

CHAPTER THREE

RESEARCH METHODOLOGY AND METHOD

3.1 INTRODUCTION

This chapter presents the theoretical framework and formulated hypotheses based on the literature review in Chapter Two. This chapter also explains the sample selection, data collection procedures, and the method employed to test the hypotheses.

3.2 HYPOTHESES DEVELOPMENT

Studies in overseas developed few hypotheses on the scope and role of internal auditing in colleges and universities. Johnson (1992) as cited by Rezaee et. al. (1999) hypothesized that there was significant difference between the role of internal auditing in public and private universities. However, Azad (1994) hypothesized that there was no significant difference existed between the scope of operational auditing in private and public institutions of higher education. In his study, the respondents were required to rank the audit areas in academic and non-academic units in the colleges to determine the areas, which were most commonly audited.

Montondon and Fischer (1999) in the recent study on university audit department in United States hypothesized that public universities demonstrate greater accountability than private universities. In their study, the hypothesis that public universities demonstrate greater accountability than private universities was measured by 6 variables. The variables examined were appointment of internal auditors, supervisory of the internal audit function, recipients of internal audit report, audits of academic units, the frequency of internal audit meeting with audit committee and actions upon audit findings.

Rezaee et. al. (1999) hypothesized that the difference in size between private and public universities would cause significant differences between private and public universities in the existence of and the role of the internal auditor. Their hypothesis was based upon the research carried out by Johnson (1992) on "The Internal Auditing In Higher Education Institutions". Measures of size were found to be highly correlated and public universities tended to be larger in all measures of size than private universities. The perception of vice financial controller on the important audit areas and internal auditing roles in universities were collected. The respondents were required to rank the audit areas and internal auditing' roles according to their perceived importance. Below are the list of important audit areas and internal auditor' roles examined in their study.

Table 3.1

Lists of Important Audit Areas And The Roles of Internal Auditors Extracted From The Study By Rezaee et. al. (1999)

Important Audit Areas In Universities	Important Roles of Internal Auditors
<ol style="list-style-type: none"> 1. Compliance audit 2. Financial fraud audit 3. Financial reporting audit 4. Efficiency, economy and effectiveness audit 5. System development and technology audits 6. Program results audit 7. Scientific fraud audits 8. Joint venture audits 	<ol style="list-style-type: none"> 1. Monitor adequacy and effectiveness of internal control 2. Monitor compliance with both internal and external rules and regulations 3. Assist all members of management in the effective discharge of their responsibilities 4. Ensure responsible governance and accountability 5. Assess reliability of university financial reports 6. Monitor athletic department compliance with applicable rules and regulations including those of the NCAA 7. Advice board, president, and other administrations on financial matters 8. Assess the effectiveness and efficiency of university 's diploma programs and make recommendations

Their study showed that there were no significant differences in responses between public and private universities or among any of the measures of size. In this study, respondents were favour of traditional role of compliance audit than the more proactive role such as participating with administrator in college and university decision-making.

In Malaysia, the governance systems in public institutions of higher education are tighter because they have to follow various acts and regulation applicable to the Statutory Bodies as compare to the private institutions of higher education. Even though the result of the study carried out by Johnson (1992), Azad (1994) and Rezaee (1999) showed that there were no significant differences between the scope of internal auditing, perception on important internal audit areas and internal auditors' roles between the public and private institutions of higher education, the absent of any mandatory regulation by the government will lead the researcher to hypothesize that there is significant difference between the scope and the perception on internal auditing between public and private institutions of higher education in Malaysia.

Therefore, based upon the previous study of internal auditing in higher education institutions in overseas, and the difference in the governance system of institutions of higher education in Malaysia, it is hypothesize that there is significant difference in scope of internal auditing in public and private institutions of higher education in Malaysia.

Hence, the first hypothesis is as follows:

H1: There is significant difference between the scopes of internal auditing in public and private institutions of higher education

It is also hypothesize that there is different of perception between management of public and private institutions of higher education on the role of internal auditor

and the important audit areas in the institutions of higher education environment. The response from the Vice-Chancellor/President, Financial Controller, Board of Directors and Registrar are grouped together as management of the institutions. These hypotheses are similar to the hypotheses in the study done by Rezaee et. al. (1999), however in this study broader group of respondents are selected i.e. management of universities. Therefore second and third hypothesis are as follows:

Second Hypothesis:

H2: The perceived importance of audit areas is different between the management of public and private institutions of higher education

The third hypothesis:

H3: The perceived importance internal auditor' roles is different between the management of public and private institutions of higher education

In addition, the same items used in the study by Montondon and Fischer (1999) is tested to the internal auditors in institutions of higher education in Malaysia. It is hypothesizes that there is significant difference exist between the perception of internal auditors working in public and private institutions of higher education. Hence, the fourth hypothesis is formulated as follows:

Fourth hypothesis

H4: There is significant difference between the perceptions of internal auditors in public and private institutions of higher education

3.3 METHOD AND RESEARCH DESIGN

3.3.1 QUESTIONNAIRE DESIGN

There are four categories of questionnaires. First, questions about the background information of the institutions of higher education. These questions are stated in Part One of the questionnaires to the Vice-Chancellor/President which contains questions on the existence of internal audit department, the age, budget, student population, number of faculty and highest qualification offer in the institutions. In the event, there is no internal audit department in the institutions, respondents are asked on who will assume the responsibility of the internal auditors and to provide the reason why the institutions do not establish an internal audit department.

Second category of questions are on the perception about the internal auditing role in the institutions of higher education, important audit areas in university activities and how they perceive the importance of internal auditor involve in assessing the organization exposure to risk, assessing and suggesting improvement to internal control system and review the operation to determine the accomplishment of the organization goals and objectives. This set of questionnaires are to be completed by the Board of Directors, Financial controller, Registrar and also it appears in part 2 of the questionnaires to the vice-chancellor/president. These questions are adopted from the study by Rezaee et. al (1999) on "The Role of Internal Auditors In Colleges And

Universities” in United States and also the guideline from IIA and Treasury Circular. Respondent are required to rank their perception according to 5- Likert scale (1=Not at all important, 2= not so important, 3= Neutral, 4=fairly important, 5= very important).

The third category of questions is designed to get the true picture of the scope of work and the role of internal auditors in institutions of higher education. Part 1 of the questionnaires require the Chief Internal Auditors to answer the question about the type of audit performs in the institutions, their involvement in reviewing internal control and suggesting improvement to it, whether their audit covers risk management, control and governance of the institutions. These questions are designed based on the IIA Guideline and Treasury Circular. Please refer to the Table 3.2 and 3.3 below for the comparison between the questionnaire use in this study with the IIA Guideline and Treasury Circular guideline.

Table 3.2 Comparisons Between Treasury Circular and The Questionnaire

Treasury Circular	Questionnaire
<ol style="list-style-type: none"> 1. To check the soundness, adequacy and reliability of accounting information and internal control 2. To ascertain whether financial transaction being managed properly in accordance with the accounting standard 3. To evaluate the operation of the agency in terms of efficiency, effectiveness and economic benefit of it 4. Suggest to the management steps needed to improve the operation of the agency any corrective action needed 5. Provide the Head of the agency and independent report on a timely manner; therefore, he can make economic decision and proper usage of public fund. 	<p>Q7 Part One</p> <p>Do you suggest improvements to internal control procedures to the institution?</p> <ol style="list-style-type: none"> a. Yes b. No <p>Q8 Part One</p> <p>Do you audit the financial statements prepared by the institution before it is audited by the external auditor?</p> <ol style="list-style-type: none"> c. Yes d. No <p>Q17 Part One</p> <p>Indicate whether your current audit activities provide coverage on the review of operations to ensure compliance with laws, regulation and contracts?</p> <ol style="list-style-type: none"> a. Yes b. No <p>Q20 Part One</p> <p>Do you give timely reports to the Head of the institution to help him in managing the institution effectively and achieving the institution goal?</p>

Table 3.3 Comparisons Between IIA Guideline And The Questionnaire

IIA Guideline	Questionnaire
<ul style="list-style-type: none"> • Risk Management <ul style="list-style-type: none"> • The internal audit activity should monitor and evaluate the effectiveness of the organization risk management system • Should evaluate risk exposure relating to the organization governance, operations, and information systems regarding <ul style="list-style-type: none"> a) Reliability and integrity of financial and operational information b) Effectiveness and efficiency of operations c) safeguarding of assets d) Compliance with laws, regulations and contracts • Control The internal audit should assist the organization in maintaining effective controls by evaluating their effectiveness and efficiency and by promoting continuous improvement. This should include, <ul style="list-style-type: none"> a) Reliability and integrity of financial and operational information. b) Effectiveness and efficiency of operations c) safeguarding of assets d) Compliance with laws, regulations and contracts • The internal auditor should ascertain the extent to which operating and program goals and objectives have been established and conform to those of the organization. • Review operations and program to ascertain the extent to which results are consistent with established goal and objectives. • Ascertain the extent to which management has established adequate criteria to determine whether objectives and goals have been accomplished. 	<p>Q9 Part One Indicate whether the priority of internal audit activities is based on the risks assessment of the institution?</p> <ul style="list-style-type: none"> e. Yes f. No <p>Q10 Part One Do you evaluate the institution's exposure to risks and suggest improvement to risk management and control systems?</p> <ul style="list-style-type: none"> a. Yes b. No <p>Q7 Part One Do you suggest improvements to internal control procedures to the institution?</p> <ul style="list-style-type: none"> a. Yes b. No <p>Q8 Part One Do you audit the financial statements prepared by the institution before it is audited by the external auditor?</p> <ul style="list-style-type: none"> a. Yes b. No <p>Q17 Part One Indicate whether your current audit activities provides coverage on the review of operations to ensure compliance with laws, regulation and contracts?</p> <ul style="list-style-type: none"> a. Yes b. No <p>Q15 Part One</p> <ul style="list-style-type: none"> • Are there adequate criterion to determine the achievements of the institution's goals and objectives?

<ul style="list-style-type: none"> • During consulting engagements, internal auditors should address controls consistent with the engagements objectives and should be alert to the existence of any significant control weaknesses. • Should incorporate knowledge of controls gained from consulting engagements into the process of identifying and evaluating significant risk exposures of the organization. • Governance <p>The internal audit should contribute to the organization's governance process by evaluating and improving the process</p> <p>through</p> <ul style="list-style-type: none"> • Values and goals are established and communicated • The accomplishment of goals is monitored • Accountability is ensured • Values are preserved 	<ul style="list-style-type: none"> a. Yes b. No (Please proceed to question 17) <p>Q16 Part One</p> <ul style="list-style-type: none"> • If the answer to question 15 is 'yes', do you audit the appropriateness of these criterion? <ul style="list-style-type: none"> • Yes • No <p>Q11 Part One</p> <p>Does your institution have established goals and values?</p> <ul style="list-style-type: none"> a. Yes b. No <p>Q12 Part One</p> <p>Are these goals and values properly communicated?</p> <ul style="list-style-type: none"> a. Yes b. No <p>Q13 Part One</p> <ul style="list-style-type: none"> • Indicate whether you audit the operations to ensure that the goals and values of the operations are properly communicated? <ul style="list-style-type: none"> a. Yes b. No <p>Q14 Part One</p> <p>Indicate whether your scope of audit include the review of operations and programs to ensure consistency with the institutional values?</p> <ul style="list-style-type: none"> g. Yes h. No
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The fourth category of questions asks the internal auditors on their perception about the selected questions as adopted from the study done by Montondon and Fischer in United States (please refer to Table 3.4). These questions also appear in Part 2 of the questionnaire to The Chief Internal Auditors.

Respondents are required to indicate in Likert Scale their views on the statement (1=Strongly disagree, 2= Disagree, 3= Uncertain, 4=Agree, 5=Strongly agree).

Table 3.4 Internal Auditors' Perceptions

Perception	
1.	Access to governing board
2.	Access to president
3.	Access to all records
4.	Contacted for specific information
5.	Encouraged to clarify findings with auditees
6.	Management often decides not to accept recommendation
7.	Sensitive areas not audited
8.	Part of management team
9.	Solicited for management decision
10.	Employment jeopardized by negative finding
11.	Working relationship encouraged with external auditors
12.	Effectiveness related to professional standing
13.	Recommendation given careful consideration
14.	Generally recommendations well received
15.	Encouraged to have a working relationship with auditees
16.	Well respected by management

Source: Montondon and Fischer, University Audit Department In the United States, 1999

3.3.2 POPULATIONS AND SAMPLE SIZE

As at August 2002, there were 17 public universities in Malaysia and one government sponsored college. For the private institutions of higher education, the information that can be derived from the Ministry of education website is only as at May 2001⁴. As at 31 May 2001, there were 666 IPTS in Malaysia, consisting of 4 Foreign University Branch Campus, 652 private colleges, and 10 private universities. From the total 666 of private institutions of higher education, 35 of them have been approved by LAN to conduct 3+0- degree program.

In this study all private institutions of higher education, which offer their own degree and 3+0-degree program will be included in the sample. Currently, all 17 of public institutions of higher education and 49 of private institutions of higher education meet the above criteria. The sample selected for this study are Vice-Chancellor/ President, Board of Directors; Financial Controller, Registrar, Chief Internal Audit Department and Internal auditors. Following Rezaee et. al. (1999), Financial Controllers is selected to provide assessment of internal audit from user perspective by a knowledgeable respondent. Board of Director is selected to get the perception of the other governance mechanism in the institutions of higher learning while Registrar being selected based on their vast involvement in the operational management of institutions of higher learning.

3.3.3 DATA COLLECTION METHOD

A questionnaire was sent to each of the respondent and was addressed to the respective institutions. Included in each envelop is a cover letter, which explains the purpose of the study and, a letter from the supervisor Associate Professor Dr. Susela Devi, a questionnaire and a self addressed stamped envelop. Before the questionnaires were mailed to the respondent, 3 internal auditors, 3 external auditors, 4 financial executives from MBA (Accountancy) class were asked to test their understandability and wording of the question. The pilot survey indicated that the questionnaire is understandable and no further changes are

⁴ Ministry of Education Websites [Http// www. moe.gov.my](http://www.moe.gov.my)

needed. The copy of the questionnaire and cover letter are presented in Appendix 2 and Appendix 3(a) – 3 (f). To ensure confidentiality, no names of respondents or their firms are required and assurance is given in the cover letter that the information collected will only be used for the purpose of this research.

The use of the questionnaire survey method has been subjected to heavy criticisms, namely poor response rates and poor quality of response (Kerlinger, 1986). However, the researcher found that it is justifiable to use questionnaires as opposed to other methods such as interviews or telephone interviews because the questions in the questionnaire are direct and factual, which do not require further explanation, the sample size is large making it costly to conduct interviews, and the time constraint the researcher faced to complete this study.

This study used fixed alternative⁵ questions and also some open-ended questions.⁶

3.4 STATISTICAL TESTING

The data is analysed using descriptive analysis as well as testing hypothesis.

The responses from the respondents are partitioned into the public and private institutions of higher education. The cross tabulation table is used to present the frequency from each question. The mean from each question will be calculated.

To test the first hypothesis, the frequency of the 'yes' and 'no' answer will be calculated to measure the scopes of internal auditing performs by the internal auditors in respective institutions. The higher the percentage of the internal auditors who covers all the area mention by the IIA Guideline and Treasury Circular i.e. risk management, control and governance, it will be interpreted that those internal auditors provides better scopes of audit than the others who not cover all those areas. The X^2 statistic is used to measure the association

⁵ Fixed alternatives questions are those questions that offer the respondent a choice among two or more alternative answers. The most common kind of fixed alternatives questions asks for Yes-No, agree-Disagree and other two-alternative answers. Often, a third alternatives, don't know or undecided is added.

⁶ Open-ended questionnaires pose some problem or topic and ask the respondent to answer in his or her own words

between the type of institutions and the scope of internal auditing. To test the second, third and fourth hypothesis, the Mann - Whitney Rank Sum Test, a non-parametric analogous to the parametric two samples t-statistic is used to analyse the frequencies. The test will be conducted at 0.05 confidence level.

The computer software, Statistical Package for Social Sciences (SPSS) is used to facilitate the analysis process.

3.5 CONCLUSION

This chapter describes the hypotheses development, samples selected and methodology used to test the hypothesis. The next chapter presents the finding from the survey using the statistical test described in this chapter.