CHAPTER 6
RESEARCH DESIGN AND METHODOLOGY

6.1   INTRODUCTION

This chapter discusses the research process. The focus is on the research design and the methodology followed. The research methodology discussion focuses on the collection, sample, measurement (scaling design) and data analysis.

6.2   DATA SOURCES

In an attempt to answer the research problem, research objectives were formulated. In order to address the research objectives of this study it is essential to obtain the necessary information. The research objectives as stated in Chapter 1 are addressed in two ways: firstly, using a literature review and, secondly, collecting data in order to empirically verify the literature. There are different types of data that are used when addressing a particular research problem, and these will be explained in the section below. The two types of data according to their source are primary and secondary data. Primary data is used to address a particular purpose and is collected through surveys, experiments or observation methods, whilst secondary data is data that has been collected for other purposes but that have relevance to the problem at hand (Diamantopoulus & Schleigelmilch, 1997:5).   The integrity of the research process increases the confidence of the results of the study when credible information is used (Cooper & Emory, 1995:240).

The literature review summarised in Chapters 2 to 5 in this study used secondary data as the data has relevance to the problem at hand.   It is important, since this provides information that relates to the research problem.

This type of data can either be in a published form, for example journals, or an unpublished form, for example a thesis. The collection and analysis of the primary data will be summarised in Chapters 6 to 8. The focus is to empirically verify the literature and answer the aim of the study, which is to *describe the current practice of PR in Africa*. The empirical phase of the study will be of a quantitative nature, also referred to as positive research that is restricted to the data of experiences and rejects speculation (Du Plooy, 2001:21, 58).

6.3   DATA COLLECTION

According to Cooper & Schindler (1998:131), there are two types of data collection, referred to as monitoring and interrogation/communication. Monitoring occurs when the researcher observes the activities of a subject or the nature of some material without including the responses of any other respondent. This is also referred to as observational studies.   The interrogation/communication mode on the other hand refers to questions that are asked to respondents, collecting their responses by means of personal or impersonal means. This study used the former type of data collection.

For the purposes of this study, data was gathered by means of a self-administered questionnaire as a measuring instrument. There are four basic survey methods that can be considered in a particular study and they are personal interview, telephone interview, mail survey and fax survey (Aaker Kumar & Day, 2001:223). The following characteristics assisted in the decision to use self-administered questionnaires (Cooper & Emory, 1995:269; Aaker *et al*, 2001:217):

- A great deal of data about the responded is collected at once;
- The versatility of the technique;
- The efficiency and economic advantages;
- The expanded geographical coverage possible by this technique;
- Shortest completion time;

- Allows respondents time to think about answers, and
- Allows contact with inaccessible respondents.

The questionnaires were restricted to the use of three channels in the distribution thereof, namely e-mail, during a training session and during a PR practitioner's conference. The decision to restrict the administration of the questionnaire through these three channels was based on the following reasons. Firstly, the geographical distances between African countries proved to be a problem. Therefore, owing to the reach of e-mail it was chosen as the most effective channel. Secondly, the co-supervisor of this study, Dr Gerhard Bütschi, was asked to provide training in Tanzania. The delegates consisted of 22 government PR practitioners. It was decided to include these delegates, as they were easy reachable respondents. Lastly, an opportunity occurred to attend a conference in East Africa with a total of 100 PR practitioners who attended the conference. These individuals were asked to participate in the data collection process. Even though e-mail was selected as the main channel for collecting data, a few problems were identified concerning this channel. Alternative channels had to be identified and used in order to reach the appropriate sample size.

Primary data can only be collected once a sample is drawn and a measuring instrument has been designed. The following sections will therefore discuss the sampling procedure as well as the questionnaire development.

6.4   SAMPLING

When a smaller number of the population is used to make conclusions regarding the whole population it is referred to as a sample. The purpose of sampling is to estimate unknown characteristics of the population (Zikmund, 2003:369). Thus a sample is a portion of the population to be targeted to collect information to infer something about the larger group.

Zikmund (2003:369-371) provides reasons why sampling should be used in a scientific study. Firstly, some pragmatic reasons, like cutting costs, labour intensity and time constraints are the most obvious. Secondly, when samples are properly selected it can be very accurate in portraying the characteristics of interest for a study. When the population is homogeneous or heterogeneous the sample selection can provide data of sufficient precision in order to make the appropriate decisions.   Therefore the accuracy and reliability of results can be managed through effective sampling.

Loubsher in Martins, Loubsher & van Wyk (1996:252) identified five steps to follow in drawing a sample from a population. These steps will be briefly described in the following sections.

6.4.1 Defining the target population

Firstly, it is essential to define the population. This is the complete group sharing common characteristics. The target population is the specific group relevant to this particular project (Zikmund, 2003:369 & 373). The target population is defined as the totality of cases that conform to certain specifications, which defines the elements that are included and excluded in the target group (Churchill & Iacobucci, 2002:448). In this study the population was all PR practitioners in Africa. The target population was defined by identifying African countries where PR is active. Because of a lack of information regarding this particular issue the decision was made by the researcher to target African countries that have a PR association. The researcher made the assumption that if a country has a PR association, PR is active in that country and a particular level or standard is identified and honoured by the practitioners.

It is clear that the size of the target population was large and it would be very costly to reach all included in this population. Time was another important aspect to take into account and therefore a sample was drawn.

6.4.2   Identifying the sample frame

Secondly, the sample frame needs to be identified. This can also be referred to as a list of all sample units available for selection at a particular given stage in the sampling process (Martins *et al*, 1996:252; Aaker *et al*, 2001:367). According to Zikmund (2003: 373) a sample frame can also be referred to as the working population. The following three requirements are necessary for a reliable sample frame: all elements of the population are represented, there is no duplication of elements, and lastly it is free from foreign elements (Martins *et al*, 1996:252).

In this study, the sample frame was made up of mainly two factors. Firstly, the contact details of the various PR associations in Africa were identified. As was mentioned in Chapter 5, the following PR associations are currently registered with IPRA: PR Society of Kenya, the Nigerian Institute of PR, the PR Institute of Southern Africa (South Africa, Namibia, Lesotho and Botswana), the Swaziland PR Association, the Zimbabwe Institute of PR, the Arab PR Society (Egypt), the Institute of PR in Ghana, the PR Association of Uganda and the Cameroon PR Association. The following two countries are not listed with IRPA but they have PR associations, namely Mauritius (PR Association of Mauritius) and Tanzania (PR Association of Tanzania), and were also included in this study. Secondly, all major corporate organisations in Africa were included. It was mentioned in section 6.4.1 that the target population was all PR practitioners in Africa. The researcher had to take note of the fact that not all African PR practitioners are necessarily registered members of a PR association and these associations therefore cannot provide the researcher with all the PR practitioners in Africa.

Although the sampling frame should ideally include all the members of the population it is clear in this case that it is not practically possible. There are a few reasons why this is not possible in this study.   The availability of information regarding the various countries' PR associations proved to be a problem. IPRA was contacted in an attempt to get more contact information and again only a few of these countries had electronic contact information.

Only three of the nine countries registered with IRPA had e-mail addresses. An Internet search was done in an attempt to get more information but very few of these associations have websites where contact information is listed. In fact, the search proved that some of these associations have no information at all listed on the Internet. Another problem was the difficulty in reaching the African PR practitioners via e-mail. This was due to infrastructural problems.   It was clear that the electronic medium was not the most ideal channel to use in order to collect data. Owing to very high travelling costs involved in order to reach each country as well as the limited knowledge and information available about the PR practitioners in Africa, this was the only alternative.

6.4.3   Select the sampling procedure

Thirdly, the sample procedure is dependent on the sample frame that was selected. The sampling procedures can be divided into two broad categories, namely probability and nonprobability sampling. Probability sampling is one where every member of the population has a nonzero probability of being selected, whilst a nonprobability sample relies on the judgement of the researcher.   Therefore, there is no way of ensuring that the sample is representative of the population (Martins *et al*, 1996:253; Aaker *et al*, 2001:370-371; Churchill & Iacobucci, 2002:453; Zikmund, 2003:379).

For this study a nonprobability sampling procedure specifically referred to as snowball sampling was used. Snowball sampling is a form of judgemental sampling. The aim is to reach a specialised population. In this study the snowball sampling method was used due to a lack of knowledge regarding African PR practitioners. It was therefore necessary to identify prominent respondents in order for these respondents to recommend other respondents. Respondents are usually selected through the use of a probability method and asked to identify others in this field to participate in the study (Cooper & Schindler, 1998:247; Aaker *et al*, 2001:379; Zikmund, 2003:384). Aaker *et al* (2001:379) refer to a problem that a researcher should take note that

individuals who are socially visible will have a high likelihood to be selected to participate.

This method was approached in a few phases and will be discussed very briefly in this section.

- Phase one – A list obtained from IPRA listed nine African countries with registered PR associations; of those, only three had e-mail addresses, namely Egypt, Kenya and South Africa. An e-mail requesting the respondent to participate and a letter explaining the study was sent out, see Appendix 1. Both Egypt's and Kenya's e-mails were returned, indicating that there was a problem with the address.

- Phase two - IPRA was contacted to get updated information as well as contact details of individuals. IPRA is an association uniting International PR associations and therefore does not have contact details of individuals. A list of names was provided but no contact details, except for one individual from Kenya who was immediately contacted.

- Phase three – The researcher contacted the Global Alliance as this association represents the global PR society, but from an individual point of view and not necessarily only from a PR association's point of view. The president provided the researcher with a few African PR practitioners' contact details.

- Phase four – The researcher did an Internet search on the names of the PR associations and found a few websites. The most updated one was in Kenya. It was through this phase that the researcher discovered that there has been a PR association called FAPRA representing the whole of Africa's PR associations as well as an Eastern Africa Association called EAPRA. Neither of these associations have either websites or any contact details. The same e-mail sent out in phase one was sent to PRSK's chairman

requesting assistance in identifying PR practitioners. In this phase it was found that the chairman of PRSK was also an executive member of EAPRA and he was therefore asked to assist in not only identifying Kenyan PR practitioners but also East African PR practitioners. The PRSK's website listed some of their members' contact details and those with e-mail addresses were also sent the same e-mail that was forwarded in phase one.

- Phase five – IPRA was once again contacted to request contact information on FAPRA. The contact details of the secretary-general of FAPRA were sent to the researcher. The same e-mail sent out in phases one and four was sent to the secretary-general, requesting assistance in the identification of PR practitioners. It was found that this individual was also a member of NIPR and he greatly assisted in identifying PR practitioners not only in Nigeria but also in other African countries.

- Phase six – The researcher visited the websites of African organisations and sent the e-mail forwarded in phase one to all the PR practitioners listed on the websites.

The above discussion was provided in an attempt to provide an understanding of the process that was followed in order to draw a sample using the snowball sampling method.

The researcher realised that e-mail as the only administrative tool would not be an adequate medium to reach the desired number of respondents. However, a total of 490 respondents agreed electronically to participate in the study. See Appendix 2 for an example of the e-mail sent to the African PR practitioners in an attempt to ensure that no data would be lost. Please note that this was not sent to the South African PR practitioners as the assumption was made that a good comprehension of technology exists in South Africa. This could, however, not be said for the rest of Africa and therefore this letter was included.

Two additional administrative tools were used in order to reach the desired number of respondents, namely a minimum of 125.   These two mediums included a group of 22 PR practitioners from Tanzania as well as a group of 100 East African PR practitioners attending a conference.   In total the number of respondents targeted was 612.

6.4.4   Determining the sample size

The fourth step for selecting a sample refers to the sample size.   The sample size can be determined through statistical techniques or ad hoc methods referring to past experience what sample size to adopt or when constraints dictate the sample size (Aaker *et al*, 1996:392).   Some considerations relating to the determination of sample size have been identified and will be discussed briefly.   The first consideration refers to the variance of the population also referred to as the standard deviation.   Accordingly, the more alike the population is, the smaller the sample can be but the more different the population is, the bigger the sample needs to be in order to achieve more accurate results. The second consideration refers to the confidence level. This refers to the range of possible error allowed, also referred to as the magnitude of error.   This consideration refers to the precision level required by this particular study.   Lastly, the third consideration refers to the degree of confidence.   The conventional decision is to use a 95 per cent level, which allows for a .05 probability that the true population may be incorrectly estimated (Churchill & Iacobucci, 2002:498; Zikmund, 2003:424).

It is at the discretion of the researcher to determine which of these considerations will be used, and because factor analysis was used in the data analysis of this study, the researcher was guided by the requirements for the required sample size stated in literature.   Three basic decisions are needed in order to design a factor analysis, namely the correlation amongst variables or respondents, secondly the variable selection and measurement issues and thirdly the sample size. The sample size for factor analysis should be larger than 100 and as a general rule there should be at least five times as many

observations as there are variables to be analysed, but a more acceptable size would be a ten-to-one ratio. Some researchers propose a minimum of 20 cases for each variable. The researcher should always attempt to obtain the highest cases-per-variable ratio in order to minimise the chances of 'over-fitting' the data (Hair, Anderson, Tatham & Black, 1998:97-99).

The above-mentioned guidelines provided the researcher with the necessary insight to determine sample size according to the number of variables of the study. Since there were two sets of variables that needed to be analysed in this study, namely 5 and 3, the researcher decided to work on the highest number of variables and to determine the sample size accordingly.   The aim was to obtain at least the minimum number of observations according to the number of variables to be analysed. The aim was furthermore to obtain at least 125 respondents.   As was mentioned before, a total number of 490 respondents, based on the snowball sampling method as explained in section 6.4.3, were targeted as well as an additional 125 through a training session and a conference.   The researcher sent electronic questionnaires to all 490 identified respondents, 25 printed questionnaires went with Dr Gerhard Butschi to Tanzania and 100 printed questionnaires were taken to the conference attended in Nairobi. This sample allowed enough room for a low response rate and incomplete answers, reducing the dataset.

6.4.5   Selecting the sample elements

A sample element is the unit about which information is needed, and this sample unit is available for the selection of the sampling process (Martins *et al*, 1996:251).   The sampling units in this study were the various countries identified, and these countries' PR associations. The sample elements were the PR practitioners of these particular countries.

Section 6.5 will discuss the development of the measuring instrument, focusing on the questionnaire design and the pre-testing of the questionnaire.

6.5   QUESTIONNAIRE DEVELOPMENT

The conceptual framework as discussed in Chapter 1 formed the basis of this study.   The major concept underlying this study is the practice of PR and as discussed in Chapter 3, this major concept is defined through two concepts, namely the models (purpose) of PR and the role (activities) of PR, each defined through a few constructs as was noted in Chapter 2.

The empirical component of this study was guided by the research objectives, stated in Chapter 1, in the formulation of questions for the development of the questionnaire. Please note that the discussion of the questionnaire applies to the final version but in section 6.5.6, the pre-testing phase and subsequent changes will be discussed.   See Appendix 3 for a printed version of the final questionnaire.

6.5.1   Level of measurement

Measurement is the process of assigning symbols or numbers to the characteristics of persons (Diamantopoulus & Schlegelmilch, 1997:23). Cooper & Schinder (1998:159) further state that the assigning of numbers is done in accordance with a set of rules.   Hair *et al* (2000:376) explain that the characteristics of people that are generally measured can be divided into four broad categories, namely state-of-being (physical, demographic and socio-economic), state-of-mind (mental and emotional), state-of-behaviour (observable actions or reactions or past actions) and state-of-intention (expressed plans for future behaviour) data.

There are four types of measuring scales, namely nominal, ordinal, interval and ratio, and these will be briefly discussed in the following section (Cooper & Schindler, 1998:161-165):

- A nominal scale is the most widely used but also the least powerful scale. The categories are mutually exclusive and therefore there are no order or distance relationships and no arithmetic origin.

- An ordinal scale consists of all the characteristics of the nominal scale but it also includes an indication of order in the classification of data. The variables are ranked by means of providing a difference but it does not state how much greater or lesser the difference is.

- An interval scale consists of all the characteristics of the nominal and ordinal and also includes magnitude. Therefore, it incorporates the concept of equality of interval and can show relationships by order and magnitude.

- A ratio scale incorporates all the characteristics of the previous scales as well as the absolute zero or origin. The actual amounts of variables are represented by ratio data.

A combination of nominal and interval scales were used in this study. As explained in the above section, nominal scales are mutually exclusive. Therefore this type of data will not indicate any order or relationship. These nominal scales were used to provide a demographic profile of the respondent. The data obtained from an interval scale illustrate the equality of interval and can show relationships by order and magnitude.   These interval scales therefore represented the value of the respondent's attitude that was being measured.

6.5.2 Scaling techniques

According to Cooper & Schinder (1998:184), scaling is the process of assigning numbers to a property of an object in an attempt to communicate some of the characteristics through numbers to the properties in question. A numeric

measurement can involve one or more of the following: counting, comparing, ranking, either quantitatively or qualitatively (Du Plooy, 2001:127).

In an attempt to quantify qualitative types of dimensions, both ranking and rating scales are used. The scaling technique used in this study was a rating scale, the Likert scale (Cooper & Schindler, 1998:186).   A Likert scale is one of many ways to present the respondent with a continuum of numbered or verbal statements, representing a range of attitude judgements (Aaker *et al*, 2001:277). This scaling technique uses statements that require the respondent to indicate the extent to which the respondent was in agreement or disagreement with the statement (Martins *et al*, 1996:228; Du Plooy, 2001:137), in this way determining the attitude of the respondent.   An important assumption about the Likert scale is that each of the items measures an aspect of a single factor or else these items cannot be legitimately summed; therefore, it is often referred to as a summated scale. This scale usually consists of two parts, the item and the evaluative part (Aaker *et al*, 2001:284).

The questionnaire was developed into three different sections. Both section A and B used a 5-point Likert scale, where each item has five response categories, ranging from 'strongly disagree' to a 'strongly agree'.   A numeric score was given to each item in order to reflect the degree to which the respondent agreed or disagreed with the item. The scores were totalled to measure the attitude of the respondent.

In section B the scale was adapted from the original measuring instrument. The original scale was a 7-point scale and in this questionnaire a 5-point Likert scale was used. This decision was made for two reasons: firstly, to avoid confusion amongst respondents by introducing a new scale, and secondly to be able to draw correlations between sections A and B. Cooper & Schindler (1998:516) state that correlation calculates the nature of the relationship between variables and is affected by the assumptions of measurement levels and the distribution of data. Therefore, parametric correlations require that two continuous variables be measured on an interval or ratio scale.

6.5.3 Questionnaire design

According to Churchill & Iacobucci (2002:314), questionnaire design consists of certain stages, yet a typical development involves repeating some stages and skipping others. Therefore these stages act as a guide or a checklist to assist the researcher. See Appendix 3 for a printed version of the final questionnaire.

The procedure for the development of a questionnaire will be briefly discussed. Information sought refers to the decision of what information is needed. The hypotheses guide the questionnaire. The researcher needs to decide how the information will be gathered. The previous two stages will control the individual question contents. The researcher can, however, ask additional questions to ensure that all questions are asked in order to get the necessary information. Once the contents of the questions are decided on, the researcher needs to decide on the most appropriate form of response for each question. The researcher then needs to assess the phrasing of each question, since poor phrasing can cause the respondent to provide incorrect information or might even cause a total refusal to answer. The researcher then focuses on the decision of the question sequence, using general rule of thumb guidelines and depending on all the various factors influencing the data collection the researcher needs to decide on the sequence.

The next stage refers to the physical characteristics of the questionnaire. The researcher wants to facilitate a positive acceptance and handling of the questionnaire with the respondent.   The physical appearance of the questionnaire can affect the accuracy of the responses as well as the ease with which responses will be processed.   The next stage focuses on the re-examination and revision of the questionnaire. It very seldom happens that the first draft of a questionnaire is a usable one and therefore re-examining and revising the questionnaire is a general rule of thumb. It is extremely important that each question is read and reviewed to ensure that the respondent will be able to understand it properly and provide the necessary answer. The last stage in this process is pre-testing the questionnaire. The real test is to see

how the questionnaire performs under actual conditions (Churchill & Iacobucci, 2002:314-351).

6.5.4   Constructing the questionnaire

The questionnaire included 58 questions aimed at obtaining general demographic information, the respondent's attitude regarding the purpose of PR and lastly the respondent's attitude towards the activities performed by the PR department. These questions were all based on the theoretical discussion on the major concept, namely the practice of PR, and context specific, namely in Africa. Primary data was needed in order to address the problem statement, aim and research objectives of this study. All these aspects were integrated into the questionnaire. The questionnaire consisted of five sections, which will now be discussed briefly:

6.5.4.1   Section 1: Introduction

The first page of the questionnaire included an introduction letter providing some background information on the researcher as well as the study. The letter also emphasised a few important aspects such as focusing on the current situation and not the ideal situation, therefore respondents were asked to give an indication of what is currently happening in their working environment. A further issue mentioned was that of building relationships within the African PR community.

6.5.4.2   Section 2: 25-item Likert scale measurement

The second section of the questionnaire started by thanking the respondents for their participation and emphasising the importance of collecting data on the current situation and not the ideal situation.   The measuring scale was explained and the respondents were told how to mark their answers.   An example was given to avoid any confusion. This section of the questionnaire

(Section A – questions 1-25) contained the main constructs developed to measure concept 1, namely the models (purpose) of PR.

Section 3 discussed the theoretical aspects regarding the models (purpose) of PR. The statements of the first four models were adapted from a study by Kim & Hon (1998). The items specifically addressed the press agentry, public information, two-way asymmetrical and two-way symmetrical models as positive models referring to the current situation. The statements used in this section were similar to the items used in other international studies such as Sriramesh's (1990), Lyra's (1991) and Huang's (1990). This section mostly has a weighting of four items describing the model, the exception being the public information model but this will be explained in the section below. Each item was measured on a 5-point Likert scale.

According to the theoretical discussion, however, five models had been identified and therefore the last model, the reflective model, was operationalised by referring to the literature discussion in Chapter 3. The first concept, namely the models (purpose) of PR, was measured by using a 25-item instrument with a 5-point Likert scale. The following questions were formulated:

• Questions 2, 7, 13 & 18 – Press agentry model

The statements used in this section referred to the first dimension of the models (purpose) of PR, namely the press agentry. This section has a weighting of four items describing the model and was measured on a 5-point Likert scale.

• Questions 3, 9, 20, 24 & 25 – Public information model

The second dimension of the models (purpose) of PR is referred to as the public information model. The statements used in this section were adapted from a study by Kim & Hon (1998). It should be noted that this section has a weighting of five items describing the model and it was measured on a 5-point

Likert scale. The reason for the additional item was to make the statement referring to the model more clearly for the respondent. Initially the statement included two actions and the researcher was concerned that the respondent might have a different view on these two activities and therefore it was decided that it would be better to divide the statement into two statements.

• Questions 4, 8, 16 & 19 – Two-way asymmetrical model

The statements used in this section referred to the third dimension of the models (purpose) of PR, namely the two-way asymmetrical model. This section has a weighting of four items describing the model and was measured on a 5-point Likert scale.

• Questions 5, 11, 15 & 22 – Two-way symmetrical model

The fourth dimension of the models (purpose) of PR is referred to as the two-way symmetrical model. This section has a weighting of four items describing the model and was measured on a 5-point Likert scale.

• Questions 1, 6, 10, 12, 14, 17, 21 & 23 – Reflective model

The last dimension of the models (purpose) of PR refers to the most advanced level of practicing PR, namely the reflective model. This construct has not yet been empirically tested and therefore the literature of Holmström (1996) and Van Ruler & Vercic (2003) discussed in Chapter 3 was used to operationalise this model and empirically test it in the African context.

These statements were formulated to address the reflective model. A weighting of eight items describing the model was used in order to secure the chances of eliminating some of these statements. According to Hair *et al* (1998:98), when a study is being designed to assess a proposed structure, the researcher should include several statements, five or more, representing each factor. The previous four models' variables were obtained from an existing validated measuring instrument and therefore the researcher decided not to add additional items.

Owing to the fact that the reflective model was operasionalised for the first time, eight variables were included. When factors are being purified variables might be deleted. In order to utilise the strength of factor analysis, where the patterns among the variables signifies this it would be of little use if a single variable is identified in the composition of a factor (Hair *et al*, 1998:98).   Therefore, in order to avoid ending up with only a single variable the researcher decided on eight variables.

6.5.4.3   Section 3: 21-item Likert scale measurement

The third section of the questionnaire started by explaining the measuring scale, and the respondents were told how to mark their answers. An example was again provided to avoid any confusion. This section of the questionnaire (Section B – questions 1-21) contained the main constructs developed to measure concept 2, namely the roles (activities) of PR.

Chapter 3 discussed the theoretical aspects regarding the roles (activities) of PR. In determining the current status of practice in PR in Africa all three the roles, strategist, manager and technician, will be empirically tested in order to provide a description. The measuring instrument developed by Steyn (1999:36 & 37) fulfilled the requirements of a valid and reliable instrument and will therefore be used in this particular study. It will, however, be slightly adapted to include the European literature in the further development of the role of the strategist. The roles' statements were adapted from a study by Steyn (1999). The items specifically addressed the role of the technician, manager and strategist as positive roles, therefore referring to the current situation.   This section used different weighting items describing the roles and will be explained below.

The measurement scale used in Steyn's (1999) study was adapted from a 7-point to a 5-point Likert scale. There are a few reasons for this decision. Firstly, the researcher did not want to confuse the respondents by asking the same type of question but using a different scale. Therefore, the scale was

adapted to develop the statements so that the description of 'strongly disagree' to 'strongly agree' would suite the question. Secondly, the researcher wanted to draw correlations between concept 1 (models) and concept 2 (roles) and for this purpose similar rating scales are needed.

According to the theoretical discussion mainly two roles have been identified but a third role, namely the strategist role, emerged. Steyn (1999) empirically verified this role and identified similarities between the role of the strategist and the European reflective role. The last dimension, therefore, adapted the statements for the role of the strategist in order to include some of the theoretical descriptions discussed in Chapter 3. The second concept, namely the roles (activities) of PR, was measured using a 21-item instrument with a 5-point Likert scale. The following questions were formulated:

- Questions 2, 5, 8, 12, 16, & 20 – Technician

The fourth dimension of the models (purpose) of PR is referred to as the two-way symmetrical model. This section has a weighting of four items describing the model and was measured on a 5-point Likert scale.

- Questions 4, 7, 10, 14, & 18 – Manager

The fourth dimension of the models (purpose) of PR is referred to as the two-way symmetrical model. This section has a weighting of four items describing the model and was measured on a 5-point Likert scale.

- Questions 1, 3, 6, 9, 11, 13, 15, 17, 19 & 21 – Strategist

The fourth dimension of the models (purpose) of PR is referred to as the two-way symmetrical model. This section has a weighting of four items describing the model and was measured on a 5-point Likert scale.

6.5.4.4   Section 4: Demographic Information

The fourth section of the questionnaire contained a combination of dichotomous questions and open-ended questions. This section of the questionnaire (Section C – questions 1-11) contained the demographic information. This section also assessed the PR training background of the respondent. According to the excellence study, the level of training also contributes to the level at which practitioners function and therefore it was necessary to discuss this issue.

Questions 1-4 & 11 in this section referred to the classification questions, referring to the measurement of gender, age, language, level of education and home country. These questions were used to identify significant differences between respondents' socio-demographic characteristics and firstly, the model (purpose) of PR and secondly, the role (activities) of PR. The language was merely asked to provide the researcher with knowledge on the number of languages that are used by the respondents but it was not used for analysis purposes. It was included for future research to see what type of translating would be necessary when one wants to conduct a research study.

In the same section Questions 5-8 were used to identify whether the respondent had received any prior PR training and on what level. According to the findings of the excellence study, the knowledge base of PR practitioners has an effect on the level at which the practice of PR is performed. Consequently, these questions were used to identify significant differences between respondents' knowledge of PR and firstly, the model (purpose) of PR and secondly, the role (activities) of PR.

Questions 9 &10 were included to assess whether there are any PR associations in the respondents' country and also to assess which tertiary institutions provide PR training. These questions were included in order to start building a network with the various associations as well as tertiary institutions.

The results of these two questions were merely for the purpose of building a network and had no direct impact on the findings of this study.

6.5.4.5   Section 5: Respondent's details

The last section of the questionnaire covered optional information, referring to the particulars of the respondent. The respondent was asked for some personal information, but was told that this section was optional. The researcher clearly stated what the purpose of this section was by firstly referring to controlling the quality of the responses of the questionnaire. This type of information would allow the researcher to immediately contact the respondent after submitting the questionnaire, should the researcher find any problems of 'missing responses'. Secondly, this section was included for networking purposes to build a network of African PR practitioners. The respondent was asked to provide his/her name, e-mail address, telephone number, employer and current position.

Section 6.5.4 discussed the design of the questionnaire and aimed at putting the different questions and the purpose thereof in perspective. Table 6.1 provides a summary of the research objectives and hypotheses formulated for the empirical phase of the study. This will provide a link between the questions in the questionnaire and the empirical research objectives and the research hypotheses.

6.5.5 Summary of objectives, hypotheses and questions

The following section is a summary of the empirical objectives identified in Chapter 1. Each objective is transformed into a particular hypothesis and related to the questions that addressed these issues in the questionnaire.

At this stage it is still unclear of the number of models and roles that exist in the African context. The hypothesis is formulated from an overall perspective referring to the models and roles. The hypothesis will however provide the

researcher with the opportunity to elaborate on this hypothesis once all the models and roles have been identified. An XYZ will therefore be included in both the models and roles indicating that the possibility exists that there might be more than one model and role identified in Africa.

Table 6.1 Questions linked to objectives and hypotheses

	Objective and hypotheses	Questions
	To identify the models (purpose) of the practice of PR in Africa. This objective will be answered by referring to the factors identified through factor analysis and will therefore not be tested through a hypothesis.	Section A Q 1-25
	To identify the roles (activities) of the practice of PR in Africa. This objective will be answered by referring to the factors identified through factor analysis and will therefore not be tested through a hypothesis.	Section B Q 1-21
	To operationalise and empirically verify variables defining the reflective model of the practice of PR in Africa This objective will be answered by referring to the factors identified through factor analysis and will therefore not be tested through a hypothesis	Section A Q 1-25
	To operationalise and empirically verify variables defining the role of the strategist of the practice of PR in Africa This objective will be answered by referring to the factors identified through factor analysis and will therefore not be tested through a hypothesis	Section B Q 1-21
H1	To determine if a relationship exists between the models (purpose) and the roles (activities) of the practice of PR in Africa There is a relationship between the models (a/b/c/d/e) and the roles (a/b/c) of the practice of PR in Africa.	Section A Q 1-25 & Section B Q 1-21
H2: H3: H4:	To identify differences between practitioners in terms of their demographic characteristics and the models (purpose) of the practice of PR in Africa. There is a significant difference between male and female practitioners in terms of the models (a/b/c/d/e) of the practice of PR in Africa There is a significant difference between young and old practitioners in terms of the models (a/b/c/d/e) of the practice of PR in Africa There is a significant difference between the practitioners in terms of their levels of education and the models (a/b/c/d/e) of	Section A Q 1-25 & Section C Q 1 Q 2 Q 4

H5:	the practice of PR in Africa There is a significant difference between the practitioners in terms of their country of origin and the models (a/b/c/d/e) of the practice of PR in Africa	Q 11
	To identify differences between practitioners in terms of their demographic characteristics and the roles (activities) of practice of PR in Africa.	Section B Q 1-21 & Section C
H6:	There is a significant difference between male and female PR practitioners in terms of the roles (a/b/c) of the practice of PR in Africa	Q 1
H7:	There is a significant difference between young and old PR practitioners in terms of the roles (a/b/c) of the practice of PR in Africa	Q 2
H8:	There is a significant difference between the PR practitioners in terms of their levels of education and the roles (a/b/c) of the practice of PR in Africa	Q 4
H9:	There is a significant difference between the PR practitioners in terms of their country of origin and the roles (a/b/c) of the practice of PR in Africa	Q11
	To establish the differences between PR practitioners in terms of PR training received and the models (purpose) of the practice of PR in Africa	Section A Q 1-25 & Section C
H10:	There is a significant difference between PR practitioners who received PR training and those who did not and the models (a/b/c/d/e) of the practice of PR in Africa	Q 5
	To establish the differences between PR practitioners in terms of PR training received and the roles (activities) of the practice of PR in Africa	Section B Q 1-21 & Section C
H11:	There is a significant difference between PR practitioners who received PR training and those who did not receive PR training and the roles (a/b/c) of the practice of PR in Africa	Q 5

6.5.6   Pre-testing the questionnaire

Pre-testing the questionnaire provides the opportunity to refine the questionnaire by revealing errors in the individual questions, sequence and design. The real test is to see how the questionnaire performs under actual conditions (Churchill & Iacobucci, 2002:351).

The ideal is to draw subjects from the target population. Because of the limited number of respondents in this study and the importance of every single response the researcher relied on another form of pre-testing, namely expert opinions of colleagues and respondent surrogates (Cooper & Schindler,

1998:77). Another aspect that was critical in this study was the fact that more than one cultural or language group was included in a study, which necessitated a pilot study (Babbie & Mouton, 2001:244). A further important aspect that had to be pre-investigated was the administrative method or channel used in this study, namely e-mail. The questionnaire was an attached Word document with clear instructions highlighted throughout the questionnaire.

A pre-investigation was critical in order to assess whether the respondents would understand the instructions (Martins *et al*, 1996:232). This is a very important phase owing to the fact that the researcher might receive a questionnaire with no data if the instructions on how to save the data are not clearly stated. Another important aspect was the possibility that the respondent will answer this questionnaire having the ideal situation in mind and the object of this study is to assess the current situation. The pre-test was important to determine if this instruction is clear enough for the respondent. The purpose of the pre-testing was therefore four-fold: Firstly, to test the questionnaire. Secondly, to test the questionnaire amongst different cultures. Thirdly, to determine if the instructions in the questionnaire were clearly understood in terms of saving the data. Lastly, did the questionnaire emphasise and clearly state that the focus was on the current and not the ideal situation?

A pilot study was conducted across a sample of eight respondents. The respondents included two expert opinions, senior colleagues specialising in the field of strategic corporate communication management. These individuals were specifically asked to comment on the content and the format of the questionnaire. Another two master's students specialising in the field of strategic corporate communication management were asked to comment on the wording of the questions as well as the format. The other four respondents were two African master's students and two friends. The questionnaire was e-mailed to these four individuals. The respondents were asked to access the questionnaire, complete the questionnaire with "dummy" answers by following the step-by-step instructions summarised in the questionnaire and e-mail the

completed questionnaire back to the researcher. This was necessary in order to identify any technical problems of completing and submitting the questionnaire electronically.

After conducting a pilot test across a sample of eight respondents, the questionnaire was refined and resulted in the following:

- The focus of section A was on the current purpose of PR in an organisation, and in section B on the current activities performed by the PR department. Several respondents indicated that more emphasis should be put on focusing the respondent's attention on the type of concept in question. The researcher therefore changed the opening statement of each section as follows: Section A, 'The CURRENT PURPOSE of the PR department in our organisation is' and in Section B, 'A CURRENT ACTIVITY of the PR department in our organisation is', which addressed that particular problem.

- The respondents were given the instruction to mark each answer with an 'X' in the appropriate box representing their answer. The layout of the questionnaire in the electronic format posed a problem in section B, as it did not allow the respondent to draw an 'X' under the appropriate number in the scale as was the case in section A. The 'X' only fitted next to the appropriate number and this confused the respondent. The design was therefore changed accordingly.

- The statements in section A & B referring to the Likert scale-type questions were initially worded as a full sentence. For example: 'The purpose of PR in our organisation is to get publicity for our organisation.' After receiving feedback from the pilot study the respondents indicated that a statement next to the scale should be added in order to make the respondent more aware of what is being tested. This statement should be the beginning of each statement therefore forming part of a sentence. This will ensure that the respondent will focus on, firstly, the current situation, secondly, the

particular concept in question, namely the purpose or the activity, and lastly the statements will be clearer. The format and the wording of the questions were changed accordingly.

- The experts' opinion suggested the use of different wording in some of the statements. Although this was an existing measuring instrument, the African context motivated the use of simple words in order to increase the level of understanding of the questions. It was also suggested that some single statements should be divided into more than one statement, as this would also increase the level of understanding.

- A comment was made on adding a 'don't know' option on the measuring scale. The researcher did consider this but eventually decided not to include this option. This decision was made because of the fact that often this option becomes the easy options for the respondent and then the data of this statement cannot be used. Owing to the limited number of respondents, the researcher wanted to motivate the respondent to make a decision. The neutral option was seen as the option that the respondent could select should there be no real attitude towards a particular statement.

- The overall perception of the survey questions proved to be understandable and meaningful to the respondents.

6.5.7 Coding and editing

Coding is a technical procedure where symbols, which are normally numerals, are given to the raw data in order to transform it into an easily tabulated and counted format (Churchill & Iacobucci, 2002:575). This process assists the researcher in reducing the replies to a few categories containing information required for analysis. These categories are guided by four rules, namely appropriateness to the research problem and purpose, exhaustiveness, mutually exclusiveness and single dimension (Cooper & Schindler, 1998:413).

The questionnaire was pre-coded but these numbers were not displayed in the questionnaire. This was done since the researcher was concerned that respondents might get confused when they see these numbers. This meant that codes had to be given to each response after the fieldwork was conducted. A data-capture sheet was designed and the researcher had to code each questionnaire according to the individual responses.

According to Churchill & Iacobucci (2002:572), editing refers to a process of inspecting the raw data. If the data requires it, corrections of the questionnaires are necessary. The purpose of editing can therefore be explained as a minimum standard of quality for the raw data. The purpose is to guarantee that data are accurate, consistent with other information, uniformly entered, complete and arranged to simplify coding and tabulation (Cooper & Schindler, 1998:411). In field editing, a researcher should contact the respondent soon after data have been gathered (Cooper & Schindler, 1998:412). The researcher made use of the latter as some of the questionnaires received via e-mail had some unclear responses. These respondents were immediately contacted and asked to refer to particular sections as identified by the researcher.

6.6   STATISTICAL PROCEDURES USED

Data was firstly coded onto a data-capture sheet. These data-capture sheets were subjected to a verification process where all the coded responses were correlated to the actual questionnaire responses. Hereafter the data was captured and stored. The dataset was then for a second time subjected to a verification process. The researcher had to verify if the captured data correlated with the coded data-capture sheets. Three mistakes were found and corrected and the dataset was then prepared for the SAS computer statistical software package.

6.6.1 Descriptive statistics

Descriptive statistics is a method of presenting data quantitatively and describing it in a manageable form (Babbie & Mouton, 2001:459).   It is therefore the transformation of raw data into a form that can be easily understood and interpreted.   This is usually the first form of analysis where averages are calculated, frequency distributions are given and percentage distributions are provided. In this study the researcher will use simple tabulation of the responses on a statement-to-statement basis.   This is the most basic form of information but it provides an indication of the frequency or the number of times one variable was considered at a time (Zikmund, 2003:473-474).

6.6.2 Multivariate statistics

Multivariate analysis refers to methods that simultaneously analyse multiple measurements on an individual or object under investigation. It is therefore any simultaneous analysis of more than two variables, which can be seen as an extension of univariate analysis and bivariate analysis (Hair *et al*, 1998:6). Multivariate techniques can be divided into two groups, namely dependence methods and interdependence methods.   Dependence methods are characterised by dependent and interdependent variables, and the most typical techniques include multiple regression analysis, multiple discriminant analysis, canonical correlation and multivariate analysis of variance. While interdependence methods do not make this distinction, the typical techniques include factor analysis, cluster analysis and multidimensional scaling (Diamantopoulos & Schlegelmilch, 1997:213; Zikmund, 2003:575).

This study used factor analysis as an interdependent multivariate technique in the data analysis. According to Cooper & Schindler (1998:577), factor analysis is a general term for several specific computational techniques, all having the objective of reducing many variables to a more manageable number that belong together and have overlapping measurement characteristics.   When data is factor-analysed it analyses the interrelationships amongst a number of

variables by defining a set of common underlying dimensions, known as factors (Hair et al, 1998:90). Therefore, the general purpose of factor analysis is to summarise and reduce a large number of variables in a smaller number of factors, discovering a basic structure of a domain and adding substantive interpretation to the underlying dimensions (Zikmund, 2003:586 & 587).

Aaker *et al* (2001:554) discusses two primary functions of factor analysis, namely to identify underlying constructs in data, and to reduce the number of variables.   Firstly, when underlying constructs are identified, data is summarised and therefore when interpreted and understood, describes the data in a smaller number of items than the original variables. Secondly, when each underlying dimension's scores are calculated and are substituted by original values, then data reduction takes place. Factor analysis can achieve the purpose from either an exploratory or a confirmatory perspective. This study used exploratory factor analysis, in order to search for a structure among a set of variables where no prior constraints were set on the estimation of components or the number of components to be extracted (Hair et al, 1998:90 & 91).

6.6.3   Hypotheses testing

Hypothesis testing is a process where inferences are made about the population. This process starts with an assumption or hypothesis. After data from the appropriate sample has been collected, this data is used to determine whether the assumption or hypothesis regarding the population is correct or incorrect (Aaker *et al*, 2001:443). The null hypothesis is used for testing, where no differences exist. A null hypothesis is a sceptical, negative statement. Therefore, the basis for statistical testing is that the null hypothesis is accepted until the proof is overwhelmingly against it. An alternative hypothesis therefore states that there are differences and it is the opposite of the null hypothesis (Martins *et al*, 1996:322). The aim is to investigate if a particular statement about some characteristic of the population as a whole is likely to be true or not. If the null hypothesis is rejected, then there is significant support for the

alternative hypothesis (Diamantopoulos & Schlegelmilch, 1997:130-133). Table 6.2 provides a summary of all the null hypotheses formulated for this study.

Table 6.2 Summary of null hypotheses

H01:	There is no relationship between the models (a/b/c/d/e) and the roles (a/b/c) of the practice of PR in Africa.
H02:	There is no significant difference between male and female practitioners in terms of the models (a/b/c/d/e) of the practice of PR in Africa
H03:	There is no significant difference between young and old practitioners in terms of the models (a/b/c/d/e) of the practice of PR in Africa
H04:	There is no significant difference between the practitioners in terms of their levels of education and the models (a/b/c/d/e) of the practice of PR in Africa
H05:	There is no significant difference between the practitioners in terms of their country of origin and the models (a/b/c/d/e) of the practice of PR in Africa
H06:	There is no significant difference between male and female PR practitioners in terms of the roles (a/b/c) of the practice of PR in Africa
H07:	There is no significant difference between young and old PR practitioners in terms of the roles (a/b/c) of the practice of PR in Africa
H08:	There is no significant difference between the PR practitioners in terms of their levels of education and the roles (a/b/c) of the practice of PR in Africa
H09:	There is no significant difference between the PR practitioners in terms of their country of origin and the roles (a/b/c) of the practice of PR in Africa
H010:	There is no significant difference between PR practitioners who received PR training and those who did not and the models (a/b/c/d/e) of the practice of PR in Africa
H011:	There is no significant difference between PR practitioners who received PR training and those who did not receive PR training and the roles (a/b/c) of the practice of PR in Africa

Aaker *et al* (2001:445) identified the following steps for testing hypotheses, and these steps were followed in testing the hypotheses listed in Table 6.2:

- Problem definition

- Clearly state the null and alternative hypotheses

- Select the relevant test and the appropriate probability distribution

- Determine the significance level

- Select an appropriate statistical test

- Compare the test statistic and critical value and define region of rejection

- Accept or reject the null hypothesis

Cooper & Schindler (1998:470) state that in the process of accepting or rejecting a null hypothesis, incorrect conclusions can occur. Two types of errors are identified. Type I occurs when the null hypothesis is rejected when it should actually be accepted. A Type II error occurs when the null hypothesis is not rejected when in fact it should be rejected. The significant level indicates the maximum risk willing to take in rejecting the null hypothesis. Therefore, a significant level should always be viewed in association with a probability of making a mistake (Diamantopoulos & Schlegelmilch, 1997:139).

6.7   VALIDITY AND RELIABILITY

There are three criteria for evaluating measurements, namely reliability, validity and sensitivity.

Two major forms of validity exist, namely external validity (which refers to the ability to generalise across persons, settings and times) and internal validity (limited to the ability of a measuring instrument measuring what it is supposed to measure). The focus of this discussion will be on the latter. Validity in this context refers to the differences found with a measuring tool reflecting true differences amongst respondents (Cooper & Schindler, 1998:167). Three basic approaches have been identified to address this problem and will be discussed briefly:

- Face or consensus validity refers to the argument that the measurement logically reflects or represents that what it purports to measure. The content appears to be adequate. This type of validity is dependent on the subjective agreement of professionals and is supported by little more than common sense.

- Criterion validity is more defensive as it is based on empirical evidence where the attitude measure correlates with the criterion variables. There are two types of criterion validity, namely concurrent and predictive validity.

When two variables are measured at the same time and shown to be valid it is referred to as concurrent validity. Predictive validity is when an attitude measure can predict some future event. These two measures only differ on the basis of a time dimension.

- Construct validity refers to the degree to which a measure confirms a network of related hypotheses generated from theory based on the concepts or constructs. It aims at defining the concept or construct and that the measurement connects the empirical phenomenon to the concept. Construct validity implies that the empirical evidence generated from the measuring instrument is consistent with the theoretical concepts. It is therefore established during the statistical analysis of the data. This type of validity can only be achieved after convergent validity and discriminant validity have been established. Convergent validity refers to the attitude measure that adequately represents a characteristic or variable if it correlates with other measures of the variable, while discriminant validity has a low correlation with measures of dissimilar concepts (Aaker *et al*, 2001:293-294; Zikmund, 2003:302-304).

Reliability is defined as the degree to which a measuring instrument is free from error and therefore yields consistent results (Zikmund, 2003:300). Various methods to assess reliability have been identified to assess the reliability of a measure. A reliability coefficient is a correlation that measures the amount of coincidence or association between things. The test-retest reliability is used to measure the stability of the measure, therefore using the same instrument on the same group of people at two different occasions. Alternate-forms reliability is used to assess the equivalency component of reliability, so testing the extent of agreement between two measuring instruments. The split-half method assesses the internal consistency among items, focusing on the extent to which all parts of the measuring instrument measures the same concept (Du Plooy, 2002:121-122). The method used in this study was the Cronbach's alpha,

which has the most utility for multi-item scales at the interval level of measurement (Cooper & Schindler, 1998:173).

6.8 CONCLUSION

This chapter discussed the research process by explaining the research design and the methodology followed in this study. The data collection methods focused on e-mail, training and conference delegates. Attention was paid to the sampling procedure that was followed. The chapter concluded with a discussion of the statistical procedures that were used for the data analysis, which will be elaborated on in Chapter 7.

The next chapter discuss the research results and the interpretation thereof.