CHAPTER 3. RESEARCH METHOD

3.1 INTRODUCTION
This section will briefly outline the theory underlying the formulation of the hypothesis based on the review of the prior literature discussed in the previous chapter. This chapter will also provide a description of the sample selection, data collection procedures, variable measurement and the method employed to test the hypothesis. As stated in Chapter One, this paper attempt to answer these important questions:
1. What is the current reporting practice of the listed companies in Malaysia with regards to social responsibility reporting?
2. Is there any relationship between the size of the firm, its profitability, the audit firm employed, level of leverage and the type industry with the quantity of social information disclosed?
3. Are there any differences in the amount of social disclosures between companies that have been commended for good reporting by NACRA with those that have not?
4. What is the best measurement method to capture the social information disclosed in the financial statements?
5. What is the level of awareness and perceptions of the accounting practitioners towards CSRR?

3.2 SAMPLE DESIGN AND DATA COLLECTION
As the study employs both primary and secondary data, this section will explain on the sampling design and the collection for both types of data.

3.2.1 Current Reporting Practice of Listed Companies in Malaysia
The annual reports from the 250 largest companies listed on the Kuala Lumpur Stock Exchange (KLSE) at 31 December 2000 were selected for this study. The selection of “top” 250 companies are based on a size ranking of market capitalization as in Hackston and Milne (1996); Guthrie and Parker (1990);
Guthrie (1983), therefore this study will be able to provide the data for international comparison. The ranking of market capitalization for companies listed on the KLSE was obtained from "KLSE Market Capitalization Analysis – Overall Ranking" published in Investors Digest\(^6\). The largest 250 companies comprised 90 per cent of the total market capitalization on this date. The 90 per cent figure is comparable with the amount of the Australian share market study Guthrie (1993) i.e. 90 per cent and New Zealand share market study Hackston and Milne (1996) i.e. 92 per cent.

From the initial sample, six companies were removed due to unavailability of the annual report, both in KLSE library and on the website\(^7\). As this study also try to determine whether there exist difference in the reporting of social information between commended and non-commended companies, another 13 companies that received certificate of merit for good reporting from NACRA were selected\(^8\). The final sample for this study comprised of 257 companies.

<table>
<thead>
<tr>
<th>Infrastructure Project</th>
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<tr>
<td>Consumer Products</td>
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<td>Trading / Services</td>
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<td>Construction</td>
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<td>Technology</td>
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<td>Hotel</td>
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\[\text{Total} = 257\]

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\(^6\) Investors Digest is published monthly by the KLSE, hence, the reliability of the data is assured.  
\(^7\) Of the six companies, three were banks that merged with larger banks following the establishment of 10 anchor banks in Malaysia. Their results for the financial year 2000 were therefore consolidated in the annual report of the respective anchor bank. The remaining were unavailable as they were de-listed during the year.  
\(^8\) Altogether, there are 32 companies commended for good reporting by NACRA but 19 companies were already in the top 250 ranking.
3.2.2 Attitude and Perceptions of the Accounting Practitioners Towards CSRR

With the objective of obtaining the level of awareness and the perceptions of the accounting practitioners towards CSRR in Malaysia, a total of two thousand questionnaires were sent out. The sample of the accounting practitioners was selected randomly from Malaysian Institute of Accountants (MIA) database. The questionnaire, attached as Appendix IV, was designed in such a way that it will be able to accomplish four different objectives, that are:

1. To obtain the level of understanding of the concept of social responsibility;
2. To obtain the perceptions of the accounting practitioners towards CSRR;
3. To establish the practitioner’s view on the importance of various social responsibility areas; and
4. The need for standard on the reporting of social information and for social audit.

The use of the questionnaire survey method has been subjected to heavy criticisms, namely poor response rates and poor quality of responses (Kerlinger, 1986). However, the author found that it is justifiable to use questionnaires as opposed to other methods such as interviews or telephone interviews for three reasons: (1) the questions in the questionnaire are direct and factual, which does not require further explanation, (2) the sample size is large making it costly to conduct individual interviews, and (3) the time constraint the researcher faced to complete this study.

This study used fixed alternatives questions as opposed to the open-ended questions. Abdul Rahman (1980) pointed out the reasons for using fixed alternative questions as: (1) greater uniformity in measurement, and (2) in line with the type information required for the purpose of this study where information are factual and clear.

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9 Fixed alternatives questions are those questions that offer the respondent a choice among two or more alternative answers.
The questionnaire consists of twenty questions on a five-point Likert scale. The first three questions were designed to determine the level of understanding of the concept of social responsibility. The next eight questions were intended to obtain the perceptions of the accounting practitioners with regards to CSRR. Question twelve to seventeen requires the sample to give their personal views on the importance of various social responsibility areas. The last three questions were to seek their views on the need for audit of the social information, the need for a separate standard to govern the reporting of social information as well as the necessity of government intervention through policies.

3.3 MEASUREMENT OF THE VARIABLES

3.3.1 Dependant Variable - Corporate Social Disclosure
Content analysis is used to measure corporate social performance responsibility disclosures. Content analysis is a method of codifying the text (or content) of a piece of writing into various groups or categories depending on the selected criteria (Weber, 1988). According to Krippendorf (1980, p.21), "content analysis is a research technique for making replicable and valid inferences from data according to their context". This method has already been used in few social responsibility disclosure studies (for example, Ernst & Ernst, 1978; Guthrie and Mathews, 1985; Guthrie and Parker, 1990; Hackston and Milne, 1996).

To enable content analysis to be performed in a replicable manner, a checklist and decision rules were developed. The checklist of the instrument categories is shown as Appendix I. These instrument categories are similar to what was used by Hackston et al. (1996), which contained:
- Dimension of disclosure theme – environment, energy, products/ consumers, community, employee/human resources, general;
- Evidence – monetary quantification, non-monetary quantification, declaration;
- News type – good news, bad news and neutral news;
- Amount – number of sentences
To facilitate the completion of interrogation instrument, an extensive checklist of items to be included under each of the theme was developed. This was first developed by Ernst & Ernst (1978), and was subsequently revised by Hackston et al. (1996). The division of employee theme into employee health and safety and employee other content categories is to be consistent with recent works on social responsibility disclosure i.e. Gary et al. (1995a) and Hackston et al. (1996). Please refer to Appendix II for the checklist and Appendix III for the decision rules.

Following Hackston et al. (1996), the amount of sentences will be measured using three methods:

1. **Number of sentences**: Absolute number of sentences with regards to any social information mentioned which satisfies the criteria given in Appendix II and Appendix III. Any repetition of the same information will also be considered\(^\text{10}\). Measuring the amount of social disclosures by the number of sentences overcome the problem of portion of pages and remove the need to account for, or standardize the number of words (Hackston et al., 1996, p. 7).

2. **Measured page**: The use of an approximation to page measurement from the sentence-coded data was also done by Hackston et al. (1996). This method will try to overcome the limitation of the first method as differences might still exist when two sentences which are identical but for different font sizes. In measuring the absolute amount of social disclosure per company (but not per content category) by proportions of annual report page to the nearest hundredth of a page\(^\text{11}\).

\(^{10}\) Photograph of act or contribution made by the companies, of any kind, will be ignored whilst any written description (which taken to mean the social information) below the photograph will be accounted for.

\(^{11}\) This is a direct replication of what was done by Hackston and Milne (1996) when page measurement is undertaken using a clear plastic A4 sheet divided into a grid of 100 rectangles (each side of the A4 sheet is divided into 10). The grid is laid over each highlighted sentence in the report; the number of hundredths assessed (rounding up) and was finally summed to produce a total for each report.
3. **Derived page**: First, the average number of sentences per page of the chairman's report for each annual report was calculated. The average for each report was then divided into the total number of social disclosures sentences for that report to produce a derived page measurement for each company.

In all three measures of social disclosure, no attempt is made to standardize the annual report length. There is no restriction on the number of pages an annual report can include and, if companies consider additional disclosure is sufficiently important, it is believed they will include extra pages in the report (Hackston *et al.*, 1996). The use of all three measure of social disclosure amount enables comparisons with other studies and permits comparative analysis to assess the importance of the choice of measure.

### 3.3.2 Independent Variables

As discussed in the previous chapter there are a few variables have been studied that can influence the voluntary disclosure in general and specifically in CSRR studies. Due to time and cost factors in relation to data collection, the number of variables examined in this study was limited to six. The six variables are firm size, financial leverage, industry membership, the type of audit firm employed, NACRA and profitability. The size, industry and profitability variables were selected following the prior research by Hackston *et al.* (1996) as these three variables have produced mixed results in other CSRR studies, whilst the NACRA variable followed Low *et al.* (1985). The two remaining variables were selected as they were commonly used in the study of voluntary reporting (for example, see Buzby, 1979; Firth, 1979) although no other CSRR studies have tested these two. Perhaps, the study of these two variables in Malaysian context will provide some new evidence with regards to the potential determinants of the amount of corporate social disclosures.
The size, industry membership and profitability variables were selected following previous research by Hackston et al. (1996) who found an association between compliance with segment data disclosure and industry membership, but not for firm size. Next, as financial leverage was one of the most commonly used variables in prior overseas studies, it was chosen here to be tested in the Malaysian context. Next, the decision to test the type of audit firm has been derived from the work of Susela and Veerinderjeet (1992)\textsuperscript{12}.

Hackston et al. (1996) used market capitalization as a proxy for firm size (Size) and the dividing line between large and small firms was set at RM100 million. Hence, the size variable in the present study is measured by market capitalization Hackston et al. (1996). Hence, large companies (those with market capitalization that exceeds RM100 million) are represented by a dummy variable of 1, and 0 otherwise. In addition, listing status (Listing) is also used as an alternative specification of the size hypothesis. Similarly, companies listed on the main board of the KLSE are coded 1, and 0 otherwise.

Measures used to test the financial leverage (Leverage) hypothesis were varied across previous overseas studies. Some of it includes book value of debt divided by market value of total assets (Bradbury, 1992); book value of debt plus contingent liabilities divided by total tangible assets (McKinnon and Dalimunthe (1993); and book value of debt divided by market value of total assets (Mitchell et al., 1995). An unpublished report by Susela (1998) reveals that the overall debt-equity ratio for Malaysian listed companies is 66.7\% and is measured by the book value of total debt including provisions for liabilities and charges divided by total shareholders’ funds (total net assets). Hence, following Susela (1998)\textsuperscript{13}, the dividing line between high- and low-levered firms is set at 66.7\%. Accordingly,\

\textsuperscript{12} Although the study was conducted on the disclosure of segmental information, the author is of the opinion that this variable may be a potential determinant of social disclosure amount.

\textsuperscript{13} Again, this study was on the reporting of segmental information and due to unavailability of prior CSRR studies that tested this leverage, the measurement used for this variable will be following Susela (1998).
leverage is represented by a dummy variable of 1 for companies with high financial leverage, and 0 for companies with low leverage.

As for the type of the audit firm, a dichotomous variable of 1 and 0 is used to distinguish between companies that employ a big-five audit firm as opposed to companies that do not, following the study by Hosain et al. (1995). Big-five audit firm includes Arthur Andersen, Ernst & Young, Kassim Chan Deloitte Touche, KPMG Peat Marwick, and Price Waterhouse Coopers, and non big-five will be firms other than those five mentioned.

Next, the development of the industry membership hypothesis is based on Hackston et al. (1996) that classified companies following the New Zealand Stock Exchange (NZSE). Hence, this study will classify the companies into sectors as per KLSE listing. However, due to some small observations in certain sectors, a number of sectors are combined for simplicity reason. Consequently, the final classifications are reduced to seven sectors. They are Consumer Product, Industrial Product, Construction/Infrastructure Project Companies, Trading & Services/Technology, Finance, Property/Hotel, and Plantation/Mining.

For NACRA variable, following the study of Low et al. (1985), a dichotomous variable of 1 and 0 is used to distinguish between companies that received Certificate of Merit from NACRA 2001 with those did not.

Finally, for profitability variable, the accounting ratios of Return on Asset (ROA) and Return on Equity (ROE) will be used instead of the absolute profit before tax figures. Similar ratios have been used in other studies, for example, in the Hackston et al. (1996) study.
3.4 HYPOTHESIS DEVELOPMENT

To realize the abovementioned objectives, six sets of null and alternate hypothesis have been developed\textsuperscript{14}.

3.4.1 The Size Hypothesis

This hypothesis was developed from Hackston et al. (1996) that used firm size as one of the determinants of the social information disclosure. The firm size (Size) hypotheses were stated as follows:

\begin{align*}
H_{0,\text{Size}}: \text{The tendency to disclose social information is not associated with firm size.} \\
H_{1,\text{Size}}: \text{The tendency to disclose social information is higher for large firms than for small firms.}\textsuperscript{1}\text{ }
\end{align*}

In addition, listing status (Listing) is used as an alternative specification of the size hypothesis. As this type of listing status is only peculiar to Malaysia, no previous overseas studies could be quoted here.\textsuperscript{15} The Size hypotheses are restated as follows:

\begin{align*}
H_{0,\text{Listing}}: \text{The tendency to disclose social information is not associated with listing status.} \\
H_{1,\text{Listing}}: \text{The tendency to disclose social information is higher for firms listed on the main board of the KLSE than for firms listed on the second board.}
\end{align*}

3.4.2 The Industry Hypothesis

The development of the industry membership hypothesis in this study is based on that of Hackston and Milne (1996), in which companies were classified

\textsuperscript{14} The hypothesis for all variables are one-tailed except for the industry variable.
\textsuperscript{1} H\textsubscript{0}: Null-form hypothesis
\textsuperscript{1} H\textsubscript{1}: Alternate-form hypothesis
\textsuperscript{15} Briefly, companies listed on the main board and second board should have a minimum issued and paid-up ordinary share capital of RM60 million and RM40 million respectively. Also, companies listed on the main board must have better historical profit performance than those listed on the second board.
according to the sectors they were listed on the Stock Exchange. The industry membership (industry) hypotheses are stated as follows:

\[ H_{0\text{Industry}}: \text{The amount of social information disclosed is not associated with industrial membership.} \]

\[ H_{1\text{Industry}}: \text{The tendency to disclose social information is associated with industrial membership.} \]

3.4.3 Financial Leverage Hypothesis
Due to mixed findings from prior studies on the relationship between the levels of financial leverage with the amount of voluntary disclosure information, this study will try to establish the potential relationship between the proportions of debts to ratio with the level of social information disclosure. The hypothesis for this variable is therefore developed as follows:

\[ H_{0\text{Leverage}}: \text{The tendency to disclose social information is not associated with financial leverage.} \]

\[ H_{1\text{Leverage}}: \text{The tendency to disclose social information is greater for firms with high leverage than for those with low leverage.} \]

3.4.4 The Type of Audit Firm Hypothesis
This hypothesis is developed based on the study by Hossain and Adams (1995) who found a significant association between voluntary disclosures and the type of audit firm i.e. those companies audited by one of the big-fve audit firm tend to disclose more voluntary information. Hence the hypothesis will be:

\[ H_{0\text{Auditor}}: \text{The amount of social information disclosure is not associated with type of audit firm employed.} \]

\[ H_{1\text{Auditor}}: \text{The tendency to disclose social information is higher for firms that employ big-five audit firm than those that employ a non-big five.} \]

3.4.5 The NACRA Hypothesis
The assessment of the annual reports for NACRA award is subject to preliminary screening and detailed adjudication. Although all public listed companies' annual
reports will automatically qualify for the competition, these statements have to undergo a preliminary screening process. Only those reports that meet the screening criteria will be selected for detailed adjudication. Among the criteria$^{16}$ are:

- Promptness of the publication of the annual reports i.e. within six months after the year end;
- Auditors' report are neither qualified nor contains an "emphasis of matter" opinions;
- Compliance with all approved accounting standards;
- Availability of three years financial highlights and a fully translated Bahasa Malaysia report;
- Information on shareholders' statistics and particulars of properties as required by the KLSE Listing Requirements;
- Information on the Audit Committee;
- No public sanction by KLSE or SC; and
- Companies should not be under Section 176 scheme.

Since there was no specific requirement for the disclosure of social information for the companies, the author is of the opinion that NACRA winners do not necessarily disclose more social information. The reason being that although the companies may disclose substantial social information, the companies will not be able to enter the NACRA competition if they cannot pass the preliminary screening process. Derived from the work of Low et al. (1985), a similar hypothesis is developed.

$H_{0,\text{NACRA}}$: There is no significant difference with regards to the amount of social disclosure between NACRA winners companies and other companies

$H_{1,\text{NACRA}}$: The NACRA winners companies will disclose more social information than the other companies

$^{16}$These criteria are extracted from the NACRA 2001 brochure published by the organizing Committee.
3.4.6 The Profitability Hypothesis

This variable has been used in many social disclosures studies, including Hackston and Milne (1996) and Lau (1994). Their studies failed to find a significant association between the level of disclosures and the profit level. Hence, this variable will be tested once again to validate their findings. Both Return on Assets (ROA) and Return on Equity (ROE) will be used to measure the profitability of the companies. The hypothesis is therefore stated as follows:

\[ H_{\text{PROFIT}}: \text{The amount of social disclosures is not associated with the profit level of the companies.} \]
\[ H_{\text{PROFIT}}: \text{The tendency to disclose more social information is greater for firms with higher profit level than for those with low profit.} \]

3.5 STATISTICAL METHODS

In this study, statistical methods were only employed for secondary data gathered. As for the primary data, since there was no hypothesis developed to test the responses of the questionnaire, only mean scores for each question were computed and hence analyzed.

In testing the hypotheses developed above, both univariate and multivariate tests were employed. The univariate test was a simple Chi-square test was run to determine the influence of the independent variables on the decision to disclose the social information. A cross tabulation test was then carried out between the independent and dependent variables. A dummy variable of "1" and "0" were used to identify “disclosing” firms and “non-disclosing” firm respectively.

For the multivariate test, a logistic regression was used to supplement the univariate test as well as to examine the multiple effects of the independent variables on the amount of social disclosure made. In examining the correlations between the variables, Spearman Rank Correlation and Pearson Correlation
were carried out. To test the differences in the quantity of information disclosed between the industries, a One-Way ANOVA test was used.

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

3.6 CONCLUSION
This chapter has presented the methodology of this study together with the explanation of the variables used. The next chapter will discuss on the findings of the tests conducted.