

3. RESEARCH METHODOLOGY, DATA COLLECTION AND ANALYSIS

3.1 Research Methodology

Since the companies certified with ISO 14001 are located in various states of Malaysia, a mail survey was used. A self-administered questionnaire was sent to respondents through mail. To encourage responses, a self-addressed and stamped envelope was enclosed with each set of questionnaire. Before sending the questionnaires, initial telephone calls were made to some companies, selected randomly to find out the actual person in-charge of the company's Environmental Management System. This will definitely guarantee that the questionnaire will reach the correct person. In addition, if the person concerned is available when the call was made, assurance of fast response is obtained and the objective of the study is much appreciated. In some cases, personal phone calls and communication through email were carried out after the survey questionnaires were returned, to understand further on comments made and special terminologies used by the company concerned.

3.2 Questionnaire Design

The determination of questions was influenced by the requirements for data analysis. Mainly comparison of opinions and management practices among the respondents are given priority. To ensure information relevancy, the questionnaire is designed to be specific about the data needs, and there is a rationale for each item of information. Some questions are included to clarify the answers to other questions.

In addition, the questionnaire is also designed to facilitate recall, which will motivate the respondent to cooperate. This is to ensure that information is accurate, in other words, reliable and valid. The questions are phrased using simple, understandable, unbiased, unambiguous and nonirritating words. Questions are not too lengthy, difficult to answer, or ego-threatening so that there is a higher chance of unbiased answers. All

questions are being phrased and sequenced in such a manner to influence accuracy.

The survey covers benefits gained, how it was implemented, degree of success, problems faced and ways to overcome them, and perception of various industries on Environmental Management Systems.

A sample of the questionnaire is attached in Appendix 4.

3.3 Sampling Procedures/Data Collection

In this study, 100% sampling is used as questionnaire is sent to all companies listed in the SIRIM QAS Directory of Certified Products & Companies, 1998 published by SIRIM Berhad. In other words, only companies with ISO 14001 certification by SIRIM were considered due to easy information accessibility of the companies concerned.

Data is obtained from returned survey form by the respondents and additional information is gathered through telephone interview and email with some of the respondents.

3.4 Data Analysis

After the data have been collected, several interrelated procedures are performed to summarize and rearrange the data. All questionnaires are checked for error. The data collected are then transformed into information in order to meet the research's objective to investigate on several issues. The conversion of raw data into information requires the data to be edited and coded so that the data may be transferred to a computer.

To facilitate data tabulation and statistical analysis, computer program package, Statistical Package for the Social Sciences (SPSS) was used. SPSS was chosen because it is user-friendly and it provides computer programs for entering and editing data. Programs for performing