of internal audit staff is 2.09 and 1.98, respectively, indicating the agreement of respondents on this as well.

Dependent Variable

Table 7. The Relationship between Audit Committee and Internal Audit

Statement	No. of cases	Mean	Std. Dev.
1-The scope and activities of the internal audit function are reviewed and analyzed by the audit committee.	103	2.90	1.01
2- The appointment and replacement of the head of internal auditing is approved by the audit committee.	103	3.12	1.02
3- The audit committee reviews the internal audit reports and findings.	103	3.00	1.10
4-CIA frequently meets with AC during the year.	103	2.47	1.08
5-The audit committee is privately accessed by CIA	103	2.01	1.24
Overall Mean		2.70	1.09

Table 7 shows the statements about the proxies relating to the measurement of the relationship between audit committee and internal audit. The responses were recorded on the scale from 1 “strongly agree” to 5 “strongly disagree”.

The overall mean of all the statements (2.70) shows somewhat balanced but slightly inclined towards disagreement on the strength of the connection between the audit committee and internal audit. The proxies with the lowest means are ‘CAE’s private access to AC’ (2.01) and “Frequency of meeting between AC and IA” (2.47). Mean of rest of the variables are close to ‘3’ showing a balanced opinion between agreement and disagreement.

Inferential Analysis

The following section is an inferential analysis of the data collected after running the suitable regression model. The results obtained are shown in the tables below:

Table 8. Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	211.164			
Final	208.495	28.669	3	.002

Link function: Logit.

Table 9. Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval Lower Bound	
Threshold	[IMP = 1.00]	.177	1.091	.026	1	.871	-1.962	Threshold
	[IMP = 2.00]	2.622	1.129	5.395	1	.020	.410	
	[IMP = 3.00]	3.907	1.192	10.738	1	.001	1.570	
Location	MS	.258	.073	10.624	1	.002	-.086	Location
	IA_IC	.044	.058	.585	1	.444	-.158	
	COMP	.124	.098	4.595	1	.032	-.068	

Link function: Logit.

Table 10. Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	248.287	252	.004
Deviance	195.547	252	.094

Link function: Logit.

Table 11. Pseudo R-Square

Cox and Snell	Nagelkerke	McFadden
.326	.315	.302

Link function: Logit.

Table 8 shows the results of the study after running the model of ordinal logistic regression. The dependent variable of the research is the Likert-scale item that is why the said model was selected. The goodness of

fitness and fitting information shows that the model is fit and significant ($p < 0.05$, $chi-square = 28.669$). After considering the first hypothesis, it can be seen in table 4.8 that competencies of internal audit (COMP) positively relates to the implementation of recommendations of internal audit, i.e. one unit change in COMP will bring .124 change in IMP ($p = 0.032$). This result confirms the first hypothesis that competencies of internal audit positively relates to internal audit’s effectiveness, i.e. implementing the suggestions which are suggested by internal audit.

The second hypothesis is related to management support also shows significant results ($p = 0.002$), showing that an increase in management support would bring a positive impact on the implementation of recommendations. This result shows an even stronger connection between management support and internal audit’s effectiveness. Hence, the results support the second hypothesis too.

The third and last hypothesis, which was related to the connection of the effectiveness of internal audit to the connection between the audit committee and internal audit, turned out to be insignificant. However, the study’s result showed that they are positively related, but the results were insignificant ($p > .05$). Hence, the third hypothesis is not supported by the results.

Discussion

This research was carried out with the aim to examine the factors that influence the internal audit's effectiveness in the power sector of Pakistan. The conclusion of this research was drawn after getting the perceptions of staff of internal audit and management of the power sector companies on the selected variables and then using inferential and descriptive statistics to draw the results. This chapter consists of the conclusions, limitations, and recommendations in light of the research conducted.

Conclusions and Discussion

The growing importance, extension, and change in the internal audit's role demand continuous improvements in internal audit systems of the public sector. The public sector companies of Pakistan has always been struggling when it comes to effective governance and strong internal control systems. Like all other areas, the internal audit system of the power sector companies of Pakistan has failed to produce results. In light of these challenges, the researcher has tried to study those factors that can possibly improve the internal audit's effectiveness in the power sector in Pakistan.

Considering this, the paper analyzed the three most important dimensions through which power companies can improve the results of the internal audit function. The hypothesis determined were tested after collecting data from the internal audit staff and management of the four companies of the Power sector. Results of the study showed that:

- Competencies of internal audit staff in terms of educational qualification relevant to the internal audit, professional experience in the field of internal and continuous training obtained, professional qualification relevant to the internal audit can contribute to the internal audit's effectiveness by positively influencing the implementation of recommendations by internal audit.
- Management support in the form of cooperating with the internal audit staff, providing enough budget to the internal audit department, provision of enough human resource to the internal audit department, and continuously training them can positively influence the internal audit's effectiveness.
- The influence of the strength of the connection between the audit committee and the internal audit was found to be positive on the effectiveness of the internal audit, but it turned out to be insignificant.

The first set of results indicates that the competencies of internal audit are significant factor in achieving all objectives of internal audit function. The newly extended role of internal audit asks for more skills, professional qualifications, training and experience of the internal audit staff. It was observed during the study that most of the internal audit's staff members lacked the necessary qualification and training. In fact, they lacked the basic educational qualification relevant to the field of internal audit, and most of the staff members were merely qualified to the level of bachelors. Hence, these results can be used for future reference by public sector companies to hire professionally qualified staff and train them on a frequent basis in order to equip them with the knowledge and skills required for an effective internal audit function. This result is consistent with the result of the study led by Arress and azzona (2009).

The highly significant, second set of the results indicate that support of management is important for the internal audit's effectiveness. The results of the study, however, showed that on the public sector, the lack of management support has led to the internal audit's ineffectiveness. Majority of the respondents came with the view that they do not receive the level of support from management that they expect to have. If internal audit function has to thrive and produce results in the power sector, management support has its due role in it. Generally, in the implementation of recommendations, the management plays a vital role in, provision of record and recognition and positioning of the internal audit department. They should think of the internal audit function as supportive rather than counterproductive. This conclusion is supported by many research papers, i.e. Mihret, and Yismaw (2007), albezan (2010), cohen and sayag (2010).

At the top level, the researcher also tried to identify the audit committee's role in improving the effectiveness of the audit. The changing role of audit has found a strong linkage between internal audit and corporate governance. The results relating to this were though found to be insignificant, which could possibly be because of the internal audit staff's lack of knowledge about the audit committee's role rather than the insignificance of

the audit committee itself. In future, the researchers can include the perceptions of audit committee members and top management in order to get more reliable results.

Limitations of the Study

Similar to all other researches this research study has inevitably certain limitations as well. One of the limitations of the study was the proxy used as a measure of effectiveness of internal audit i.e. implementation of recommendations of the internal audit. The researcher believes after concluding the results that this definition of the effectiveness of internal audit is narrow and may not comprehensively represent the effectiveness of internal audit. However, this proxy was inevitably selected by the researcher due to limitations in measuring other proxies that were beyond the researcher's control.

Secondly, the researcher has based the internal audit's effectiveness on the perceptions of management, apart from the issue of what effectiveness as a construct means, there is also a question of whether the respondents have given the responses they actually held and whether the results would have been different, if a wider set of stakeholders had been selected. Further, for the data collection, the researcher has used the survey method which averts the researcher from interpreting and explaining the questions to the respondents in detail, which can possibly lead to wrong interpretation of the questions. As the target respondents of the dependent variable were the management, they might not have given the true perception regarding the implementation of recommendations of internal audit, considering the fear of wrong image being conveyed.

Thirdly, the researcher targeted the power sector of Pakistan and selected four large companies from the power sector as a representative sample. As the power sector of Pakistan has a very large number of companies. The researcher considers it a limitation of his study for choosing a small sample due to the problem of accessibility to the respondents of all companies. For future research, researchers can select a large number of companies in order to add more weight to the results of the study.

Lastly, almost all the respondents of the study were male as the study was conducted in the public sector, where the female ratio is very low, specifically in the audit department where female presence is almost nil.

Recommendations for Future Research

During the whole process of conducting the research and after its conclusion, the researcher has realized that there is still a huge room for further research and improvements, specifically in the public sector in the internal audit's field. In the light of the overall research, evaluation of variables, methodology and limitations, the researcher recommends that in order to increase the generalizability of the study, in case of further research in this area, the sample of the study should be broadened and either more companies of the power sector or other public sector companies should be included.

Secondly, the researcher has used only internal audit's implementation as a measure of the internal audit's effectiveness. In the case of future research, the researchers can use multiple proxies as a measure, e.g. auditee's satisfaction, quality/number of observations, contribution towards the achievement of the overall objective of the company. Further, the independent variables used were seen from the perceptions of internal audit only; a new perception can be added to it by including the other stakeholders as well.

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