# CHAPTER THREE

# METHODOLOGY AND METHODS

## 3.1 INTRODUCTION

This chapter outlines the theory used to analyse and also to provide empirical evidence on the practice of external reporting by public institutions of higher learning in Malaysia. There are two aspects of annual reports that are investigated in this study. The first aspect is the assessment of the disclosures of accountability information in the annual reports and the second is the identification of the uses of the annual reports by the current users. Thus, this chapter explains in detail the methods that are used to analyse the two aspects. It also describes the sample section and data collection procedures.

## 3.2 METHODOLOGY

### 3.2.1 MAD Index

In order to assess the degree of disclosure of accountability information included in the annual report of Malaysian public institutions of higher learning, this study adopts the Modified Accountability Disclosure Index (MAD), which was originally outlined by Coy et al. (1994) for a similar study of New Zealand universities. It was then used by Nelson et al. (1997,1998) in assessing the public accountability approach of Australian and Canadian universities' annual reports and further applied to UK universities annual reports by Banks and Fisher (1997).

The items determined by Coy et al. (1994) for the MAD index were chosen by reviewing the accountability literature for universities and through analysis of current annual reports (Nelson et al., 1997). Coy et al. (1991) conducted their study in university reports in an attempt to provide evidence on the impact of SPSAC (NZSA 1987) and other changes to the reporting environment of universities reporting. For the purpose of their study, the researchers examined selection of items based on SPSAC requirements and also taken into account items studied by Gray and Haslam (1990) in their study of UK universities annual reports. Most of the items as examined by Gray and Haslam in turn incorporated certain financial disclosures and performance indicators as recommended by the CVCP (1984,1986) (Nelson et al. 1997).

Accordingly Nelson et al. (1997) stated that many of the items included in the index are also recommended by recommendations and regulations in Australia, Canada, United Kingdom and the USA. Nelson et al. (1997) concluded that there is a common desire in all of these countries for information disclosures about the items in the MAD index. The MAD index is shown in Table 3.2(a) and divides the twenty-six items into four categories; overview, service performance, financial performance and physical and financial condition.

Coy et al. (1994) as cited by Nelson et al. (1997) developed a subjective weight for each item to take into account the degree of the importance of the items. For each item the ordinal scale of low importance (1), to medium importance (2) and high importance (3) is being assigned. According to Nelson et al. (1997) the degree of importance of each item was arrived based on a review of literature review and was done independently by each researcher following which general criteria were established through discussion. The weights are as presented in Table 3.2(a).

For the purpose of this study, it is felt that it would be more relevant to compare the MAD index items against the Treasury Circular No 15 (1994), which provides guidelines to public sector in Malaysia in preparation of their annual reports. Table 3.2(b) provides the summary of comparison studies by Nelson et al., (1997) with the extension comparison to Malaysian Treasury Circular.

Based on Table 3.2(b) we can see that fourteen items that appears in MAD index are mentioned in the Treasury Circular. The twelve items that are not mentioned in the circular however do appear in the other studies. Thus it is in the opinion of the author to adopt all the MAD index items and its weights because of the importance of the items in other countries and also in consistent with other studies. Nevertheless this study would also be more relevant if all the items are adopted as the findings can be used for future researchers in comparing the external reporting in Malaysia to the other countries.

**Table 3.2(a)**

**Modifying Accountability Disclosure Index (MAD)-Score Index Items and Their Weights**

| Items | Weight |
|---|---|
| **Overview** | |
| Statements Of Objectives | 3 |
| Description Report/General Review | 3 |
| Summary Facts and Figures | 1 |
| Financial Review | 1 |
| Accounting Policies | 2 |
| Directory Information | 1 |
| **Service Performance** | |
| Student Numbers | 3 |
| Graduates | 2 |
| Employment/Education Destination Of Graduates | 1 |
| Publications | 3 |
| Student-Staff Ratio | 3 |
| Targets | 2 |
| **Financial Performance** | |
| Operating Statement | 3 |
| Depreciation | 1 |
| Budget-Information | 2 |
| Unit cost per Student | 2 |
| Statements Of Cash Flows | 2 |
| Research Grants | 2 |
| Overhead Allocation | 2 |
| **Physical and Financial Condition** | |
| Balance Sheet | 3 |
| Staff | 3 |
| Library | 2 |
| Investments | 1 |
| Commitments and Contingencies | 2 |
| Equal Employment and Education Opportunities | 2 |
| Building | 1 |
| Total weights | **53** |
| Total items | **26** |

**(Source: Coy et al., 1994)**

**Table 3.2(b)**
**Summary of Sample of Literature Recommendations**

| | AUS | CAN | UK | USA | MAL |
|---|---|---|---|---|---|
| **Overview** | | | | | |
| Statement of Objectives | | X | X | X | X |
| Descriptive Report/ General Review | | X | X | X | X |
| Summary facts & Figures | | X | X | X | |
| Financial Review | | X | X | | X |
| Accounting Policies | X | X | X | | X |
| Directory Information | | | | | X |
| **Service Performance** | | | | | |
| Student Numbers | | X | X | X | X |
| Graduates | X | | X | X | X |
| Employment/Education Destination of Graduates | | X | X | | |
| Publications | | | X | X | |
| Student-Staff Ratio | | X | X | | |
| Targets | | | | | X |
| **Financial Performance** | | | | | |
| Operating Statement | X | X | X | X | X |
| Depreciation | X | | X | X | X |
| Budget Information | | X | | X | |
| Unit Cost per Student | | | X | X | |
| Statement of Cash Flows | X | | X | X | X |
| Research Grants | | X | X | X | X |
| Overhead Allocation | | | | | |
| **Physical & Financial Condition** | | | | | |
| Balance Sheet | X | X | X | X | X |
| Faculty/Staff | | X | X | | |
| Library | | X | X | | |
| Investments | | | X | X | X |
| Commitments & Contingencies | X | X | X | X | |
| Employment & Educational Opportunities | X | | | | |
| Building | | X | X | X | |

**(Source: Coy et al., 1994, Nelson et al., 1997, Treasury Circular No 15,1994)**

Accordingly Coy et al. (1994), Nelson et al. (1997,1998), Banks and Fisher (1997) examined each annual report of the respective public institutions of higher learning against the items in the MAD index. If the item is absent, then it will receive a score of zero. If the item is present, it can score on ordinal score that is based upon the perceived quality of disclosures with scores ranging from (1) poor to (5) excellent (Nelson et al., 1997). This will be used in the present study in which twelve[16] Malaysian IPTA annual reports for the year 1999 and 2000 would be examined. The qualitative scale will give indication of the degree of quality of the disclosures in the annual reports as the annual reports are expected to vary between the universities and also to take into account the changes in the reports from year to year.

Table 3.2(c) shows the five-point evaluation criteria for the second item in the overview section; Descriptive Report/General Review.

**Table 3.2(c)**
**Example Of Criteria**
**Descriptive Report/ General Review**

| Score | Criteria |
|---|---|
| 5 | Reports by council chairperson or CEO (VC/director/principal)<br>Titles, through yet inviting to read, full review, reference to broad spectrum of activities and achievements, set in the context of social, economic and political environment |
| 4 | As per 5, but lacking some of its substance. |
| 3 | Broad discussion or sub-classification and some numbers |
| 2 | Descriptive only |
| 1 | Bare Discussion |
| 0 | Omitted |

**(Source Coy et al., 1994)**

### 3.2.2 Questionnaires

For the purpose of identifying the uses of the annual reports which is the second objective of this study, a questionnaire is designed which emphasises on the use of the annual reports as currently practice by the users. The questionnaire is originally designed by Coy et al. (1997) in order to identify and classify report recipients as well as to find out the opinion of recipients about reports and reporting. However this study is mainly concentrating on asking the

[16] As at August 2002, there are seventeen IPTAA in Malaysia, however only twelve of them are in operation in the year 2000.

opinions of the users of the annual reports. Thus the set of questions being asked are less comprehensive, nevertheless these questions are still very much similar to what were originally outlined by Coy et al. (1997). In order to identify the uses of the annual reports, the users of the annual reports are identified from literature review. A study by Coy et al. (1997) and Dixon et al. (2002) had identified six types of recipients of TEI annual reports. The recipients group as are presented in Table 3.2(d). The term recipients, instead of the users of the TEI annual reports are used because there is less implication of actual use of annual reports (Coy et al., 1997).

**Table 3.2(d)**

**Users of TEI Annual Reports**

| **Internal Campus-based Citizens (a)** | **Elected/ Appointed Representatives (b)** | **External Off Campus Citizens (c)** | **Sister Organisations/ Competitors (d)** | **Resource Providers (e)** | **Public/ Analyst And Media (f)** |
|---|---|---|---|---|---|
| Academics | Government And Regulators | Advisors And Consultants | Employees Of Other Institutions | Ministry Of Education | Journalist |
| Support Staff | Parliamentarian | Alumni | | Donors/ Sponsors | Public At Large |
| Corporate Managers | Boards Of Directors | Other Pressure Groups | | Investors/ Partners | Researcher And Analysis |
| Students | Accreditation Agencies | Service Recipients (excluding students) | | Professional Associations | Voters And Taxpayers |
| | Advisory Committee Members | | | Suppliers/ Creditors | |

**(Source Coy et al., 1997, Dixon et al., 2002)**

In this study, Coy et al. (1997) reviewed 14 items that are mainly monographs published by regulatory bodies in five countries since 1978 in regards to public sector reports recipient. Accordingly Coy et al. (1997) identified 22 recipients groups, which are then classified into six categories as presented in Table 3.2(d). For the purpose of this study, an extension comparison is made to the users of financial statements as described by MASB Discussion Paper[17]. This is because as stated in the Treasury Circular, No 5, (1994), the financial statements that form a part of annual reports must be prepared using the generally accepted accounting practice, which in Malaysia refers to the MASB framework. In this case, assumption is made that the term recipients and the users of the annual reports indicates the same meaning. The summary of the literature and the extension comparison to the MASB framework is presented in Table 3.2(e).

**Table 3.2(e)**

**Recipients/Users of Annual Reports in Six Countries**

| | AUS | CAN | NZ | UK | USA | MAL |
|---|---|---|---|---|---|---|
| Internal campus-based citizens | | | | | | |
| Academics | X | X | X | X | X | X[18] |
| Senior managers | X | X | X | X | X | X[19] |
| Service recipients (inc. students) | X | X | X | X | X | X[20] |
| Support staff | X | X | X | X | X | X[21] |
| Sister organizations/ competitors | | | | | | |
| Employees of other institutions | | | | X | X | |
| Elected and Appointed Representatives | | | | | | |
| Accreditation agencies | X | | X | | X | |
| Advisory committee members | X | X | X | X | X | |
| Government and regulators | X | X | X | X | X | X |
| Parliamentarians | X | X | X | X | X | |
| Tertiary Education Council members | X | X | X | X | X | |
| Resource providers | | | | | | |
| Donors and sponsors | X | X | X | X | X | |
| Investors and partners | X | X | X | X | X | X |
| Professional associations | | | | | X | |
| Suppliers and lenders | X | X | X | X | X | X |
| External off-campus citizens | | | | | | |
| Advisors and consultants | X | | | | X | |
| Alumni | | X | | X | | |
| Other pressure groups | X | | | X | X | |
| Service recipients (not students) | X | X | X | X | X | X[22] |
| The public, analysts and media | | | | | | |
| Journalists | X | X | X | X | X | |
| Public at large | | | X | X | X | X |
| Researchers and analysis | X | X | X | X | X | |
| Voters and taxpayers | X | X | X | X | X | |

**(Source: Coy et al., 1997, Dixon et al., 2002, MASB, 1998)**

[17] This is a framework or the preparation and presentation on financial statements issued by MASB in 1998.
[18] This is assumed to be under the category of employees
[19] This is assumed to be under the category of employees.
[20] This is assumed to be under the category of customers.
[21] This is assumed to be under the category of employees.
[22] This is assumed to be under the category of customers.

Based on Table 3.2(e), it can be seen that there is a common consensus regarding the type of users of annual reports of public institutions of higher learning. Based on MASB framework there are nine items, which can be identified from the categories. For the purpose of this study, it is felt that it would be relevant and appropriate to adopt the categories of users as indicated by Coy et al., (1997) as they appear in many of the other studies and consistent with the users outlined in MASB framework. Additionally, empirical evidence from this study appears to support the existence of the users.

It is also felt that it is for a benefit of this study to adopt Coy et al. (1997) questionnaire with only a slight modification as to ensure continuity with the first objective of assessing the extent of accountability information in the annual reports. This is because the questions in relations to disclosure of knowledge, originally outlined by Coy et al. (1997), are induced from the MAD score. Due to the link between the questions and the MAD items, it is appropriate to use the similar questionnaire. Nevertheless the findings of this study on the uses of the universities' annual report can be compared with the New Zealand study by the future researcher.

The questionnaire consists of a cover and 9 pages of questions. The questionnaire is divided into three sections namely Section One, Section Two and Section Three. Section One contains questions that require ticks or short answer. The purpose of these questions is to identify whether the users selected from the literature review do in fact receive the annual reports. This study is only concentrated on the year 2000 annual reports to ensure the view is related to the most recent annual reports of universities. If users do receive the year 2000 of Malaysian annual reports of public institutions of higher learning, they are expected to answer the remaining questions in Section One. The second question asks the respondent to select from a list (including "other(s) please specify") all their relationships with institutions which report they receive. In view that the respondents might have received more than one annual report, the respondents are given the choice to choose only one of the annual reports that they have the strongest interest. Next, the respondents are also asked in a single phrase of what their opinion on the annual reports they received and chosen. Then, the respondents are asked to answer all questions in Section Two.

If on the other hand, the selected users do not actually receive the year 2000 annual report, the respondents are required to proceed to answer only relevant questions in Section Two. Section Two has 4 groups of questions namely Group A, Group B, Group C and Group D. Questions in Group A are on the qualitative characteristics of the report, which is based on MASB framework, that the users find to be in existence whereas in Group B the questions are designed to identify the qualitative characteristics that users expect to have in the annual reports. In order to ensure the views are true representative of the actual users, only users that are actually receive the year 2000 annual reports are required to answer questions in Group A and Group B whereas for those who do not receive the annual reports, they are only required to answer questions in Group B as they involve with expectation.

Additionally questions in Group C are devoted to disclosures of knowledge which "reflected the best of current reporting practices induced using the MAD score" (Coy et al., 1997) and that the users find in the annual reports. In consistent with this, Group D questions are on the disclosures of knowledge that the users expect to find in the reports. Again, the users that actually receive year 2000 annual reports are required to answer both questions in Group C and D whereas the non-receiver would only answer questions in Group D. The qualitative characteristics are listed in Table 3.2(f) and alongside are the keywords or phrases in the questionnaire that correspond to them. The key words or phrases in the questionnaire statements indicating an area of knowledge are listed in Table 3.2(g) and alongside are the MAD items that correspond to them.

For each question in the four groups, respondents are required to mark their answers on 5-point Likert scales (i.e., 1-strongly disagree to 5= strongly agree, 1= very bad to 5 = very good, 1= very unimportant to 5= very important). This study uses a 5-point Likert scales and not 7-point scales like originally outlined by Coy et al. (1997) because it is felt that the different between, for example the “very strongly disagree” and “strongly disagree” is minimal. It is also felt that many of the Malaysian respondents would find it slightly difficult or annoyed with the idea having to differentiate between “very strongly disagree” and “strongly disagree” or “extremely unimportant” and “very unimportant”. Therefore, in order to ensure that this does not discourage users, this study adopts the 5-point Likert scales.

For the purpose of identifying the uses of the annual reports, data will be extracted from completed questionnaires and analysed. In order to determine which significant categories of users receive the reports, a frequency distribution table will be prepared. Additionally, means will be calculated for questions featuring Likert scales and in order to identify the existence of the expectation gaps, if any, the difference in the mean of each question is identified.

Additionally questions in Section Three are mainly for narration and comments from the users, which will provide useful input in further examine the users opinion on the annual reports as currently being presented to them. This information will provides the study with more understand on the current practice of annual reports by public institutions of higher learning.

**Table 3.2(f) Key Words or Phrases in Questionnaire and Corresponding Qualitative Characteristics**

| Key Word or Phrase in Question | MASB Quality |
|---|---|
| Timely | Timeliness |
| Cost to institution outweighed benefit to society | Benefits > Costs |
| Understandable | Understandability |
| Relevant to my needs | Relevance |
| Restricted to good news | Faithful representation |
| Lacked coverage of future intentions | Predictive Value |
| Reliable | Reliability |
| Useful to me in making decisions | Decision Usefulness |
| Favoured interests of compilers | Neutrality |
| Properly verified | Verifiability |
| A basis to make comparisons with other institutions | Comparability |
| A basis to make comparisons about this institution over time | Comparability, Consistency |

**(Source: Coy et al., 1997, Dixon et al., 2002, MASB, 1998)**

**Table 3.2(g)**

**Questionnaire Phrases and Corresponding Disclosure Index Items**

| **Phrase In Question** | **Modified Accountability Disclosure (MAD) Index Item** |
|---|---|
| Full understanding of institutions objective | Statements Of Objectives |
| Who governs and manages and how | Directory Information, Descriptive Report/General Review, Summary Facts & Figures |
| How educational performance of the institution in comparison with other institutions | Descriptive Report/General Review, Summary Facts & Figures, Student Numbers, Graduates, Employment/ Education Destination of Graduates |
| Size and composition of student body | Student Numbers |
| What research staff are engaged in | Publications, Research Grants |
| What the institution have been trying to achieve in quantitative terms | Targets, Budget Information, Financial Review |
| What the institution have been trying to achieve in qualitative terms | Descriptive Report/General Review, Targets |
| Able to evaluate how effective the institution | Summary Facts & Figures, Graduates, Employment/ Education Destination of Graduates, Publications |
| How successful students have been | Graduates, Employment/ Education Destination of Graduates |
| The overall future plans | Descriptive Report/General Review |
| How financial performance of the institution in comparison with other institutions | Financial Review, Operating and Cash Flow Statements, Balance Sheet, Contingencies, Accounting Policies, Investments, Summary Facts and Figures |
| How much surplus or deficit | Financial Review, Operating Statements |
| Revenues of the various services | Financial Review, Operating Statements, Research Grants |
| What human and physical resources has available | Staff, Buildings, Library |
| How the human and physical resources are distributed between the institutions' various services | Staff, Staff-Student Ratio, |
| The approach to gender discrimination | Equal Employment Opportunities, Equal Education Opportunities |
| The costs of the various services | Financial Review, Unit Cost Per Student, Overhead Allocation |
| The financial implications of the institutions overall future plans | Financial Review, Commitment and Contingencies |
| Evaluate how efficient the institution is | Financial Review, Operating Statements, Balance Sheet, Staff-Student Ratio, Unit Cost Per Student, Staff, Publications, Research Grants |

**(Source Coy et al., 1997, Dixon et al., 2002, Treasury Circular, No 5,1994)**

## 3.3 DATA COLLECTIONS

For the purpose of applying the MAD index, the data is collected by means of letter to the Vice Chancellor of the twelve public institutions of higher learning in Malaysia requiring a copy of annual reports for the year 1999 and 2000. In view that not all the universities will respond to the request, the author will also require the assistance and permission from the Ministry Of Education Department to view annual reports that have been sent to the department by the universities as required by Statutory Bodies Act.

In this study, a team of three will score the reports, being two accounting postgraduate students and the author. The two postgraduates students evaluate all of the reports by applying the criteria to the individual report disclosures. The author also evaluates all the reports and acted as an arbitrators to resolve differences in the two scores for each report item.

Additionally for the purpose of identifying the uses of the annual reports, the questionnaire, as described before, will be sent to the users of the annual reports by mail. The samplings, however, only restricted to selected groups of users that are chosen from the identified users as presented in Table 3.2(d). The samplings are the member of Board of Directors of the reporting institutions, the official or staff of the Ministry of Education and management of the reporting institutions. Despite concentrating on these three categories of users, a fourth category i.e. other(s) is also being assigned to accommodate unexpected type of respondents.

The management of the reporting institutions are chosen because Dixon et al. (2002) indicated that the interest in annual report is great among people located on campus with governance or managerial position. For this study, the management of the reporting institutions is drawn from the Vice Chancellor as the Chief Executive Officer of the universities, the Registrar who is the highest administration officer of the universities and the Bursar who is the equivalent of Finance Officer of the universities.

Dixon et al., (2002) also stated that most recipients of the annual reports continue to be people serving as university's council member. Thus in the context of Malaysian IPTA, the implementation of the corporatisation of universities has replaced the universities council member with Board Of Directors that consists of eight members that only includes Vice Chancellor as the representative of the university. The remaining members are people from the corporate sectors and local people that reside nearby the university and are not representing the government (Skudai Post, UTM, 1997). Out of the eight, only two members of the Boards Of Directors are selected as a sampling distribution. As 3 IPTA are actually established in the year 2001, it is felt that for the purpose of the questionnaires, their management and Board Of Directors views' would still be applicable in the sense of identifying their expectation of the annual reports. (This type of users i.e. management of other or competing institutions might come under the other(s) category.) For the other two IPTA, which are recently established, the view of the management as well as the Boards Of Directors are not being asked because with the IPTA recently established, they would not be able to form objective views on the annual reports. Furthermore the IPTAs' have not produced any annual reports and might be influenced by other people's opinion instead of their own judgement.

Additionally, according to Coy et al., (1997), the recipient that plays a prominent role in the public higher learning institutions is Ministry Of Education's officials or staffs. Their numbers might be small but they hold a big responsibility regarding the institutions as they are administering the activities of the universities as well as providing supervision for the allocation of resources to the university. Thus, they are included in the sampling for this study. Thus from Table 4, it can be seen the sampling distributions cover the users group in (a), (b), (e) and to a limited extent the (d) group.

Therefore, in this study, the total sampling includes three members of the management of the reporting and competing institutions, two members from Boards Of Directors of IPTA and five representatives from the Ministry Of Education. Overall, eighty questionnaires will be distributed to the identified users as mentioned before.

## 3.4 CONCLUSION

This chapter explains the methodological framework adopted in this study. The next chapter will continue to analyses and discusses the results of the analysis performed as outlined in this chapter.