CHAPTER 5

RESEARCH METHODOLOGY

GRAPHICAL REPRESENTATION OF CHAPTER 5

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INTRODUCTION	RESEARCH PLANNING	DATA GATHERING	ANALYSIS, INTERPRETATION AND REPORTING
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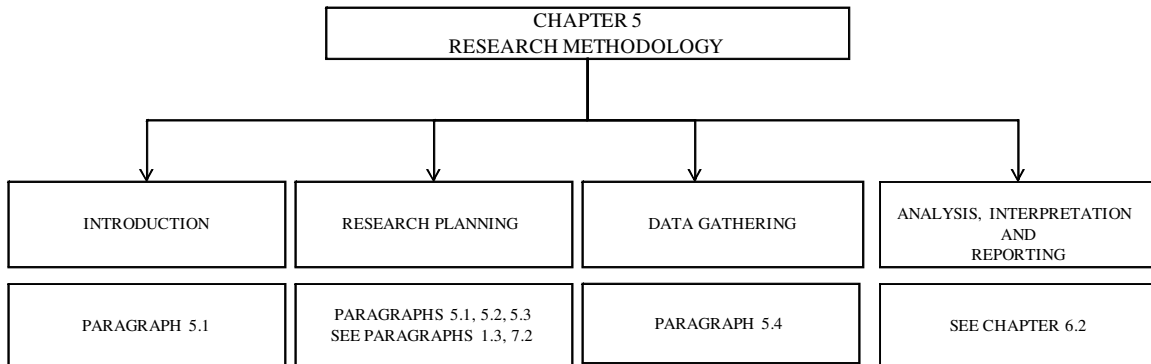
5.1 INTRODUCTION

Research entails a structured and planned approach to the collection, analyses and interpretation of information in order to address a specific research question or hypothesis. Neuman (2000:2) elaborates further and indicates as follows: "Scientists should be critical and sceptical of new evidence. Criticism is aimed at the research and not at the individual. Scientists should be neutral, impartial and open to different ideas as far as possible. If this cannot be attained, they should acknowledge their biases. Scientists must be honest when reporting their research findings." These statements explicitly imply that a research project should be correctly planned, designed and conducted and that the findings should be reported in an objective and unbiased manner for the project to fulfil its responsibilities.

In accordance with the aforementioned requirements, chapters 2, 3 and 4 of this thesis provide a theoretical discussion on strategic training as a component of strategic human resource development.

Chapter 2 provides a discussion on the manner in which the strategic environment of companies manifests according to the Cynefin framework for organisational sense making (Cynefin Centre for Organisational Complexity, 2003:1). The factors in the external and internal strategic environments of companies determine the manner in which the current and emergent strategic orientation of companies are formulated and therefore serve as the point of departure of a strategic training process.

The nature of the environment which should be present to ensure that knowledge processes regarding the strategic environment of companies are conducted is discussed in Chapter 3. This includes a discussion of the relationship between knowledge processes, learning and training.

Chapter 4 explains the nature and scope of strategic training in terms of:

- The relationship between strategic training and strategic human resource development.

- The use of a strategic training process to provide for the identification of the strategic training needs of executives and managers.

- The use of a strategic process to train executives and managers in terms of the emerging strategic orientation of the company.

The theoretical chapters are followed by an explanation of the research methodology that is used to complete the empirical component of this thesis as detailed in Chapter 5. This empirical research will be conducted in order to achieve the primary objective of the thesis – to determine the strategic training needs of executives and managers in a selection of large South African companies, which will be discussed in Chapter 6.

The latter objective will be achieved by means of an inductive generalisation, according to the principles of phenomenography (Mouton, 2001:117; Struwig & Stead, 2001:15). Inductive generalisation entails that the researcher begins with a detailed examination of the world or a phenomenon in the world and moves towards a more generalised explanation of the world or the phenomena in the world. Mouton (2001:117) explains: "Inductive generalisation involves applying inferences from specific observations (such as a sample of cases) to a theoretical population."

In this thesis, the researcher will study the phenomenon of strategic training and move to an explanation of the nature of strategic training as well as the strategic training needs of managers within a selection of large South African companies. The phenomenon of strategic training and the strategic training needs of managers will be studied by identifying regularities and differences in the form of patterns which emerge during the interviews which will be conducted with respondents (Struwig & Stead, 2001:15).

Marton (1994:4424) explains: "In a phenomenographic study we are exploring the different ways in which we can be aware of a certain phenomenon or situation. We want to find out the differences in the structure of awareness and the corresponding meaning of the phenomenon or situation" while Struwig and Stead (2001:15) describe phenomenography as follows: "…the different ways in which people experience, conceptualise, perceive or understand aspects of the world, are mapped out."

5.2   THE RESEARCH PROCESS

The steps in the research process followed in this study are depicted in Figure 5.1 The research process.
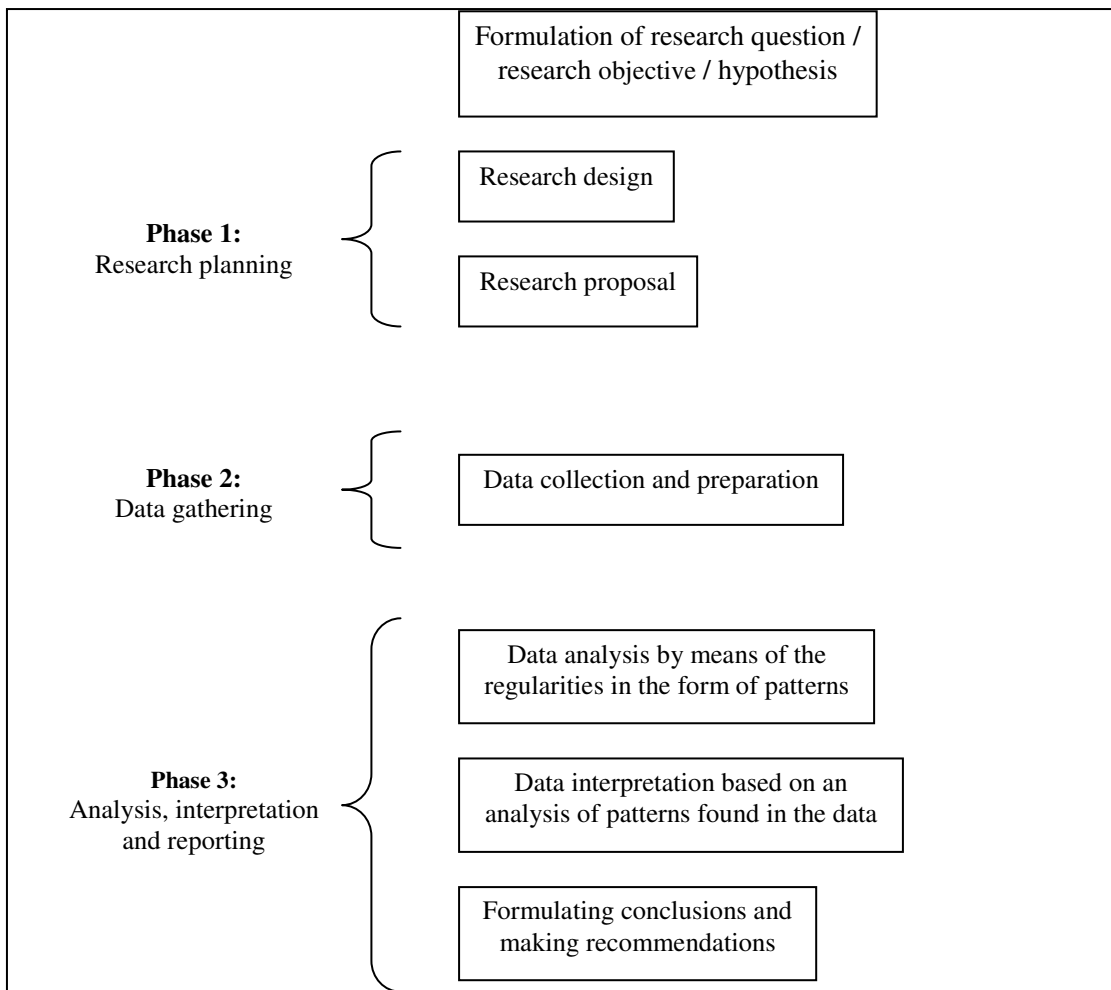

Figure 5.1 The research process (adapted from Cooper & Schindler, 2001:61; Mouton, 2001:47; Struwig & Stead, 2001:22-24; Neuman, 2003:51-52).

5.3 PHASE 1: RESEARCH PLANNING

The research planning phase of the research process consists of three activities, namely: the formulation of the research question(s) or the hypothesis as well as the aim(s) and objective(s) of the research; the design of the research process and culminate in a research proposal which serves as a guideline for the research process.

The first part of the research process entails the formulation of the research question(s) or the hypothesis as well as the aim(s) and objective(s) of the research. According to Cooper and Schindler (2001:60) the "origin, selection, statement, exploration, and refinement" of the research question is a crucial part of the research process. They (2001:60) quote Albert Einstein who stated as follow: "The formulation of a problem is far more often essential than its solution, which may be merely a matter of mathematical or experimental skill. To raise new questions, new possibilities, to regard old problems from a new angle require creative imagination and marks real advances in science."

In the context of this thesis the research process was employed to accomplish the primary and secondary objectives as formulated in paragraph 1.3 of the study.

5.3.1 The research design

Cooper and Schindler (2001:771) and Mouton (2001:49) are of the opinion that the research design gives an indication of the "type of study that are undertaken in order to provide acceptable answers to the research problem or questions?" Phillips (1976:93) elaborates on this and explains: "The research design constitutes the blueprint for the collection, measurement, and analysis of data. It aids the scientist in the allocation of his limited resources by posing crucial choices: Is the blueprint to include experiments, interviews, observation, and the analysis of records, simulation, or some combination of these? Are the methods of data collection and the research situation to be highly structured? Is an intensive study of a small sample more effective than a less intensive study of a large sample? Should the analysis be primarily quantitative or qualitative?"

Research design includes the following aspects: design strategy, data collection design, sampling design, questions and instrument pilot testing and instrument revision.

5.3.1.1 Design strategy

Cooper and Schindler (2001:134-135) explain that research design includes eight key issues which should be taken into consideration when the research process is planned. They describe these eight key issues as follows:

Category	Options
The degree to which the research question has been crystallised	• Exploratory study • Formal study
The method of data collection	• Monitoring • Interrogation/communication
The power of the researcher to produce effects in the variables under study	• Experimental • Ex post facto
The purpose of the study	• Descriptive • Causal
The time dimension	• Cross-sectional • Longitudinal
The topical scope – breadth and depth – of the study	• Case • Statistical study
The research environment	• Field setting • Laboratory research • Simulation
The subjects' perceptions of research activity	• Actual routine • Modified routine

Table 5.1 Research design

Degree of research question crystallisation: The difference between an exploratory and formal study is determined by the "degree of structure and the immediate objective of the study". According to Cooper and Schindler (2001:134) "…exploratory studies tend toward loose structures with the objective of discovering future research tasks. The immediate purpose of exploration is usually to develop hypothesis or questions for further research. The formal study begins where the exploration leaves off – it begins with a hypothesis or research question and involves precise procedures and data source specifications. The goal of a formal research design is to test the hypothesis or answer the research question posed."

The literature study undertaken in Chapters 2 to 4 of this thesis reflects the exploratory part of the research design. Exploratory research includes data from secondary sources, case studies, observation, unstructured individual and group interviews with knowledgeable persons (Struwig & Stead, 2001:7). The aim of this part is to develop an insight into the existing theories and perspectives on the relation between the strategic environment of companies and the nature and scope of strategic training in order to stimulate new ideas (Neuman, 2003:96). The bibliography of this thesis contains a comprehensive list of secondary sources consulted. The thesis includes 121 references to secondary sources and 29 references to primary sources [See Table 5.2] and thus falls, according to Mouton (2001:96) within an acceptable range of between 150 to 180 references for a doctoral thesis in the social sciences.

Method of data collection: According to Cooper and Schindler (2001:135) data are collected by means of monitoring or interrogation/communication. Monitoring "includes studies in which the researcher inspects the activities of a subject or the nature of some material without attempting to elicit responses from anyone." The authors explain interrogation/communication in the following manner: "The researcher questions the subjects and collects their responses by personal or impersonal means. The collected data may result from (1) interview or telephone conversations, (2) self-administered or self-reported instruments sent through the mail, left in convenient locations, or transmitted

electronically or by other means, or (3) instruments presented before and/or after a treatment or stimulus condition in an experiment." (Cooper & Schindler, 2001:135).

The data presented in Chapter 6 of the study will be collected by conducting semi-standardised interviews using the face-to-face interview method with respondents from a selection (24) of large South African companies. Data will therefore be collected by means of the interrogation/communication method as the researcher will elicit definite responses from respondents and will not only observe their behaviour.

Researcher control variables: In terms of the researcher's ability to manipulate variables Cooper and Schindler (2001:135-136) distinguish between experimental and ex post facto design. They explain: "In an experiment, the researcher attempts to control and/or manipulate the variables in the study. With an ex post facto design investigators have no control over the variables in the sense of being able to manipulate them. They can only report what has happened or what is happening. It is important that the researchers using this design not influence the variables; to do so introduce bias."

This study merely aims to report on the status quo regarding strategic training in a selection of large South African companies or on the manner in which these companies employ a strategic training process to address the strategic training needs of executives and managers. The research which will be conducted for the purposes of this thesis is therefore regarded as an ex post facto research design.

Purpose of the study: Research is regarded as casual or descriptive according to the purpose which it seeks to serve according to the research objectives (Mouton, 2001:113; Struwig & Stead, 2001:8) The difference between casual and descriptive research is described as follows: "If the research is concerned with finding out who, what, where, when, or how much, then the study is descriptive." The research objective is thus to present a description of the nature and scope of a particular phenomenon. However, if the objective of the research is to present an explanation of the occurrence of a particular phenomenon or "if it is concerned with learning why – that is how one variable produces

changes in another – it is causal." A study on the nature and scope of strategic training in a selection of large South African companies is descriptive while a study on the effect of strategic training on the competitiveness of a selection of large South African companies is regarded as causal in nature since it describes why strategic training contributes to the competitiveness of companies.

Time dimension: Research is cross-sectional or longitudinal in terms of the time dimension covered by the research. Data which are collected repeatedly over a period of time is regarded as longitudinal research while data which are collected once and therefore presents a snapshot of the phenomenon at a certain point in time is regarded as cross-sectional (Cooper & Schindler, 2001:136; Struwig & Stead 2001:40). In the context of this thesis a cross-sectional approach is followed as interviews will be conducted once (2003-2004) and will not be repeated at a later stage.

Topical scope: Research questions or the "topic" of the research are dealt with in varying degrees of depth and breadth. Case studies are regarded as a type of study that consists over the quality of depth. Mouton (2001:149) explains case studies as follows: "Studies that are usually qualitative in nature and that aim to provide an in-depth description of a small number (less than 50) of cases." In contrast to case studies Cooper and Schindler (2001:137) explain "statistical studies are designed for breadth rather than depth. They attempt to capture a population's characteristics by making inferences from a sample's characteristics." Research on the nature and scope of strategic training in a selection of large South African companies is regarded as a study that will provide depth on the topic rather than breadth as it provides an analysis of the research topic within a defined and limited sample rather than generalising from the sample to the larger population.

The research environment: The environment in which data are collected differs as to whether it occurred under actual environmental conditions for example within a specific selection of South African companies or under other conditions such as within a laboratory. However, the phenomenon which is researched can also be replicated or simulated to replicate the actual or original occurrence of the phenomenon.

The subject's perceptions of the research activity: The manner in which respondents experience the researcher and the activities of the researcher during the data collection process will influence the outcomes of the research. According to Cooper and Schindler (2001:139) respondents can perceive the research activity in three possible ways:

- "Subjects perceive no deviations from everyday routines.

- Subjects perceive deviations, but as unrelated to the researcher.

- Subjects perceive deviations as researcher-induced."

The researcher will take great care to create conditions which are both conducive to the data collection process and which deviate as little as possible from the everyday routine of the respondent. This will be done by conducting face-to-face interviews with respondents within their physical work setting for example in their offices or even in a more informal meeting place within the head office of the company. Furthermore, the researcher will conduct the interviews in a conversational style rather than merely following a question- and-answer style during the interviews.

5.3.1.2 Data collection design

Data collection design includes determining the sources of data, defining the population and designing the sample. This part of the research process also includes determining the approach and method which will be followed to collect the data as well as the instrument that will be used.

Determine sources of data: Researchers make use of primary and/or secondary data in order to conduct research.

Primary data are regarded as raw data. This kind of data has not been subjected to the interpretation of any other party than that of the originator. Cooper and Schindler (2001:260) list the following examples of primary sources: "memos, letters, complete

interviews or speeches (in audio, video, or written transcript formats), laws, regulations, court decisions or standards, and most government data, including census, economic, and labor data." Primary data are collected specifically for the purpose of addressing the research problem at hand.

Mouton (2001:71) and Struwig and Stead (2001:86, 98) indicate that primary sources may be qualitative or quantitative in nature. Qualitative data are described as any information that the researcher gathers that cannot be expressed by means of numbers and includes "words, pictures, drawings, paintings, photographs, films, videotapes, music and sound tracks." (Struwig & Stead, 2001:13). Quantitative data can be expressed in numbers which imply that it can be quantified. "The most common methods used to conduct quantitative research are exploratory, descriptive, experimental, and quasi-experimental." (Struwig & Stead, 2001:7).

Secondary data are primary data. This kind of data has been subjected to an interpretation by another party than the originator of the data. Typical examples of secondary sources are: "Encyclopedias, textbooks, handbooks, magazines and newspaper articles, and most newscasts are considered secondary information sources. Indeed, nearly all reference materials fall into this category." (Cooper & Schindler, 2001:260).

In this study, extensive use is made of secondary sources on strategic training as is evident in the first three chapters. As indicated above, the other types of sources which are included in a study are primary sources. The empirical phase of this study will be based upon qualitative research, using semi-standardised interviews with predetermined aspects regarding strategic training which will be discussed with the respondents during the face-to-face interviews. (Berg, 1998:61; Mouton, 2001:99; Struwig & Stead, 2001:98).

Defining the population: Research usually has a bearing on some or other population. Cooper and Schindler (2001:769) differentiate between a population and a population element. They explain that the population is: "The total collection of elements about

which we wish to make some inferences" while the population element is "the individual subject on which the measurement is taken: also known as the population unit, case or record." This definition by Cooper and Schindler (2001:769) implies that the population element can take the form of individuals, groups, organisations, human products and events, or the conditions to which they are exposed. The target population for this study will be South African companies listed on the JSE. In order for these companies to be included in the study they also have to meet the criteria for a "large company" as specified by the *National Small Business Act, No. 102 of 1996.*

Different parameters, such as type of industry (for example financial or information technology) or organisational demographics (for example a specific business unit) or geographic location (for example companies in the Western Cape), can be used to determine a research population in order to study the nature and scope of strategic training. However, the researcher decided that industry type would be the determining parameter for the research population and sample of this thesis. This is due to the fact that some industries are more dynamic in nature than others. The nature of the industry will influence the strategic orientation of the companies within a particular industry and thus also the nature and extent of strategic training. In this regard, 339 listed South African companies were identified as representing the unit of analysis of the population for a study on strategic training. These companies are representative of the 45 industries and nine broad sectors of the South African economy.

Sampling design: Since the size of the population makes it impractical and uneconomical to involve all members the researcher has to rely on the data obtained from a sample of the research population. Struwig and Stead (2001:109) are of the opinion that: "Obtaining information from a sample is often more practical and accurate than obtaining the same information from an entire universe or population." The sampling technique which will be used to select the sample as well as the size of the sample is determined by the type of research which will be conducted. Qualitative research focuses primarily on the depth or richness of the data and therefore qualitative researchers generally select samples purposefully rather than randomly. Struwig and Stead (2001:122) discuss a variety of

purposeful sampling techniques including extreme case sampling, intensity sampling, maximum variation sampling, homogeneous sampling, typical case sampling, critical case sampling, stratified purposeful sampling, snowball or chain sampling, criterion sampling, theory-based sampling, confirming and disconfirming cases, opportunistic sampling, purposeful random sampling and convenience sampling.

The sampling technique that will be used for the purposes of this study is a combination of: criterion sampling, critical case sampling and purposeful random sampling. Companies that will be included in the research have to comply with two criteria, namely they should be listed on the JSE and should be regarded as large companies according to the criteria stated in the *National Small Business Act, No. 102 of 1996*. Some companies will specifically be included in the study due to their particular relevance or "centrality" to the topic of the research for example a consultancy firm and a business school (Struwig & Stead, 2001:123). These companies do not comply with the stated criteria for companies to be included in the study. The researcher furthermore purposefully aimed to include a minimum of any (random) two companies from each of the nine broad sectors of the economy (for example resources, basic industries, financial shares) as indicated on the JSE.

Struwig and Stead (2001:125) are of the opinion that qualitative researchers are more interested in whether the information from the sample is rich in data and thick in description than the extent to which the sample's data can generalise to the population. The study will include responses from 29 interviews conducted at 24 large South African companies and two (2) interviews with representatives of the South African training and education sector. The researcher regards the sample size as satisfactory due to the following four reasons:

- Primary and secondary objectives of the thesis: The aim of the research is to determine the strategic training needs of managers in a selection of large South African companies. Companies who do not employ a strategic training process will be unable to indicate the strategic training needs of executives and managers.

However, in the cases where companies do make use of a strategic training process, the respondents will be provided with the opportunity to give a comprehensive overview on the skills that executives and managers need in terms of the emergent strategic orientation of the company and thus the strategic training need of executives and managers. The nature of the data collection method (semi-standardised interview approach using the face-to-face interview method) will provide respondents with the opportunity to provide examples of the skills and needs which executives and managers experience. The researcher expects that their might even be similarities in terms of the skills and needs as identified by the various companies. The researcher therefore regards the sample as representative since qualitative research focuses on depth rather than breadth in terms of data collection. Hence, further questions on the strategic training processes in companies will be included in the questionnaire. The response on the remainder of the questions included in the questionnaire will present in-depth data on the reasons why strategic training needs exist as well as the manner in which these needs are addressed.

- Comprehensiveness of the questionnaire in terms of quality and quantity of questions: The questionnaire can be regarded as comprehensive both in terms of the number of questions that will be included in the questionnaire as well as the quality or depth of responses required of respondents. The questionnaire will include nine corpographic questions and 21 questions on the strategic training needs of managers as well as on the nature and extent of strategic training in a selection of large South African companies. The duration of interviews will be between 60 to 90 minutes which will provide the researcher with approximately 44 hours of data. Respondents will be provided with the opportunity to elaborate on questions especially since the questions are all open-ended or unstructured and the respondents will not be limited in terms of response time during the interviews. Both the researcher and the respondents will have the opportunity to explore the research topic in-depth.

- Affirmation of existing literature: The sample size is also regarded as satisfactory as the researcher is of the opinion that the data that will be gathered during the research process will be sufficient to corroborate the existing national and international literature on the research topic. This is of particular importance since it was explained in paragraph 1.2 that a dearth exists in terms of the literature on the strategic training needs of executives and managers in South African companies. The literature on the strategic environment of companies, strategic training and strategic training needs are discussed in Chapters 2, 3 and 4 while the data of the empirical component are analysed and interpreted in Chapter 6 of the thesis.

- Coverage of the sample: The sample size is regarded as satisfactory due to the fact that all the sectors of the economy are covered in the sample population. The companies which will be included in the research are indicated in Table 5.2 Sample of large South African companies listed on the JSE. This table gives an indication of the type of services companies deliver or the products they manufacture, the sector of the economy which they represent as well as the industry in which they operate. A minimum of two companies from each of the different sectors are included while in some sectors more than two companies are included. This is due to the diversified nature of a particular sector such as the financial sector which includes banks, non-life insurance, life insurance, real estate, general financial, equity investments or the dynamic nature of a particular sector such as the information technology sector.

Company	Service or manufacturing company	Sector of the economy (as indicated by the JSE)	Industry (as indicated by the JSE)	Date of interview	Number of interviews conducted at the company
A	Diamond mining	Resources	Diamonds and gemstones	25/09/2003	1
B	Diversified mining	Resources	General mining	22/04/2003	1
C (Not listed on the JSE on the New York Stock Exchange (NYSE)	Electricity supply	Basic industries	Electricity	12/03/2003	1
D	Oil and gas supply	Resources	Oil and gas producers	1/10/2003	1
E	Iron and steel manufacturer	Basic industries	Industrial metals	9/02/2004	1
F	Cement manufacturer	Basic industries	Construction and materials	20/11/2003	1
G	Financial institution	Financial	Banks	7/05/2003	1
H	Auditing firm	Financial	Speciality and other finance	12/02/2003	1
I	Financial institution	Financial	Life assurance	7/07/2003	1
J	Brewery	Non-cyclical consumer goods	Beverages	18/03/2003	1
K	Pharmaceutical company	Non-cyclical consumer goods	Pharmaceuticals and biotechnology	29/01/2004	1
L	Diversified technology company	Cyclical consumer goods	Household goods and textiles	22/08/2003	1

Company	Service or manufacturing company	Sector of the economy (as indicated by the JSE)	Industry (as indicated by the JSE)	Date of interview	Number of interviews conducted at the company
M	Motor vehicle industry	Cyclical consumer goods	Automobiles and parts	17/09/2003	1
N	Wholesaler	Cyclical services	General retailers	19/01/2004	1
O	Packaging firm	Cyclical services	Support services	3/10/2003	1
P	Diversified international industrial company	General industrial	Diversified industrials	2/12/2003	1
Q	Manufacturer of electronic and electrical components	General industrial	Electronic and electrical equipment	16/01/2004	1
R	Manufacturer of electronic and electrical components	General industrial	Electronic and electrical equipment	15/10/2003 20/10/2003	2
S	Information technology	Technology	Software and computer services	22/10/2003	1
T	Information technology	Technology	Software and computer services	12/02/2003	2
U	Information technology	Technology	Software and computer services	15/08/2003	1
V	Food and clothing retailer	Non-cyclical Services	Food and drug retailer	19/03/2003	1
W	Telecommunications company	Non-cyclical services	Fixed line telecommunication	24/11/2003	1
X	Telecommunications company	Non-cyclical services	Mobile telecommunication	18/08/2003	1

Company	Service or manufacturing company	Sector of the economy (as indicated by the JSE)	Industry (as indicated by the JSE)	Date of interview	Number of interviews conducted at the company
Y (Not listed company)	Training consultant	Training	Training	14/03/2003	1
Z (Not listed company)	Business school of a local university	Training	Business education	26/03/2003 23/02/2004	2

Table 5.2 Sample of large South African companies listed on the JSE and NYSE (Johannesburg Securities Exchange, 2005; Johannesburg Securities Exchange, 2006).

Sampling techniques in quantitative research are divided in two broad groups known as probability and non-probability techniques. A probability sampling technique implies that each of the population elements "has a known probability of being included in the sample." (Struwig & Stead, 2001:112). Random probability sampling, stratified random sampling, cluster sampling, systematic sampling and multi-stage area sampling are all examples of non-probability sampling techniques. Struwig and Stead (2001:111) are of the opinion that non-probability sampling techniques imply that "The selection of sampling units is arbitrary as researchers rely heavily on personal judgment." Non-probability sampling techniques include the following: convenience sampling, judgment sampling, quota sampling and snowball sampling.

Data collection methods and approaches: After finalising the design strategy and the sampling design a researcher has to consider which data collection method is most suitable in terms of the objectives of the research and the identified population. A variety of approaches and methods exist which are used to collect data. The approaches which can be followed towards data collection are surveys, observations, testing and the

selecting and analysing of texts (Chadwick, Bahr & Albrecht, 1984:100; Mouton, 2001:105):

- Surveys include the interview and questionnaire approaches to data collection. "Interviews are conducted in group settings, by telephone or by means of a face-to-face private encounter between interviewer and respondent. The interview may be highly structured, with specific questions to be asked of all respondents or it may be so unstructured that it resembles a conversation. Similarly, questionnaires may be administered to large groups in classrooms or other institutional settings, they may be mailed to respondents who fill them out in private and return them by mail, or they may be hand-delivered to respondents who are instructed to treat the questionnaire as if it were a self-administered interview."

- "Observation includes experimental recordings, systematic field observations and participant observation."

- "Testing includes psychological or psychometric testing."

- "Selecting and analysing texts through textual analysis, discourse analysis and historic or narrative analysis."

However, Cooper and Schindler (2001:295) are of the opinion that: "Research designs can be classified by the *approach* used to gather primary data. There are really only two alternatives. We can *observe* conditions, behavior, events, people, or processes. Or we can *communicate* with people about various topics."

The data for the empirical component of this study will be collected by following the survey approach and more specifically by means of semi-standardised interviews. Chadwick, Bahr and Albrecht (1984:100) as well as Babbie and Mouton (2001:230) are of the opinion that survey research is regarded as one of the more popular methods of data collection used for research in the social sciences. Babbie and Mouton (2001:230)

explain: "Survey research is probably the best method available to social scientists interested in collecting original data for describing a population too large to observe directly."

An interview entails that context specific questions are posed by the researcher in order to obtain relevant data from selected individuals or respondents in order to address the research objective. Cannell and Kahn (cited in Chadwick, Bahr & Albrecht, 1984:103) define an interview as "a two-person conversation, initiated by the interviewer for specific purpose of obtaining research-relevant information, and focused by him on content specified by research objectives of systematic description, prediction, or explanation." Berg (1998:57) states: "Usually an interview is defined simply as conversation with a purpose. Specifically the purpose is to gather information."

The primary advantage of the interview approach to data collection is its resourcefulness. Cooper and Schindler (2001:295) explain that an interview: "does not require that there be a visual or other objective perception of the information sought by the researcher. Abstract information of all types can be gathered by questioning others. We seldom learn much about opinions and attitudes except by questioning. This is also true of intentions and expectations. Information about past events is often available only through questioning of people who remember the events." Disadvantages of the interview approach are (Cooper & Schindler, 2001:295):

- "The quality and quantity of information secured depends heavily on the ability and willingness of respondents to cooperate.

- Respondents may not have the knowledge sought or even have an opinion on the topic of concern.

- Respondents may interpret a question or concept differently from what was intended by the researcher."

Three possible methods can be followed toward the interview approach to data collection, namely face-to-face interviews, telephonic interviews and self-administered inquiry.

- Face-to-face interviews: Face-to-face interviews are in the form of a conversation and require direct interaction between the researcher and the respondent.

- Telephonic interviews: Telephone surveys are conducted by means of a telephonic conversation or interview and no face-to-face interaction between the researcher and the respondent take place.

- Self-administered inquiry (including mail surveys, intercept interview, computer surveys, central location surveys): Mail surveys do not entail any interaction between the researcher and the respondent. Struwig and Stead (2001:88) explain: "In the case of mail surveys there is no interviewer to explain the purpose of the study, to induce co-operation, to ask questions or to record the answers."

In the context of the research objectives of this thesis, the self-administered inquiry, observation, testing and textual analysis methods were regarded as impractical since the researcher aimed at developing an in-depth understanding of the nature and scope of strategic training in large South African companies and the strategic training needs of executives and managers in these companies. Hence, the face-to-face interview method will be used to obtain primary data since this method allows the respondent to probe the perspectives and views of the respondents on the research topic. Cooper and Schindler (2001:299) explain: "The greatest value [of personal interviewing] lies in the depth of information and detail that can be secured. It far exceeds the information secured from telephone and self-administered studies via intercepts, mail surveys, or computer. The interviewer can also do more things to improve the quality of the information received than with another method."

5.3.1.3 Developing and testing the research instrument

As indicated previously, the researcher will collect primary data to achieve the research objective by means of the interview or survey method. In this regard, an unstructured questionnaire which will consist of open-ended will be developed to collect the data during the semi-standardised interviews. Berg (1998:61) explains: "This type of interview involves the implementation of a number of predetermined questions and/or special topics. These questions are typically asked of each respondent in a systematic and consistent order, but the respondents are allowed to digress; that is, the respondents are permitted (in fact expected) to probe far beyond the answers to their prepared and standardized questions."

Cannell and Kahn (cited in Chadwick, Bahr & Albrecht, 1984:103-104) explain that an interview process consist of four steps, namely:

- "Creating or selecting an interview schedule or a set of questions and a set of rules or procedures for using the schedule.

- Conducting the interview or evoking the responses or events that is to be classified.

- Recording these responses by means of pen-and pencil notes, electronic equipment, or other devices.

- Creating a numerical code or a scale or other systems of numbers into which the recoded responses are to be translated, and a set of rules for making the translation.

- Coding the interview responses."

It is clear from the above explanation by Cannell and Kahn that the first step of the interview process necessitates the researcher to develop or construct an instrument such

as a questionnaire and pre-test the instrument to ensure that accurate and relevant data are collected (cited in Chadwick, Bahr & Albrecht, 1984:103-104). Hence, the researcher will have to take great care during the construction of the questionnaire to avoid errors that are often made by researchers and ultimately lower the quality of data which are collected. Typical examples of errors are the inclusion of double-barrelled questions, including questions or items which are too complex for respondents, the inclusion of ambiguous or vague questions, posing questions in the wrong sequence and the use of leading questions (Chadwick, Bahr & Albrecht, 1984:116-118; Mouton, 2001:103.)

The development of a questionnaire necessitates that issues such as question content and phrasing, question sequence and question format are addressed.

Question content and phrasing: Cooper and Schindler (2001:337) explain that four questions should serve as the guideline for the inclusion of questions in a questionnaire. These four questions are:

- "Should this question be asked?

- Is the question of proper scope and coverage?

- Can the respondent adequately answer this question, as asked?

- Will the respondent willingly answer this question, as asked?"

Chadwick, Bahr and Albrecht (1984:116-118) as well as Mouton (2001:103) explain that the content of the questionnaire should not be ambiguous, vague or complex while Berg (1998:70) is of the opinion that "… when researchers ask a long, involved question, the subjects may not really hear the question in its entirety. Their response, then, may be only to some small portion of greater concern woven into a complex question. Thus, keeping questions brief and concise allows clear responses and more effective analysis of the answers." Cooper and Schindler (2001:341) as well as Berg (1998:61)

explain that researchers should avoid "long and complex sentences or involved phraseology" and should furthermore share a vocabulary. A shared vocabulary implies that the researcher and respondent "must understand what the other says, and this is possible only if the vocabulary used is common to both parties." (Berg, 1998:61).

The conversational nature of semi-standardised interviews provides the researcher with the opportunity to explain the questions or terms to the respondents. However, researchers should guard against influencing the view or response of respondents while elaborating or explaining a particular problem or term.

Question sequence: Berg (1998:70) as well as Cooper and Schindler (2001:355-357) explain the importance of the correct sequence of questions in an interview in order to ensure that relevant data are collected. The principle that determines the sequence of questions in a questionnaire is: "The nature and needs of the respondent must determine the sequence of questions and the organisation of the interview schedule." This principle is supported by four guidelines:

- "The question process must quickly awaken interest and motivate the respondent to participate in the interview. Put the more interesting topical target questions early.

- The respondent should not be confronted by early requests for information that might be considered personal or ego threatening. Put questions that might influence the respondent to discontinue or terminate the questioning process near the end.

- The questioning process should begin with simple items and move to the more complex, and move from general items to the more specific. Put taxing and challenging questions later in the questioning process.

- Changes in the frame of reference should be small and should be clearly pointed out. Use transition statements between different topics of the target question set." (Cooper & Schindler, 2001:356).

In order to adhere to the above principles and guidelines, general topics in the questionnaire developed by the researcher will be placed at the beginning (for example corpographic questions) and those requiring more specific responses later. In this regard, the following topics were included in the questionnaire for this study:

- General information on the company and the position of the respondents in the company.

- Strategic orientation of the company.

- Strategic training and the strategic training needs of executives and managers in the company.

- Training methods and the use of strategic training as a knowledge management technique by the company.

In this study the questions were arranged to include general to more specific aspects regarding strategic training. Respondents had to indicate the general strategic orientation of the company and indicate the manner in which training types make provision for both traditional as well as strategic training. They also had to indicate specific strategic training needs that exist as a result of the emergent strategic orientation of the company. Lastly, they had to comment on training methods that specifically address the training needs mentioned in the previous question. They also had to give an indication of the status quo regarding knowledge management which can be regarded as a rather challenging question due to the unfamiliarity of the concept in many companies.

Question format: Two types of questions can be used in a questionnaire: structured or closed response and unstructured or open-ended questions. Once the question sequence has been determined the question format can be decided. Channel and Kahn (cited in Chadwick, Bahr and Albrecht, 1984:119) as well as Cooper and Schindler (2001:345) provide guidelines on which to base the decision between unstructured or structured questions.

Chadwick, Bahr and Albrecht (1984:118) explain that unstructured questions require respondents "to answer in their own words and to reveal their own definitions of the situation." The authors are of the opinion that the responsibility of the researcher is to ensure that the respondent provides accurate and sufficient information and to record the information completely and correctly. Cooper and Schindler (2001:345) indicate that the response on a unstructured question "range from those in which the respondents express themselves extensively to those in which respondents' latitude is restricted by space, layout, or instructions to choose one word or phrase, as in a "fill-in" question."

The questions in the questionnaire for the study will consist of unstructured questions. This is attributed to the objectives of the research, namely to develop an in-depth understanding of the use of strategic training in South African companies and the impact of the current and emergent strategic orientation of companies on the training needs of executives and managers.

This also explains why the researcher will not restrict the respondents in any way and will provide them with the opportunity to express themselves in a comprehensive and detailed manner. Cooper and Schindler (2001:345) explain: "This response strategy [structured questions] ignores the full scope of the respondent's opinion and its antecedents. If the objective is to explore a wider territory, then an open-ended question is preferable. Open-ended questions are appropriate when the objective is to discover opinions and degrees of knowledge." In this study the use of unstructured questions was also preferred due to the fact that it was almost impossible for the researcher to ascertain the exact nature of the respondent's knowledge and insight into the topic. Cooper and

Schindler (2001:346) explain: "Finally, it may be better to use open-ended questions when the interviewer does not have a clear idea of the respondent's frame of reference or level of information."

Structured questions are defined as questions which "require the respondent to select from among a series of alternative answers provided by the researcher" and therefore "the researcher maintains control over the form, length and content of the possible answer." (Cannell and Kahn cited in Chadwick, Bahr & Albrecht, 1984:118). Structured questions "typically are categorized as dichotomous, multiple-choice, checklist, rating, or raking response strategies." (Cooper & Schindler, 2001:345).

The researcher should test the instrument as soon as the issues regarding the questions that are included are finalised. This is necessary in order to ensure that the research objectives are achieved in a satisfactory manner. According to Babbie and Mouton (2001:245) testing involves subjecting the questionnaire to the scrutiny of a relevant but not necessarily a representative sample of respondents. This process will ensure the correctness of the formulation of questions, the meaningfulness of the questions and the ethical aspects of the questions included in the questionnaire. The questionnaire for this study will therefore be subjected to the scrutiny of two groups of individuals:

Academics: The questionnaire will be submitted to the Ethics Committee of the Faculty of Engineering, Built Environment and Information Technology of the University of Pretoria. The aim of this committee is to determine whether the questions which will be included in the questionnaire do not infringe on the privacy of the respondent and do not require the respondent to answer questions regarding the company which are of a confidential nature. The questions will also be scrutinised by the promoter of this thesis.

Sample of managers in a selection of large South African companies: Interviews will be conducted with seven managers of large South African companies. These individuals are all involved with strategic training and/or strategic processes in the companies which they represent. The purpose of this is to determine if the researcher and the respondents share

the same vocabulary or if the respondents understand the questions included in the questionnaire. The researcher will be able to determine whether meaningful responses can be obtained from the questions and to develop interview skills.

Based upon the feedback from the individuals included in the testing process, adjustments can subsequently be made to the final questionnaire. The questionnaire used in this study appears in Annexure B.

The first phase known as the research planning component of the research process is completed with a research proposal which serves as an outline of the research process which the researcher will follow in order to achieve the research objectives.

5.4   PHASE 2: DATA GATHERING

The empirical research conducted in this study will not be limited to a particular industry of sector of the economy. This is because the aim of the researcher is to determine the nature and scope of strategic training in South African companies and to establish if a link exists between the dynamics of a particular industry and the nature and scope of strategic training within companies. Furthermore, the study aims to determine the relation between the strategic orientation of companies and the strategic training needs of managers and executives in these companies. Against the backdrop of the foregoing, the empirical component of this thesis is perceived to be the practical acid test in which the use of strategic training in South African companies will be evaluated. Hence, the empirical research process will be preceded by various preliminary initiatives in an effort to obtain the acceptance of the respondents included in the research sample. The names of executives and managers or respondents responsible for strategic training and/or strategic management will be obtained from the companies included in the research population. In addition, two individuals, representing the training and education sector in South Africa will be contacted to enlist their participation in the study. Identified individuals will be contacted telephonically to ascertain their willingness to participate in the study and to ensure that they have the relevant knowledge and the necessary

experience to contribute to the study. The researcher will take great care during the initial conversation with individuals to convince them that the information will be used in its generic context and not to refer to an individual company's use of strategic training or even an individual company's lack of strategic training. Once the identified individuals indicate their willingness to participate in the study and the researcher is convinced of their level of knowledge these individuals will also be contacted by means of electronic mail. This purpose of this is to overcome the resistance of individuals and to facilitate their cooperation by:

- Introducing the researcher to the individuals.

- Introducing the nature and scope and the objectives of the research.

- Confirming the date and venue of the interview.

The electronic mail will give the identified individuals an opportunity to acquaint themselves with the researcher and the nature and scope of the study and to reconsider their participation in the research process.

5.4.1   Face-to-face interviews

The researcher will collect the data by means of face-to-face interviews with the identified individuals. These interviews will all be conducted at the physical location of the companies represented in the study. This will contribute positively to the data collection process as individuals will be more relaxed in the familiar setting and the setting can furthermore be used as a neutral point of departure for the interview. Berg (1998:87) states: "Never begin an interview cold. Remember to spend several minutes chatting and making small talk with the subject. If you are in the subject's home, use what's there for this chatting."

Face-to-face or personal interviews as previously explained are interviews which are in the form of a conversation and require direct interaction between the researcher and the respondent. Struwig and Stead (2001:87) state: "Although it has not been empirically substantiated, many researchers believe that personal interviews provide more accurate information than mail questionnaires and telephone interviews. Respondents have indicated that they prefer personal interviews to mail questionnaires, and mail questionnaires to telephone interviews." Cooper and Schindler (2001:299) explain the nature of a personal or face-to-face interview method in the following manner: "[It entails] a two-way conversation initiated by an interviewer to obtain information from a respondent. The differences in the roles of interviewer and respondent are pronounced. They are typically strangers, and the interviewer generally controls the topics and patterns of discussion. The consequences of the event are usually insignificant for the respondent. The respondent is asked to provide information and has little hope of receiving any immediate or direct benefit from this cooperation."

Cooper and Schindler (2001:300) explain that successful personal interviews depend on the following conditions:

- "The respondent must possess the information being targeted by the investigative questions.

- The respondent must understand his or her role in the interview as the provider of accurate information.

- The respondent must perceive adequate motivation to cooperate."

On completion of a successful interview the individuals that participated in the study will be regarded as the "respondents" of the study.

Some of the advantages of using face-to-face interviews as a data collection method is discussed by Cooper and Schindler (2001:299-300), Babbie and Mouton (2001:250) as well as Mouton (2001:86).

- "The greatest value of personal interviews lies in the depth of information and detail that can be secured.

- The interviewer can do more things to improve the quality of the information received than with another method.

- Interviewers can note conditions of the interview, probe with additional questions, and gather supplemental information through observation.

- Interviewers have more control than with other kinds of interrogation – they can pre-screen to ensure the correct respondent is replying, and they can set up and control interviewing conditions.

- Face-to-face interviews have a good response rate, since the interviewer is often able to persuade individuals to take part in the research.

- The physical presence of the interviewer, especially in the case of interviews at home, tends to have a positive effect on the accuracy of the data obtained."

- The presence of an interviewer also generally decreases the number of "don't knows" and "no answers". If it is important to the study to minimize "don't know" responses, the interviewer can be instructed to probe for answers.

The disadvantages of face-to-face interviews are (Cooper & Schindler, 2001:299-300; Mouton, 2001:86; Babbie & Mouton, 2001:250):

- Face-to-face interviews are costly in terms of both money and time.

- Results of face-to-face interviews can be affected adversely by interviewers who alter the questions asked or in other ways bias the results.

- The interviewer can do little about the respondent's information level. Screening questions can qualify respondents when there is doubt about their ability to answer.

- Interviewers can influence respondents in many ways – an interviewer can explain what kind of answer is sought, how complete it should be, and in which terms it should be expressed.

- Respondent motivation is a responsibility of the interviewer – studies of reactions to many surveys show that respondents can be motivated to participate in personal interviews and, in fact, can even enjoy the experience.

The researcher gave due consideration to the above-mentioned disadvantages but kept to the decision to use face-to-face interviews as a method of data collection for the study. This decision is based on the fact that in-depth data were needed on the topic in order for the researcher to successfully address the objectives of the research.

The interviews will be recorded and an exact hard-copy transcription will be made of the content of the interview. Babbie and Mouton (2001:253) as well as Cooper and Schindler (2001:304) explain that interviews must be recorded accurately. Babbie and Mouton (2001:253) state: "Whenever the questionnaire contains open-ended questions, those soliciting the respondent's own answer it is very important for the interviewer to record that answer exactly as given. No attempt should be made to summarize, paraphrase, or correct bad grammar."

5.4.2   Evaluation of the reliability and validity of the research

According to Struwig and Stead (2001:130) researchers must report on the reliability and the validity of the data which they have collected.

Cooper and Schindler (2001:210) as well as Mouton (2001:100-102) and Struwig and Stead (2001:130) are of the opinion that reliability deals with the extent to which the measurement instrument is regarded as accurate and precise or the consistency of the measurement instrument. Validity deals with the extent to which the measurement instrument measure what the researcher "actually wish to measure" or the soundness of the measurement instrument.

The following types of reliability are encountered when quantitative research is conducted (Struwig & Stead, 2001:130):

• Quixotic reliability - reliability across repetition

• Diachronic reliability – reliability across time

• Synchronic reliability – reliability across sources

Struwig and Stead (2001:143) explain that validity imply the "trustworthiness or credibility" of the measurement instrument. They state that the use of validity in qualitative research is a "contentious issue in which some authors query the usefulness of validation from a qualitative perspective." Although the authors explain that there are no widely accepted guidelines for testing validity in qualitative research they identify six "ways of confirming or validating qualitative data." (2001:143).

5.4.2.1 Reliability of the study

In the context of the empirical component of this study, which is focused on research into the nature and scope of strategic training in a selection of large South African companies,

it will be extremely difficult to meet the requirement of reliability, because the use of strategic training and the training needs of executives and managers vary according to the political, economical, social and technological demands on a specific company at a specific time. The individuals, who will be interviewed on behalf of the different companies included in the sample, will base their responses upon their own views, which can be different from that of other individuals. During the empirical study, care will be taken to prevent any random errors in order to safeguard the reliability of the measurement device used in this study.

However in an attempt to ensure the reliability of the data the researcher will take the following measures:

Testing the questionnaire: The researcher will test the questionnaire after it is developed in order to ensure that the researcher and the respondents shares a vocabulary as Struwig and Stead (2001:130) state: "Interview schedules can be used in a pilot study to determine if the participants understand the questions and find them to be useful.

Presence of the researcher during the interviews: The presence of the researcher will enhance the reliability of the measurement instrument since it provides the researcher the opportunity to probe the responses to ensure that it is indeed accurate and correct.

Control questions: Control questions will be included in the questionnaire to ascertain the accuracy and correctness of responses. Respondents will be asked to give their view of a particular aspect related to strategic training and a control question will require an example to substantiate the response on the original question.

Written consent of respondents: The reliability of the measurement instrument will be enhanced by the fact that respondents will be asked to complete a written consent form in which the researcher formalise their willingness to participate in the research and to ensure their anonymity. Respondents will probably be more prepared to share

confidential information with the researcher and thus the reliability of the measurement instrument is enhanced [See Annexure A].

5.4.2.2 Validity of the study

Despite the fact that Struwig and Stead (2001:143-145) are of the opinion that the use of validity in qualitative research is a "contentious issue" the researcher will take great care to ensure the validity of the measurement instrument. In the context of the validity of the empirical component of this study, descriptive validity, or the accuracy and comprehensiveness of data included in the thesis, will be achieved by recording and transcribing the data that were collected. This will enable the researcher to make extensive use of direct quotes from the interviews in order to substantiate statements and to increase the descriptive validity of the measurement instrument.

Regarding theoretical validity, or the degree to which there is common agreement between the researcher and the respondent "about the concepts or theory used to refer to the phenomena that have been described" will be achieved through testing the questionnaire by conducting interviews with seven managers in large South African companies (Struwig & Stead, 2001:144). As indicated earlier, their comments on the questionnaire can lead to adjustment being made, before interviews will be conducted with the respondents included in the sample.

Triangulation, or the degree to which independent measures confirm or contradict the findings, can also be achieved through the measurement instrument. This will be clear if a correlation exists between the data that will be collected by means of the questionnaire and interviews (Chapter 6) and the literature study (Chapters 2, 3 and 4) on the strategic domains of companies and the use of strategic training by local and international companies.

The first two steps in the research process (See Figure 5.1) that is, research planning and data gathering were discussed in Chapter 5. The remaining step in the research process, namely analysis, interpretation and reporting will be discussed in Chapters 6.

5.5   CONCLUSION

This chapter outlined the research methodology which will be followed to complete the empirical component of the thesis.

The phases in the research process were outlined, and this includes planning the research and formulating the research problem and objectives, data gathering and analysis, interpretation and reporting. The first phase, namely defining the research problem and objectives, was discussed in Chapter 1. Chapter 5 focused in broader terms upon research planning and data gathering. It was shown that research planning consists of various steps, including determining the sources of data, defining the research population, determining the data collection approaches and methods and developing and testing the measurement instrument. To this end, it was decided to use a variety of sampling techniques in order to identify 29 individuals which represent companies from all the sectors of the South African economy. Chapter 6 will include an outline of the approach which was followed to analyse the data and the interpretation thereof.

As explained in this chapter, data will be collected from respondents by following the semi-standardised interview approach and using the face-to-face interview method. An unstructured questionnaire will be developed and tested on a sample of respondents, consisting of academics and managers at large South African companies. Based upon the feedback from the individuals included in the pre-test, minor adjustments will be made to the final questionnaire if necessary, after which the interview process will commence.

The remaining phase in the research process, namely analysis, interpretation and reporting will be discussed in Chapter 6.