CHAPTER THREE

RESEARCH METHODOLOGY

An empirical research, which is considered more appropriate for this study, is conducted. As such, no hypothesis is developed. The empirical research is conducted using the methodology outlined below:

3.1 Research methodology

3.1.1 Selection of measures

Four constructs based on the four major areas outlined in Part 1.3.1, are selected for this study. They are the (a) selection, (b) implementation, (c) maintaining and (d) measurement or impact of the accounting system. They are outlined in the following order in the questionnaire:

- Selection of the system — Section 1
- Requirements of the system — Section 2
- Maintenance of the system — Section 3
- Impact of the system — Section 4

For each of the Sections 1 to 4, questions or statements identified to be relevant to the respective construct are posed. An example is on Section 1, where questions pertaining to the selection stage are posed to the selected companies that is part of the sample.

The final part (Section 5) covers the demographic and profiles of the selected companies. The measurements include the nature of their business, employee size and financial position as at 31st December 1998. The type of operating system in use, whether standard or custom-made software and the budget allocated for the system are also covered to understand the selected sample.

3.1.2 Data collection method

The self-administered mail survey method is selected as the research design for practical reasons since this method can provide a quick, inexpensive, efficient and accurate means of assessment in general. It cover the four constructs and the company profile as mentioned in Part 3.1.1 This **primary data methodology** is selected due to the nature of the questions, where respondents will require some time to re-collect some facts on their accounting system that they might not recall immediately. By allowing respondents time and convenience of checking information by verifying records, this will provide more valid information required from this research.

Each company is sent a three paged self-administered questionnaire survey form (Refer to Appendix 2) which is mailed together with:

- A cover letter (Appendix 1) explaining the purpose of the questionnaire and a letter of certification from UM on the researcher's identity
- A self addressed envelope for the individual company to reply

The companies are assured that this research is purely for academic purpose. They are assured that all information given by them will be treated with strict confidence. They are informed that the objective of the research is only to evaluate the usage of computerised accounting system within the local environment. An incentive in the form of a summary report is provided to companies that reply. This is done to increase the number of responses in order to improve the results of the study.

3.1.3 Sampling design

Research is conducted on a sample of 250 small and medium companies. The addresses of these companies are obtained from the listing in the Malaysian Online web site (http://www.mol.com homepage).

Companies are selected at random from the web site. From this web site, the details of the companies, including the name and address, are obtained. Although this web site is for small and medium companies, the selected companies are re-confirmed for their size of being small or medium by nature of their name - such as being sole proprietary or private-limited, location and type of business, as shown in the web site. An example is a Chinese–named biscuit shop located in Penang. The name of the shop itself shows that it is a sole proprietary-owned. Since not all companies in the web site includes the contact person; all mails are addressed to the individual Accounting Manager, for their attention or distribution. Selected companies are requested to send all replies to the researcher's home address.

3.2 Questionnaire

3.2.1 Questionnaire design

In designing the questionnaire for small and medium companies, Likert-measurement styled questions and categorical styled questions are used to prompt respondents and partly to allow respondents to consider detailed aspects of an issue rather than providing broad blanket answers. Such an approach may be limited in the sense that the respondents' answers or views may not be captured and the most important factors in their minds may not be given sufficient thought. This is, however, done in order to make it easy and simple for respondents to answer the questionnaire.

3.2.2 Trial run

The questionnaire is first tested on a sample of 10 persons during June to early July 1999. They are all from different education background and the common factor among them is their IT exposure. Their inputs are taken into consideration to refine the questionnaire. The emphasis is to develop questions that can be understood easily by respondents and to obtain as much information as possible. Checks on the reliability and authenticity of the questionnaire are conducted with their feedback. The final product is the three-page questionnaire that is used for this survey.

3.3 Data processing

3.3.1 Data gathering/response

A one-month time period from 15 July 1999 to 15 August 1999 is given to the 250 companies to respond to the three-paged questionnaire. A further extension of two weeks up to 1 September 1999 is provided to anticipate any late responses. In between the data-gathering period of two weeks, e-mail reminders are sent to thirty respondents. No follow-up calls were done, after considering the number of respondents' (250) and the likely costs involved.

3.3.2 Data entry

For analysis purposes, all questions posed (except the last two) are taken into consideration. The last two questions describe the (a) name of the accounting software currently in use and (b) name of the company itself. **Each question is treated as a variable**. The number of variables analysed based on the four constructs is:

Construct	Section	No. of variables
• Selection	1	6
• Requirements	2	10
• Maintenance	3	5
• Impact	4	9

Other variables would be on the profile of the company with 8 variables, and usage of the accounting system with 2 variables. The total number of variables analysed is 40. Analysis is done using the SPSS software. Data is keyed into the SPSS file. Each variable is labelled according to their individual title. An example would be Q1 in Section 1 being labelled as "Meeting management's overall objectives".

The entry of data for categorical variables is done by assigning the numbers "1" as the response for "Yes" and "2" for "No". As for the Likert scale measurements, data is entered based on the number ticked by the respondents. For example, if number "4" is ticked in any of the questions, data is entered in as "4" for that particular variable.

3.3.3 Data clean up

The first step is to clean up the data. Here data obtained is cleaned up and all errors are labelled as "Missing value".

3.3.4 Demographic profile

Next, the profile of the company is analysed. The nature of the company, whether it falls under the small and medium category, is determined here. Other issues include the company's financial standing based on the 8 questions posed. This ensures that the sample selected falls under the category of small and medium companies.

3.3.5 Data tabulation

Tabulation is done on the data for the four constructs. It is analysed first using SPSS, which would generate the required outputs. This is based on the ratings given by the respondents. From these SPSS outputs, charts are made using Microsoft Excel. These charts are labelled either as Table or Figure. The constructs analysed would be in the order of Section 1, 2, 3 and 4 of the questionnaire, shown in Chapter Four.

3.3.6 Reliability check

Finally, a post reliability check using SPSS is done on all the 40 variables. The overall reliability measurement used is the Cronbach Coefficient Alpha. The results are deemed to be reliable only if the alpha is greater than 0.6. If the alpha is less than 0.6, the results are deemed to be unreliable.

Variables that can be deleted to improve the overall alpha value are identified, with their improved values. The most important variable (that causes alpha to be lowest if it is deleted) is also identified.

3.4 Names of accounting software in use

The last part of the analysis shows the names of the standard software used. This is based solely on the respondents' replies. The type of customised software used and their respective budget is also shown. This would show whether there is preference for any particular type of standard software by local small and medium companies.