

CHAPTER 3

RATIONALE FOR THE RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

Putting together a piece of good research can not be done by slavishly following a set of rules about what is right and what is wrong. The researcher who is faced with a variety of options and alternatives has to make strategic decisions about what to select. Each choice brings with it a set of advantages and disadvantages. The key is to decide on a design that is appropriate for the specific research problem and the aim of the research study.

Chapter 3 presents the plan or blueprint of how the researcher intended to conduct the study to ensure that the most valid findings were reached. The most appropriate operations/procedures to be performed in order to test the hypothesis are specified and the reasons for these choices debated. The discussion includes: the type of research design, the measuring instrument, the sampling procedure, data management and data analysis. To conclude the chapter, the validity of the chosen research design and methods is debated. Throughout the planning phase of the research design and methods, the researcher identified possible biases, while simultaneously addressing the strategies implemented to overcome these possible obstacles.

3.2 RESEARCH APPROACH

The study relied on:

- **Measurement** through a structured questionnaire.
- **Descriptive statistics** to describe the data by investigating the distribution of scores on each variable and by determining whether the scores on the different variables were related to each other.
- **Inferential statistics** to draw conclusions about the sample data and generalize it to the population.

- **Additional data gathering** to provide the scope for deducing common themes in the experiences of expatriate managers. Some of the experiences of the expatriate managers could only be analyzed through meaningful recordings. Words and sentences were used to qualify and record information.

It was proposed that the study be conducted within the *quantitative paradigm*, although a certain part of the study used qualitative techniques (Babbie & Mouton, 2001:47; Bless & Higson-Smith, 2000:38).

The reasons for this decision were:

- The best way to measure the job attitudes of expatriate managers is to assess the various factors constituting job attitudes.
- The differences in the scores obtained can be interpreted and given meaning to in terms of the direction and intensity of the job attitudes of expatriate managers.
- The scores can be analyzed using descriptive and inferential statistics.
- A better attempt can be made to interpret the results and generalize the interpretation to the South African population of individuals involved in expatriation to foreign countries.

3.3 TYPE OF RESEARCH DESIGN

Babbie (2004:243) suggests that surveys are appropriate for descriptive, explanatory and exploratory purposes. He comments that surveys are chiefly used in studies that have individual people as the unit of analysis and are excellent vehicles for measuring attitudes and orientations in a large population. As the purpose of the research study is explanatory and descriptive, the unit of analysis is the individual and the point of focus is the orientation (job attitude) of the individual, *survey design was regarded as the most appropriate research design* to conduct the research. The time dimension is cross-sectional, as the job attitudes of expatriate managers are studied by taking a cross-section of the phenomenon at a given time and analyzing that cross-section carefully (Babbie 2004:89,95,101-102; Bless & Higson-Smith, 2000:66).

According to Buckingham and Saunders (2004:12), the survey method can be defined as a technique for gathering statistical information about the attributes, attitudes or actions of a population by administering standardized questions to some or all of its members. The survey method applied in this study was based on the following guidelines:

- A sample of people was selected from a group, and their answers were taken to be representative of everybody in the group.
- Survey questions were standardized, so that everybody was asked about the same thing in the same way.
- The survey gathered information on people's personal attributes, on their attitudes and values as well as on their activities and behaviour.
- The focus was not in what any one individual had to say, but was aimed rather at generalizing about the group or whole population.
- Once the phenomena had been quantified, analysis through statistical procedures guided the findings.

(Buckingham & Saunders, 2004:13)

Surveys generally fall into one of two categories - descriptive or relational. Descriptive surveys are designed to provide a snapshot of the current state of affairs and to discover facts about a population. The aim is to describe a social phenomenon, and to measure its incidence in a population. Relational surveys are designed to examine relationships empirically between two or more constructs either in an exploratory or in a confirmatory manner to try to find evidence about some of the likely causes of people's behaviour or attitudes. The aim is to explain why people think or act as they do by identifying likely causal influences on their attitudes and behaviour. *The current study is a relational survey* that sought to explore the relationship between the propensity to leave a foreign assignment and job attitudes. (Buckingham & Saunders, 2004:13; Terre Blanche, Durrheim & Painter, 2006:167-170)

All social research is fallible, and surveys are no exception. This, however, does not make worthwhile survey research invalid. Buckingham and Saunders (2004:15) point out that the technical problems to watch out for during survey research concern

mainly the quality of the information that is gathered in a survey. This research study is no exception therefore special attention was paid to the following questions during the design phase:

- Did the sampling technique supply a group of respondents whose answers represent the whole population from whom it was drawn?
- Did the questions evoke the kind of information wanted?
- Did the measuring instrument unwittingly introduce a bias into the information gathered?

(Babbie, 2004:274; Buckingham & Saunders, 2004:15)

When these questions are raised, Buckingham and Saunders (2004:15) are of the opinion that researchers are concerned about the possibility that the facts they gather in their surveys may be distorted, consequently the empirical tests that they apply to their theories may in some way be inadequate. While such concerns must be taken seriously, there are procedures researchers can follow to minimize these technical difficulties. The researcher followed certain procedures to overcome the above problems thereby improving the chances of producing reasonably reliable, valid and useful data.

Babbie (2004:275) notes that another limitation in survey design could be that the researcher will not develop a sensitivity for the respondents' total life situation therefore he/she may not be aware of important new variables operating in the phenomenon being studied. To overcome these problems of "surface level analysis" and "inflexibility", open-ended questions were included in the pre-structured questionnaire to allow respondents to identify variables not foreseen by the researcher.

It is clear that survey research in the form of self-administered questionnaires was the obvious choice for the study and the best practical method to conduct the research. The reasons for the decision were:

- The population from which original data had to be collected was too geographically dispersed to be observed directly.

- It was possible to discover facts about people's actions, attitudes and attributes by asking the respondents questions and recording their answers systematically.
 - The facts gathered could be used to test the stated theories.
 - Survey responses represented 'observations' which could validly be measured and analysed using statistical procedures.
 - The questionnaire – the instrument for collecting facts in social surveys – was not inherently biased.
 - The standardised questionnaire offered the possibility of making refined descriptive assertions about expatriates' job attitudes.
 - A constructed standardized questionnaire provided data in the same form from all respondents, making comparisons possible.
 - Surveys were financially affordable.
 - Many questions could be asked on a given topic, giving the researcher considerable flexibility in the analysis.
- (Babbie & Mouton, 2001:262-264; Buckingham & Saunders, 2004:35;
Denscombe, 2000:27; Mouton, 2003:152-153)

3.4 MEASUREMENT INSTRUMENT

Denscombe (2000:7) states that the survey approach is a research strategy, not a research method. Researchers who adopt the survey strategy are able to use a whole range of methods within the strategy: questionnaires, interviews, documents and observations. For the purpose of the research study, *self-administered e-mailed questionnaires were chosen as the data-gathering method.*

Structured self-administered questionnaires were sent via e-mail to a sample of respondents. The questionnaire consisted of two parts. The first part consisted of questions with predetermined responses using interval scales. This enabled the researcher to extract numerical data. The second part was semi-structured, with open-ended questions to allow the respondent his/her own response to the questions. This enabled the researcher to extract textual data.

The following reasons supported the suitability of a questionnaire as the basic design method for the stated research problem:

- The information required was straightforward and uncontroversial.
- The cost was lower when compared with other methods.
- The self-administered e-mailed questionnaire had three sample-related advantages over other kinds of surveys: It allowed for wider geographic coverage, a larger sample and wider coverage within the sample population.
- A self-administered questionnaire was used as the population was adequately literate and geographically dispersed.
- The self-administered e-mailed questionnaire was much easier to administer than other kinds of surveys.
- Unlike almost all other methods of data collection, it could be assumed that when the questionnaire was sent through the e-mail, all members of the sample received it almost simultaneously.
- The possibility of anonymity and privacy could increase the number of responses.
- Many surveyors believe that people are more likely to give complete and truthful information on sensitive topics in a self-administered questionnaire than in an interview as questionnaires preclude the effect of personal contact with the researcher.
- The questionnaire enables the gathering of standardized data, generalizable to the population.
- It was possible to generate a huge amount of information on a wide range of topics. The self-administered e-mailed questionnaire could provide personal information on people such as their age, tenure and educational qualification. It could reveal people's attitudes and document people's activities.

(Bourque & Fielder, 2003:9-14; Denscombe, 2000:27,107)

Given its importance, job attitudes are frequently measured by researchers and organisations. Many work-related attitude questionnaires exist. Naumann *et al.* (2000:228) indicate that to examine the intention to leave of expatriates, it is useful to include a set of organisational, job-related and person-related determinants. A set of person-related determinants should include variables specifically related to the expatriate scenario (e.g. fluency in host-country language, international experience,

and expatriate training) and organisational and job-related variables should draw on studies from the organisational literatures that identify the antecedents of job attitudes. For the purpose of this research study only person-related and job-related variables were included in the measurement instrument as the organisational variables fall outside the scope of the research study. The measurement instrument used for the study was developed by integrating questions used in already existing job-attitude surveys. According to Bourque and Fielder (2003:36), there are multiple advantages to this method of adopting standard question batteries, particularly for surveyors who are preparing mail questionnaires: (1) Such question batteries are almost always made up exclusively of closed-ended questions (respondents are generally reluctant to answer open-ended questions in self-administered questionnaires), and possible answer categories have already been worked out and tested in prior studies. (2) Instructions to respondents have been developed and tested. (3) Surveyors who use questions in a standard battery exactly as they were used in other studies can then compare the data they collect with the data collected in those prior studies or with a standard population. Buckingham and Saunders (2004:77) add to this discussion, by stating that using other people's questionnaires (modified if necessary, and properly acknowledged in your write-up) has two huge advantages: (1) Validity. The questions are likely to 'work'. If they have been tried out and found useful in other studies, then they will probably provide you with reasonably valid measurements. (2) Reliability. By ensuring some uniformity of measurements between your study and earlier work, you will be able to compare your results directly with those reported by others.

As this study engaged relational research, it was important to include questions to measure all the variables identified. Each of the variables needed to be measured by at least one set of questions in the questionnaire, as the aim of the study was to trace the expected causal relationship between the independent variables: job satisfaction, organisational commitment and job involvement, and the dependent variable: propensity to return from a foreign assignment prematurely or the intention to leave the multinational corporation. The mediating role of job satisfaction, organisational commitment, and job involvement was borrowed from the labour turnover model developed by Bluedorn (1982). This model posits that organisational, job-related and person-related variables are predictors of job satisfaction,

organisational commitment and job involvement, while these variables are related to propensity to leave. Propensity to leave is a chief determinant of labour turnover (Naumann *et al.*, 2000:228).

It was important to consider the reliability and validity of the already existing scales that were used in the study and to keep the total questionnaire to a manageable length. The self administered e-mailed questionnaire can be viewed in Appendix A. The following surveys were combined into one questionnaire:

- *Job characteristics of skill variety, task identity, task significance and autonomy were measured using the 21-item Job Diagnostic Survey (JDS) developed by Hackman and Oldham (1975).*
- *Job characteristics of role conflict and role ambiguity were measured using 20 selected items from scales developed by Rizo, House and Lirtzman (1970).*
- *Five dimensions of job satisfaction: satisfaction with supervision, co-workers, compensation package, promotion opportunities, and the job itself were measured using the 72-item Job Descriptive Index (JDI) developed by Smith, Kendall and Hulin in 1969 and revised in 1985. (Smith, Balzer, Brannick, Chia, Eggleston, Gibson, Johnson, Josephson, Paul, Reilly, & Whalen, 1987:31-33)*
- *Organisational commitment was measured using the 15-item Organisational Commitment Scale (OCS) developed by Mowday, Steers and Porter (1979).*
- *Job involvement was measured using the 6-item scale developed by Kanungo (1982).*
- *Met expectations of the work environment and the physical environment were measured using the 8-item scale modified by Lee and Mowday's (1987).*
- *Intention to leave was measured using the two items developed by Hom, Griffeth and Sellarro (1984).*

The questions, measuring the intention to leave, were: "Do you sometimes think of quitting your job?" and "How often do you think of quitting your job?" The questions were worded in this manner since turnover can occur while the expatriate is on an overseas assignment or soon after returning. As the operational definition of expatriate failure for the purpose of this study included premature return, a third question was included: "Did you often (if already back in South Africa) or do you

think often (if still on a foreign assignment) of returning sooner to South Africa than your contract states?"

A section measuring the person-related determinants (biographical characteristics) of the sample was also included in the questionnaire. Variables specifically related to the expatriate scenario namely age, marital status, tenure, international experience, country in which stationed, cultural heritage, fluency in the language of host country and work exhaustion were included to determine whether these person-related variables contribute to the intention to leave a foreign assignment.

Table 3.1: Summary of the measurement instrument

Variable	Subscales	Original document	No. of items
Job characteristics*	Skill variety	Job Diagnostic Survey (JDS) by Hackman and Oldman (1980)	3
	Task identity		3
	Task significance		5
	Autonomy		3
	Feedback		7
	Role conflict		12
	Role ambiguity	Rizo, House and Lirtzman (1970)	8
Job satisfaction	Job itself	Job Descriptive Index (JDI) by Smith, Kendall and Hulin (1969) and revised in (1985)	18
	Supervision		18
	Co-workers		18
	Promotion opportunities		9
	Compensation package		9
Organisational commitment	-	Organisational Commitment Scale (OCS) by Mowday, Porter and Steers (1982)	15
Job involvement	-	Scales from Kanungo (1982)	6
Met expectations*	-	Modified from Lee and Mowday's (1987) scales	8
Intention to leave	Intention to quit	From Hom, Griffeth, and Sellarro (1984)	2
	Intention to return prematurely	Developed by researcher	1

* "Job characteristics" and "met expectations" were included in the measurement instrument as these variables are recognized antecedents of job attitudes in labour turnover models.

The above measurement instruments with the exception of the Job Descriptive Index (JDI) are derived from a study that was done by Naumann *et al.* (2000). The

reliability and validity of the instruments have been established by Naumann *et al.* (2000). The reliability and validity of the Job Descriptive Index (JDI) has also been confirmed. Jung, Dalessio and Johnson (1986:613) indicate that the JDI dimensions (supervision, co-workers, pay, promotion, and work) are very stable across a wide variety of situations and groups of respondents. They comment as follows: "Practitioners and researchers who use the JDI can be confident that its dimensionality is not sample-specific. As with any psychometric measure, users of the JDI are encouraged to check the dimensionality of the instrument if possible. However, given the strong evidence for the stability of the five-factor solution, users of the JDI need not be concerned that the traditional five-factor structure is inappropriate".

One of the most serious and documented disadvantages of using mail questionnaires is the low response rate. When a single mailing that incorporates no incentives is made to a sample of the general community, the surveyor can expect no better than a 20% response rate. A high rate of non-response is a problem because you need the people you interview to be representative of the wider population from which they have been sampled. People who are difficult to contact, who refuse to participate or who do not understand your questions are likely to be distinct sections of the population, and by failing to recruit them, the final achieved sample becomes bias (Bourque & Fielder, 2003:16; Buckingham & Saunders, 2004:70). The researcher tried to boost the response rates to the e-mail questionnaires by:

- Using a covering letter to make the survey look relevant and interesting to the expatriates and using an official letterhead to show that the correspondence was not junk mail. See Appendix A.
- Keeping the questionnaire as short as possible and presenting a clear, attractive layout.
- Forewarning people through organisational correspondence.
- Following up non-respondents through the lead contact person (a human resource officer that acted as co-ordinator between the researcher and the multinational corporation), reminding participants by e-mail and emphasizing how important the answers were to the researcher.

- Reassuring people that their answers would be treated as strictly confidential and that it would be impossible for anybody reading the final report to identify any respondent.

According to Buckingham and Saunders (2004:71), low response rates are not the only problem with e-mail questionnaires. Some of the other problems are:

- You cannot explore people's answers – what they write is all you get, and if somebody's answer is unclear, then you have to make peace with it.
- Most people do not like writing, so the use of 'open-ended questions' is very restricted.
- You cannot control the conditions under which the questionnaire is completed. Respondents may be influenced by other people when they are filling it in, and you can never know whether or not they took it seriously.
- Researchers can use questionnaires to purposes to which they are not suited. They 'stretch' the tool beyond its capacities, by asking questions to which people struggle to give meaningful answers. They get data, but their results are generally worthless.
- Sometimes there is little or no rationale for the questions that get asked, so researchers have little idea what to do with the answers they get. It is not uncommon for questionnaire surveys to generate much more data than they can ever use.
- Sometimes the questions are badly framed. Researchers then end up with large numbers of people failing to answer a question, or replying with a 'Don't know.' Or they discover too late that respondents have misinterpreted a question, or that they have all given the same answer to an item intended to tease out variations.

Some of the problems above were obviated through a pre-test. The researcher pre-tested the questionnaire on acquaintances who currently work on foreign assignments ($n = 3$), acquaintances who had returned from foreign working assignments ($n = 3$) and colleagues in the academic environment of organisational behaviour ($n = 4$). These individuals were not included in the final sample. The pre-test provided valuable information, and convinced the researcher to change certain aspects of the questionnaire and the administrative procedures. The alterations

related mainly to linguistic changes of some phrases, ensuring reader-friendliness of some instructions and ensuring no red-tape in the administrative procedures. Since the questionnaire was compiled from pre-existing scales that were standardised, the researcher decided not to adjust the length of the questionnaire, or the original author's items and response scales. By the time the researcher went into the field, she was confident that there were no ambiguities in the questionnaire, and that the data would be collected in the format required.

Bless and Higson-Smith (2000:130) argue that unless the researcher is certain that the measurement instrument actually measures what it is supposed to be measuring, the results will be difficult to interpret. Using the guidelines of Leedy and Ormrod (2005:92-93) and Terre Blanche *et al.* (2006:147-151), the validity of the measurement instrument was determined and the conclusion was reached by the researcher that the measurement instrument was valid. See Table 3.2.

Table 3:2: Validity of the measurement instrument

Validity	Description	Action by the researcher	Result
Content validity	The extent to which an instrument is a representative sample of the content area (domain) being measured, i.e. determining if the whole content of the definition is represented in the instrument.	The researcher drafted a table of specifications during the literature review, listing the topics and behaviours associated with job attitudes. The measuring instrument was developed to reflect all the topics listed in the table of specifications.	High-content validity
Criterion validity	The extent to which the results of the measuring instrument correlate with other related measures that are regarded as valid.	Criterion validity of the measuring instruments used in the study was previously determined by other researchers in related studies.	High-criterion validity
Construct validity	The extent to which an instrument measures a characteristic that cannot be directly observed but must instead be inferred from patterns in people's behaviour.	Construct validity of the measuring instruments used in the study was previously determined through factor analysis by other researchers in related studies.	High-construct validity

Face validity	The extent to which, on the surface, an instrument looks as if it is measuring a particular characteristic. Face validity is important to ensure the co-operation of the people who are participating in the research study.	The researcher pre-tested the questionnaire on acquaintances who currently works on foreign assignments, acquaintances who had returned from foreign working assignments and colleagues in the academic environment of organisational behaviour.	High-face validity
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3.5 SAMPLE DESIGN AND SAMPLING METHOD

The set of people who are the focus of the research and about whom the researcher wants to determine certain characteristics is called the population (Bless & Higson-Smith, 2000:84). For this research study the population was *all employees who worked or who are currently working for a South African Multinational Corporation outside South Africa's border*. The employees were not citizens of the country in which the firm is located (host-country), but citizens of South Africa, the country in which the organisation is headquartered (parent country). McBurney (2001:248) refers to the population as the sampling frame. As complete coverage of the population was not possible, a subset of the population (sample) was studied. The researcher studied the sample in an effort to understand the population from which it was drawn. The sample was described not primarily as an end in itself, but rather as a means to explain certain facets of the population (De Vos, Strydom, Fouche & Delport, 2005:194). Sampling refers to the process of selecting a representative subset of observations from a population to determine the characteristics (i.e. the population parameters) of the random variable under study (Wegner, 2000:170). Buckingham and Saunders (2004:99) mention that a sample may consist of a tiny fraction of the whole target population, but provided it is selected carefully and methodically, it can provide remarkably accurate estimates of the parameters of the whole population. Sampling theory distinguishes between probability sampling and non-probability sampling. Probability sampling occurs when the probability of including each element of the population can be determined. Non- probability

sampling occurs when the probability of including each element of the population in the sample is unknown (Leedy & Ormrod, 2005:199,206).

Although probability sampling is the preferred sampling design, non-probability sampling was used during this study. *The method of non-probability sampling applied during the study was a combination of convenience sampling and purposive sampling.* Goodwin (1995:109) points out that convenience sampling is the most frequent type of non-probability sampling. In a convenience sample the researcher requests volunteers to participate in the study from a group of available people who meet the specific requirements of the study. In the study, the procedure entailed taking all cases on hand that suited the purpose of the researcher, until the sample reached its desired size. Subjects were chosen on the basis of what the researcher considered to be typical units. The purpose was to draw a sample that had the same proportions of characteristics as the population (Bless & Higson-Smith, 2000:86-92; Denscombe, 2000:16). The proportions of the population that were considered by the researcher to be typical were:

- The participant must hold South African citizenship.
- The participant must be employed or have been employed by a South African multinational corporation.
- The participant must be posted or have been posted on an international assignment outside the borders of South Africa.
- The position held during the international assignment must be on a managerial level.

It can thus been seen that although the researcher relied on available subjects (convenience sampling), a very specific type of person was recruited for the study. This implied that the sampling approach was also purposive in nature (Goodwin, 1995:109; Rossouw, 2003:113). Babbie (2004:183) defines purposive or judgemental sampling as a type of non-probability sampling in which the researcher selects the sample on the basis of own judgement about which ones will be the most useful or representative. This judgement is based on the knowledge of the sample, its elements and the purpose of the study. Rossouw (2003:113) states that purposive sampling is appropriate when the researcher wants to select unique cases which can

provide special information. Terre Blance *et al.* (2006:50) indicate that selecting cases for theoretical reasons (purposive sampling) supplies the researcher with good examples of the phenomenon. Leedy and Ormrod (2005:206) argue that although purposive sampling may be appropriate for certain research problems, the researcher should provide a rationale for selecting the particular sample of participants.

The reasons for the sampling decision were:

- The aim of the study was not to describe the specific features of a defined population accurately by investigating just a segment of it, but to study the relationship between variables.
- It was not possible to compile a list of the population (sampling frame). Such a list is not freely available in South Africa, but in the possession of big research houses or consultants. They did not want to supply the researcher with such a list for financial reasons. The researcher had to approach the South African multinational corporations directly to conduct the study. Most of the South African multinational corporations did not want to supply the researcher with a list of their expatriates and did not want the researcher to make direct contact with their expatriates. Access to data was limited because of competitive or proprietary considerations. However, the multinational corporations agreed to a lead contact person who could act as co-ordinator, mostly from the human resource management division.
- The above point explains why the researcher did not know who and how many people make up the population.
- The researcher had no option but to take what was available, as there were not many cases to which the researcher had access. It proved difficult to contact the sample through conventional probability sampling methods.
- This method did allow the researcher to identify in advance the characteristics that were needed.
- The method ensured that all the scenarios in expatriate failure were included.
- Cases that could clarify and deepen understanding could be selected. Bless and Higson-Smith (2000:92) argue that purposive sampling has value especially if an expert who knows the population under study is involved. The lead contact

persons in the study helped the researcher to select subjects as they know the expatriates in their multinational corporation.

- The researcher is of the opinion that through this technique, the sample was more representative as all cases being brought to the researcher's attention were used.
- Compared with probability samples, non-probability samples are quick and cheap (feasible).
- An added advantage of the convenience sample was that the researcher did not need a sampling frame. Buckingham and Saunders (2004) state that if there is no list of names and addresses of the individuals who make up a given population, there may be no way of constructing a reliable sampling frame from which to draw a probability sample. In such a situation, convenience sampling could be used instead.

As no sampling frame could be compiled for the study the researcher relied on clear population parameters. The purpose of the parameters was to ensure relevance i.e. to ensure that the sample contains subjects that are directly related to the research topic. The sample, based on availability (convenience sampling), was drawn from South African-based multinational corporations. The following categories of employees (population parameters) were included in the sample (purposive sampling):

- Expatriate managers who repatriated from foreign assignments prematurely.
- Expatriate managers who repatriated from foreign assignments on schedule.
- Expatriate managers who were on foreign assignments and who had resigned during the assignment or shortly thereafter.
- Expatriate managers who are currently on foreign assignments.

Even though the entire population was not tested in this study, the researcher wanted to generalize the results from the sample to the larger population. It was thus important that the sample reflected the population as a whole.

3.6 DATA MANAGEMENT

In the research study numerical and textual data (raw data) were electronically obtained through self-administered e-mailed questionnaires. Before analysing the data the researcher had to put mechanisms in place to manage the data. The purpose of data management was to transform the raw data into an electronic format suitable for the Statistical Package for the Social Sciences (SPSS). According to Neuman (2006:344), raw data is unordered, contains errors and missing values and must be transformed into an ordered error-free data set before it can be analysed. Preparing the data involves three tasks: coding the data, entering the data and cleaning the data set (Terre Blanche *et al.*, 2006:189). The data management process (researcher's plans to deal with raw data) can be summarized as follows:

- **Developed a data code sheet to encode the raw data.** As the statistical package SPSS requires numerical values to calculate the statistics; a code sheet was developed to transform the information provided in the questionnaire into meaningful numerical format before entering it into the computer. The code sheet helped the researcher to understand the meaning of the values. The code sheet served two essential functions: (1) It was the primary guide in encoding the information received from the questionnaires; and (2) it assisted the researcher during data analysis to locate variables and to interpret codes.
- **Prepared an Excel spreadsheet to capture the data.** A spreadsheet was prepared to enter the data. Each row represented one subject and each column represented the scores of the specific variables. As the questionnaire was adequately pre-coded and a code sheet developed prior to data gathering, it was possible to enter the data directly into the spreadsheet when a questionnaire was received.
- **Designed an operational plan to clean the data.** Errors invariably occur when encoding and entering the data, therefore it was necessary to clean the data before using it for statistical analysis. The data were entered twice by the research assistant, and then the two spreadsheets were compared to eliminate encoding and entering errors.

- **Processing the data.** Data will be entered into the Statistical Package for the Social Sciences (SPSS) for Windows. According to Buckingham and Saunders (2004:155) SPSS is a powerful data analysis and statistics program specially tailored to the requirements of social science researchers and widely used by researchers in universities, government and other sectors. Although SPSS is not the only software package available for the analysis of quantitative data, it was the one the researcher had most convenient access to.

(Babbie, 2004:412-418; Neuman, 2006:344)

3.7 DATA ANALYSIS

Once data collection and data preparation (data coding, entering and cleaning) had been completed, the researcher began with the process of data analysis. As mentioned, the pre-structured questionnaire consisted of two sections: closed questions (numerical data) and open-ended questions (textual data). The two sets of data required different methods of analysis.

3.7.1 Numerical data analysis

It is important for the researcher to already be at the design stage clear which particular kinds of quantitative data will be collected and what statistical procedures will be used. Unless the researcher thinks ahead on this point there is a real danger that the data collected will turn out to be inappropriate for the kind of analysis the researcher eventually wants to undertake.

From a quantitative perspective, Bless and Higson-Smith (2000:38) state that numbers form a coding system by which different cases and different variables may be compared. Systematic changes in scores are interpreted, or given meaning, to in terms of the actual world they represent. As numbers are exact, they can be analysed using descriptive and inferential statistics. The Statistical Package for the Social Sciences (SPSS) was used for the analysis of all the numerical data in the study. The statistical methods of data analysis used in the study are depicted in Table 3.3.

Table 3.3: Statistical data analysis (Babbie, 2004:400-419; Field, 2006:218; Leedy & Ormrod, 2005:257-274; Terre Blance et al., 2006:154)

Type of analysis	Information required	Statistical procedure	Statistical purpose
<i>Descriptive analysis</i>			
Analysis of a single variable for purposes of description	Distributions Points of central tendency Amount of variability	Frequency distributions and percentages Means Standard deviation	A description of the number of times the various attributes of a variable are observed in a sample An arithmetical average of all the values in the data set A measure of dispersion around the mean
Analysis of two variables for the purpose of determining empirical relationships	Measure of association (correlation)	Spearman's rank order correlation (Non-parametric statistics)	Making predictions from the correlations - to examine the relationship between the predictors and the attitudes.
Analysis of the simultaneous relationships among several variables	Regression	Logistic regression	To predict which of two categories a person is likely to belong to, given certain other information (to look at which variables predict whether a person will quit or not).
<i>Inferential analysis</i>			
To estimate population parameters from the sample and to test statistically based hypotheses	Test of statistical significance	T-Test (Parametric statistics) ANOVA (Parametric statistics) As part of logistic regression	To determine whether a statistically significant difference exists between two means. To look for differences among three or more means by comparing the variances both within and across groups To determine how closely observed frequencies or probabilities match expected frequencies or probabilities
<i>Reliability analysis</i>			
To measure the dependability of the measuring instrument	To determine internal consistency	Cronbach alpha coefficient	To determine the degree to which each item in the scale correlates with each other item.

3.7.2 Textual data analysis

There are some kinds of information, however, that cannot be adequately recorded using quantitative data. In this case language provides a far more meaningful way to record human experiences. From a qualitative perspective, data was analysed by identifying general themes through analytical induction. The purpose was to focus on the central themes. Final analysis was done by comparing material in the extracted themes to look for variations and nuances in meanings and to discover connections between themes. During this process the approach of Marshall and Rossman in De Vos (1998:342) was used. Marshall and Rossman identify five stages in qualitative data analysis:

- Organising the data.
- Generating categories, themes and patterns.
- Testing the emerging hypotheses against the data.
- Searching for alternative explanations of the data.
- Recording the findings.

(De Vos, 1998:342-343)

The goal was to integrate the themes and concepts into a theory that offers an interpretation of the research arena.

Once the data had been analysed, a framework of organisational best practice enhancing expatriate job and organisational adjustment was designed. The framework was tested through content analysis using a small sample of 10 to verify the content validity of the best practice framework. Lawshe's content validity technique was utilised for this purpose (Lawshe, 1975). The sample was drawn through purposive sampling and was based on availability.

3.8. VALIDITY OF THE RESEARCH DESIGN

The central aim of the research design was to establish a relationship between the job attitudes of expatriate managers and the expatriate managers' propensity to return prematurely or resign during or shortly after the foreign assignment with a high

degree of certainty. Bless and Higson-Smith (2000:80) point out that the potential of a design to achieve this aim is referred to as the validity of the design. Validity is measured in terms of two separate, but related, dimensions: internal and external validity.

3.8.1 Internal validity

Bless and Higson-Smith (2000:80) report that internal validity is concerned with the question: "Do the observed changes in the dependent variable actually relate to the changes in the independent variable?" Internal validity examines the extent to which the research design has excluded all other possible hypotheses which could explain the variation of the dependent variable (intention to quit). In order to achieve high internal validity, a research design should control as many extraneous variables as possible. Two possible complications were considered by the researcher in order to achieve high internal validity:

- **Reactive effects to participating in the study.** Prior to the data gathering participating subjects were not informed of what the researcher planned to find in the data.
- **Measurement unreliability.** The researcher used a well-researched, reliable and valid measurement instrument.

(Terre Blance *et al.*, 2006:175-177)

3.8.2 External validity

Bless and Higson-Smith (2000:80) report that external validity is concerned with the question: "Do the results obtained from the sample apply to all the subjects in the population being studied?" External validity examines the extent to which the results of the study can be generalized. Three factors were considered by the researcher in order to achieve high external validity:

- **The representatives of the sample.** The researcher paid specific attention to selecting a representative sample during the sampling procedure.

- **Ensuring that the study simulates reality as closely as possible.** During the construction of the measurement instrument care was taken to ensure that the items in the questionnaire were related to the actual working environment.
- **Replication in a different context.** When the researcher compared the study results with similar studies in different contexts, similar conclusions were reached.

(Leedy & Ormrod, 2005:99-100)

3.9. SUMMARY

Quantitative research was chosen as the most appropriate approach to the study, although a certain part of the study had qualitative characteristics. Survey design through self-administered e-mailed questionnaires was used to gather data from the sample that was drawn through convenience purposive sampling. Data was analysed quantitatively through descriptive and inferential statistics, and qualitatively through analytical induction. As the validity of the research design was of utmost importance for the success of the research study, it was necessary to know the rules and procedures when developing a successful research design. It took time and patience to develop a good design, but the effort gave the researcher confidence to succeed with the next stage of the research.

It is important not to confuse overall research planning with research methodology. In chapter 3 the research plan is presented to the readers and in chapter 4 the actual execution of the research will be discussed. Architectural planning and research planning have much in common. Each requires a conceptualization of the overall organisation of a project and a detailed specification of the steps to be carried out. Only then can work on the project actually begin. For successful completion, a building project requires plans that are clearly conceived and accurately drawn, similarly, a research project should also be entirely visualized and precisely detailed.