CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter will provide an outline of the methodology of the study, the research approach, and methods used to collect data, all in order to achieve research objectives and investigate the phenomenon under study. The chapter begins by presenting the methodology and research design, and then is followed by a brief discussion on qualitative and quantitative research. This leads to the question as to why a mixed method approach was chosen instead of a single methodology, and what, in reality, affects researchers when making such decisions. The research sequence is clarified by a flow diagram in section 3.4, and is followed by defining and outlining the data collection procedures, including presentation of the secondary as well as primary data sources. The data collected from private HEIs selected for a sample came from questionnaires and interviews. These research instruments and the justification of their use in the current study will be discussed in more detail in section 3.6; this section discusses several points, such as the questionnaire design, the validity, the reliability, samples, and details of a pilot study carried out to validate the measurement. Next, the main study is described and this is followed by a discussion on the second tool used in the study (the interview) in terms of interview development and utilization of the instrument. The chapter ends with a discussion of data analysis techniques used in the study.

3.2 Methodology and Research Design

Stringer (1999) describes research as "*a systematic and rigorous inquiry or investigation that enables people to understand the nature of problematic events or phenomena*" (Gerrish & Lacey, p.263). Whereas research design, according to Blaikie (2010) is, "the *plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance*" (p.37). Marczyk et al. (2005) points out that the term research design refers to the many ways in which studies can be conducted to answer research questions, ways which will help the researcher to describe the sample of the study, and categorize both the sub-groups it must contain and the variables which need to be measured. The research design will influence many aspects of a study, including method, objective, logic and results of the research.

The methodology of the research provides the theory behind how researchers obtain information in the context of their investigations as well as offering an explanation for the methods, through which researchers conduct research activities (Amin, 2012). In other words, it is, *"the philosophy of the research process, which influences choice of tools to be used in analysing a problem situation"* (Blank, 1984, p.5). Methodology also can be defined, according to Wisker, (2009) as the, "*overall approach to the research process, from the theoretical underpinning to the collection and analysis of the data*" (p.65). In general, there is no such thing as one ideal methodology to be applied for a situation or problem. More realistically, several factors of differing importance to different researchers determine the methodology selected, including the nature and content of the research aim, and the availability of resources (Blank, 1984).

Method, on the other hand, refers to the various means by which data can be collected and/or analysed (Somekh & Lewin, 2011). Accordingly, methodology is the epistemological framework for the research, while the method is the technique, or tool, for doing that research (Braun & Clarke, 2013). In social and behavioural science research, there are many different types of methods available for researchers. However, interviews, questionnaires, observation, and case studies remain the tools most commonly used. These four methods involve different techniques and require different strategies to analyse source material. To decide on which one to use, the advantages and disadvantages of each must be considered in relation to the nature and quality of the research (Sykes et al., 2009).

Determining the appropriate method to be used in a research project is an important step due to its role in collecting relative and accurate data, and should start well before beginning the data collection process. It is important to spend time deciding on the ideal methods to be used; and this decision depends mainly upon the; type of population; type of information amount; and the amount of time, people and money available (Braun & Clarke, 2013). Generally, there are two types of research methods available for researcher; qualitative and quantitative, which are outlined in the next section.

3.2.1 Qualitative Research

During the first half of the 20th century, when looking at idiosyncratic aspects of specific phenomena or problems, the focus was given to qualitative methods. Qualitative methods are defined as "*an array of interpretative techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomenon in the social world*" (Shah & Corley, 2006, p.1826). Qualitative research, therefore, emphasizes the value-laden nature of the research process and its result. The qualitative social science researcher looks for answers to issues with a stress on how events are formed and explained. Moreover, qualitative research often analyses the environments of individuals and their behaviours through narrative or descriptive approaches, representing the conditions as experienced by the respondents (Amin, 2012). In other words, qualitative research is an essential method of collecting data, which has a heavy emphasize on people's "lived experience" through in-depth understanding of "why", "how", and in what context certain phenomena occur (Brown & Remenyi, 2005). It does not rely on statistics or numbers, but instead it uses words to describe and analyse phenomena scientifically without using numerical data. Occasionally, qualitative research is used to develop new theory that didn't exist before (Best & Kahn, 1993). In qualitative research, the researcher can collect the data based on individual interviews, focus groups and less structured observation (Hussey & Hussey, 1997).

3.2.2 Quantitative Research

Around the middle of the 20th century, attention was given to more quantitative methods of conducting studies, which gradually became more appealing to investigators. Quantitative research is defined as "*explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics)*" (Muijs, 2011, p.1). Often, quantitative research is used to support or expand on a theory that already exists, and in general the researcher ends up with data reduced to numbers (Ariola, 2006). Quantitative studies emphasize the evaluation and analysis of causal relationships between different factors rather than processes. It has its basis upon observation, which is changed into discrete units that might be converted to other units. By using statistical analysis to manipulate these discrete units, results of quantitative research are reasonably straightforward to analyse and interpret (Amin, 2012). The data can be collected from quantitative research and be based on questionnaire surveys, highly structured observation schedules, or analysis records (Hussey & Hussey, 1997). Characteristics and distinctions between quantitative and qualitative methods are illustrated by the following table 3.1.

TABLE 3.1: *Quantitative vs. Qualitative Approaches*

Dimension	Quantitative	Qualitative
Purpose	Prediction and control, cause and effect	Understanding, description and interpretation of behaviour
Focus	Selected, redefined and narrow variables are studied	A complete and holistic understanding is sought
Data	Data are impersonal but consistent, number driven	Data are personal but inconsistent, people driven
Instrumentation	Testes and instruments	The research is the primary data collection instruments
Reality	Stable, quantifiable facts	Dynamic, changing perceptions and values
Values	Values free or controlled	Values are explicated
Orientation	Predetermined hypotheses are tested	Answers and theories evolve from collected data
Conditions	Research is conducted under controlled conditions	Research is conducted under natural conditions
Results	The focus is on replicable but flat and thin data	The focus is on collecting rich and thick data

Source: Grady, 1998, p. 6

Overall, both quantitative and qualitative approaches have their advantages and disadvantages, leading researchers to take different positions. Some argue the merits of treating the two strategies as entirely separate, while others mix these strategies within their research projects. As Amin argues "*the strengths of both quantitative and qualitative research can be availed of to help overcome the weaknesses of either approach. This approach has the potential to encourage better links between different levels of analysis and allows appropriate emphases at various phases of the research process therefore, it can potentially address a broader and more comprehensive range of research questions*" (Amin, 2012, p.72).

In order for this study to gain more reliable research findings, the researcher felt that a combination of quantitative and qualitative strategies would be the most suitable method for providing the information required in this investigation. Therefore, a mixed research method was utilized to collect the required data in order to establish a clear understanding of a quality system, and to investigate leadership practices in the application of this system, particularly with regards to administrative functioning within Omani private HEIs. The specific reasons for choosing this method will be explained in the next section.

3.3 Mixed Method Approach

In the 1980s the development of the mixed method approach began. According to Johnson et al. (2007) mixed method research is "*the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration*" (p.123). The general objective of the mixed method approach is to provide valid and well-established conclusions concerning a particular research problem (Amin, 2012).

Recently, most research carried out involves quantitative methods in combination with qualitative methods; this is done on the assumption that both methods are being complements of each other, and play an equally significant and complementary role in knowledge building (Creswell, 2013). Bryman (2006) supports this assumption by stating that mixed methods are used on the basis that qualitative and quantitative methods are complementary rather than competitive. According to Creswell (2013) the mixed method design is "*useful to capture the best of both quantitative and qualitative approaches*" (p.22). Based on this perceived usefulness, many researchers assert that qualitative and quantitative research can be combined. By using both methods in a study, the researcher can use the strength of one approach to overcome the weaknesses in the other (Recker, 2012). This approach allows researchers to be more flexible in their investigative techniques; it also seeks to address a wider range of complex research questions that arise. Moreover, the combination of qualitative and quantitative methods may facilitate a better understanding of the relationship between variables (Amin, 2012). Another positive is that, through utilizing the mixed methods approach, words, narrative, pictures and numbers can be used together to add meaning and accuracy to research findings (Recker, 2012). Therefore, for all these reasons, employing a mixed methods approach has gained widespread popularity among researchers.

Although the mixed methods approach presents some great strengths and advantages, the method is also wrought with vulnerability. Some researchers such as Amin(2012) and Recker (2012)who have criticized the mixed methods approach claim that investigators must conduct their studies utilizing only one method of examination, whether qualitative or quantitative . They insist that this approach has many potential drawbacks, such as; it is more expensive, more time consuming and requires more effort than one method research. Therefore, it can be difficult for a single researcher to utilize both qualitative and quantitative methods, and it may require a research team. Furthermore, sometimes contradictions may appear among research outcomes, which can be important, particularly in a case where a set of findings obtained from one method of investigation appears to challenge those obtained from a different method (Amin, 2012).

Based on what has been discussed, there is a lot to be taken into consideration and according to Recker (2012), if the researcher aims to adopt this technique, he or she has to learn about both methods and understand how to mix them appropriately. However, the question now is how does the researcher settle on which methodology to implement? In fact, there is no easy approach to choosing a specific appropriate method. In essence, the selection of the research method depends on the nature of the research topic, the research aim and objectives, and time availability (Creswell, 2013).

With regard to this study, it is important to determine what the major benefits of the research will be, and who is going to benefit from its results. It is also crucial to adopt the method which best suits the background and particular focus of the topic under study. A problem addressed in this study was the lack of academic research measuring leadership practices regarding the implementation of quality management in administrative affairs at private HEIs in Oman. Therefore, the researcher felt that the mixed research method (quantitative and qualitative) would be the best suited for data collection and analysis in order to gather multiple data points related to this phenomenon, and thereby gain more reliable research findings. The mixed research method was also chosen because the strengths and advantages of the multi-method approach were deemed too far outweigh the weaknesses. At the very least, according to Blaxter et al. (2010), this technique helps to provide a general picture of the problem, and the qualitative findings might help to provide background information for further quantitative research. Since this study aimed at measuring the attitudes or perceptions of individuals, the quantitative plus qualitative technique offers more credibility to a study as compared to qualitative or quantitative research alone. Consequently, it is the most appropriate for such an investigation and was thus used.

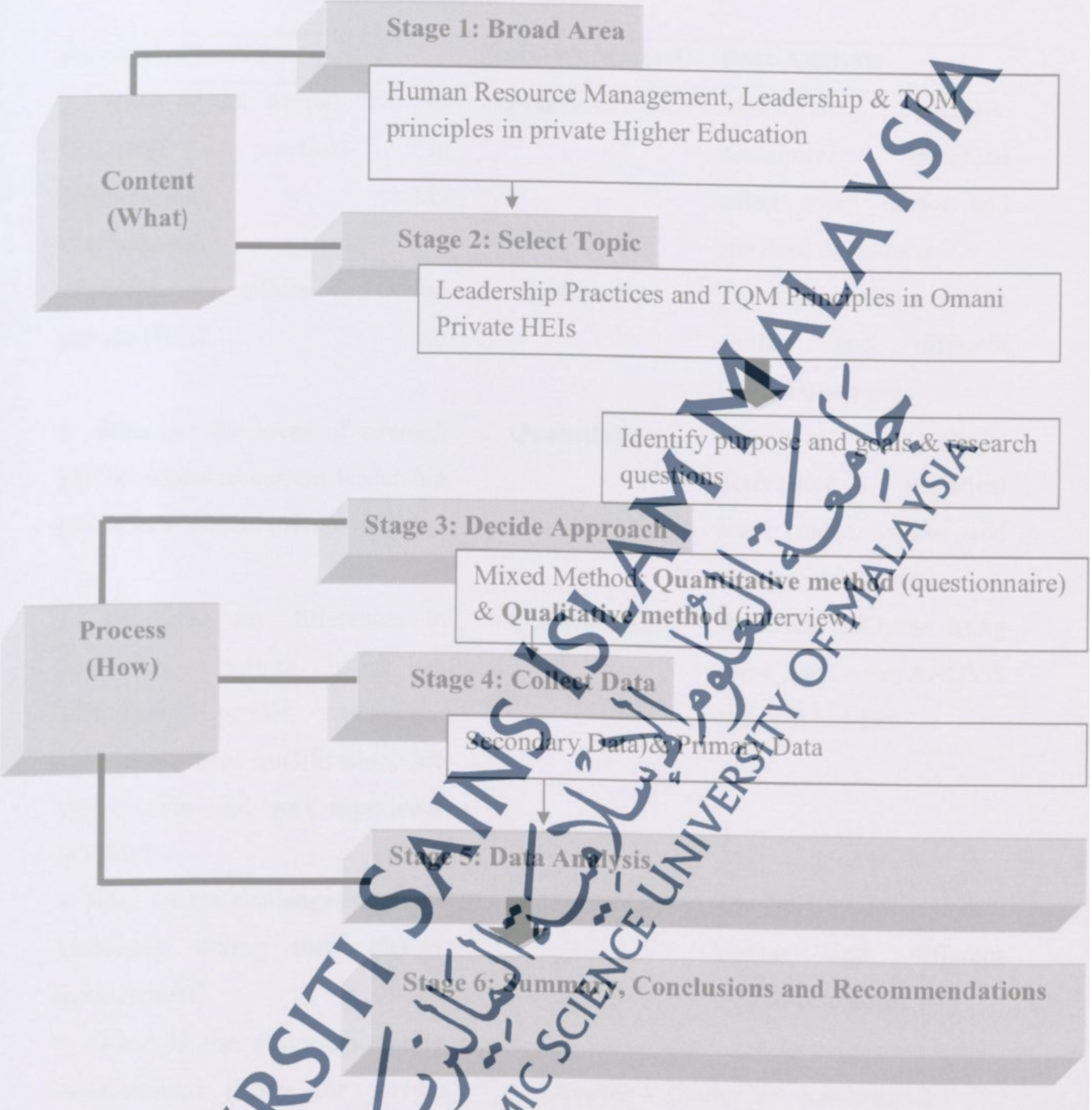
In mixed method studies, the researcher is able to collect and analyse quantitative and qualitative data individually on the same problem and afterward the different outcomes can be consolidated via comparing and contrasting the different results throughout the interpretation processes. This is done to find out whether or not they support each other, and thus aid development of a more credible argument concerning the study's conclusions. The mixed methods approach allows this particular study to reach the objectives of the study, and to thoroughly examine the research questions. A quantitative method was used as a key tool to investigate the first three research questions, and a qualitative method was used as a complementary tool of inquiry for the first and fourth question. Ultimately, all of the research questions examine the nature of current leadership practices on implementing a quality management approach, as applied in private HEIs in the Sultanate of Oman.

Accordingly, the mixed method design used employed questionnaires as an instrument for data collection from administrators and faculty members; while interviews were also conducted with senior leadership to add a layer of rich additional information to the study and, most importantly, validate the results that emerged. These two instruments are described in detail in section 3.6.

3.4 The Research Process

In the social sciences, there are a wide variety of approaches used. However, although there is this diversity, these approaches commonly share a problem solving sequence, which serves as a systemic check for anyone undertaking research at any level (Gill & Johnson, 2010). However, despite the presence of this sequence, according to Corbetta (2003) "*the research process is not a clear-cut sequence of procedures following a neat pattern, but a messy interaction between the conceptual and empirical world, deduction and induction occurring at the same time*" (p.233).In this study, the researcher adopted from Gill and Johnson (2010, p.9) the research sequence as shown in the figure 3.1 below:

FIGURE 3.1: The Research Sequence



As can be seen from figure 3.1, this study has a well planned research sequence which was concerned with drawing valid inferences from the available data to ensure the research aims and objectives were met, and guiding the study in a way that will produce specific answers for specific questions.

After designing the research study, in this mixed method study, research questions were answered as summarised in table 3.2.

TABLE 3.2: Research Questions and Methodological Design for the Study

Research Questions	Research Methods	Data Analysis
1. What is the overall state of leadership practices in implementing a quality management system in administrative affairs at Omani private HEIs?	**Quantitative &**	Statistical analysis: descriptive statistical using mean values and standard deviations.
	Qualitative	Thematic analysis: codes, similar and different themes categories
2. What are the areas of strength and weakness in current leadership practices at Omani private HEIs?	**Quantitative**	Statistical analysis: descriptive statistical using mean values and standard deviations.
3. Are there any differences in leadership practices based on participants' gender, nationality, age, educational qualification, job classification and work experience in HEIs?	**Quantitative**	Statistical analysis: using t-test, one - wayANOVA and post hoc test
4. What are the challenges that face leadership during their quality management?	**Qualitative**	Thematic analysis: codes, similar and different themes categories
5. What is the proposed quality improvement policy for private HEIs?	**Chapter V** (Summary, conclusion& recommendations)	

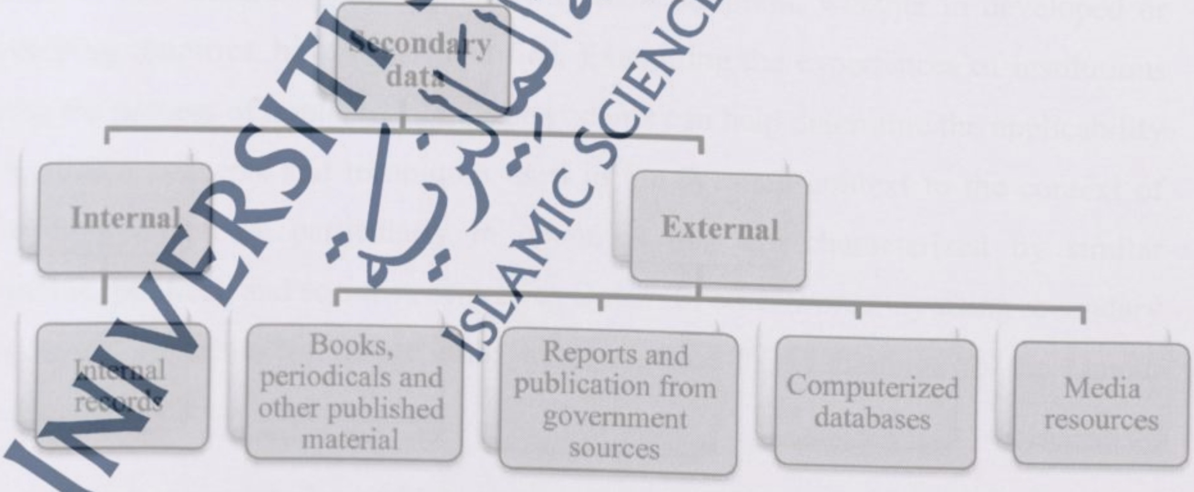
3.5 Data Collection Methods

After a research problem has been defined and a research design/plan chalked out, the task of data collection begins (Kothari, 2004). Data means "*known facts or things used as basis for inference or reckoning facts, information and material to be processed or stored*" (Singh et al., 2008, p.252). Basically, the data collection methods for any research are defined as secondary and primary data (Kothari, 2004).

3.5.1 Secondary Data

Kothari (2004) defines secondary data as "*those which have already been collected by someone else, and which have already been passed through the statistical process*" (p.95). So, in other words, the focus with secondary data is on analysing data which were originally collected by others (Gerrish & Lacey, 2010). Utilization of secondary data enables the researcher to look closely at the relationship between theoretical topics objectives. It is gathered by researchers to gain useful and relevant information to the subject of the study, and to allow the results to be viewed in a more general context. Secondary data can be classified as either internal or external as follows:

FIGURE 3.2: *Classification of Secondary Data*



Source: Bajpai, 2011, p. 128

Internal secondary data are generated within the organization, while external secondary data are those obtained from sources outside the organization (Bajpai, 2011). Secondary, or already existing data, includes books, documents, magazines, web pages communication media and others (Duane et al., 2011).

There are several pros and cons associated with secondary data which need to be considered. The advantages of using secondary information include; helping to clarify or define the problem, providing a solution to the problem, and providing necessary background data for the research project (Neelankavil, 2007). Besides that, in general, secondary data is convenient and available through libraries at no or very little cost, it can be relatively straightforward to collect, and it is less resource-intensive (Kumar, 2008; Wilson, 2010). Although there are many benefits of secondary data, it still has a number of limitations. The major concern is that the secondary data available may not match the requirements of the study. Because secondary data have been gathered for objectives other than the research at hand, its usefulness to the current problem may be limited, and it might be out of date or not reliable (Neelankavil, 2007; Wilson, 2010).

Based on the points raised in this discussion and in order to achieve the aims of this study, a number of internal and external secondary data have been reviewed. Using the available secondary data, the study began by trying to establish an understanding of the relationship between leadership, TQM applications, and the development of quality initiatives in general. Through the secondary data, both successful and failed attempts at quality systems adoption, whether in developed or developing countries, have been identified. Examining the experiences of institutions during the process of implementing these systems can help determine the applicability of the TQM concepts and techniques used in the Western context to the context of developing countries, particularly in countries that are characterized by similar economic, political, and social structures as Oman. In other words, by using secondary data, some opportunities should arise to extrapolate TQM findings to the Omani private higher education sector.

These secondary data, which were concerned with leadership and TQM as well as other relevant subjects were collected from; published references and books; academic articles and theses; and reports. It was also collected from the relevant publications and documentation of the Ministry of Higher Education, and reports from governmental and non-governmental bodies such as the OAAA. In addition the researcher used the Internet, and databases that are available in; the Islamic Science University, and the International Islamic University in Malaysia; as well as the Higher Education Administration Centre, Sultan Qaboos University, and the Public Knowledge Library in the Sultanate of Oman. However, despite the significance and value of secondary data in this study, the researcher faced some problems with collection, in particular regarding a lack of data available on the application of quality programs in private educational institutions. Because these institutions had little internal secondary data available, the researcher depended on other sources to gather the required data, such as governmental statistics. This challenge was described by Neelankavil (2007) and Wilson (2010) who cautioned that some secondary data may not suit a particular study because it was collected for different research purposes and therefore could be inaccurate and not up-to-date. In this case, there is an essential need for using primary data as an important source in gathering research data.

3.5.2 Primary Data Sources

Primary data are the second type of data, collected by the researcher directly, first hand. Typically, there are two main reasons that necessitate primary data use within research: when the researcher could not gather enough required secondary data. The primary data are, according to Kothari *"those which are collected a fresh and for the first time and thus happen to be original in character"* (2004, p.95). Primary data are described as being up-to-date data which are related directly to the research problem, and increase data credibility and accuracy. Because, these data are collected by the researcher to solve a certain problem, the researcher has significant control over data collection (Buglear, 2005).

Primary data may be qualitative or quantitative. For example, the researcher can obtain primary data through experiments in the case of experimental research (obtained in a controlled situation), or through questionnaires, observation and direct communication (interviews) in descriptive research (obtained in an uncontrolled situation) (Kothari, 2004). These methods differ in relation to the time required for data collection, data credibility and trustworthiness, level of response, and data collection costs.

In order for correct primary data collection methods to be used in this study, the researcher had to choose carefully to ensure achievement of research aims and objectives. Therefore, when the collected secondary data for this study were unable to answer the questions and achieve the goals of the study, the need for primary data, obtained from individuals in leadership positions, became necessary in order to gain more accurate and updated information. First hand information from education leadership allowed greater amounts and more detailed information on higher education in general, and private HEIs in particular. To address the problem at hand in this research, two types of primary data were used; Quantitative and Qualitative data, as previously noted. Utilization of more than one data collection approach in this study was done to combine strengths and correct some of the shortcomings of any one source of data. Data from primary sources were collected using questionnaires as a main instrument and interviews as a supplementary instrument, and will be discussed in some detail in the next section.

In fact, both secondary and primary data play a key role in enabling the researcher to gather the most rich and accurate information possible. Varied sources allow comprehensive data collection and multiple perspectives about the phenomenon under study. The following table 3.3 compares the two methods of data collection:

TABLE 3.3: *Primary versus Secondary Data*

Primary data	Secondary data
Original, collected from the source of their origin	Prior existence, not from origin, collected from published or unpublished reports
Used as raw material	Finished products
Related to a specific objective, do not need any adjustment	Collected for some other purpose, need to be adjusted
Costlier in terms of time, money and efforts	Less expensive

Source: Aggarwal & Khurana, 2009

As seen in table 3.3 both primary and secondary data involve strengths as well as some weaknesses. Through a combination of both resources, the researcher can employ the benefits of each resource to fill the gaps in the other one.

3.6 Instrumentation

There are no inherently right or wrong techniques that can be used by a researcher when conducting research; as Munn and Drever (1999) state "*It is important that anyone using a research method is aware of its weaknesses as well as* *its strengths - this leads to better understanding of the nature of the information collected*" (p.5). According to Creswell (2013) the choice of the study instrument to be applied by the researcher is influenced by three main factors: the time required for the study to be completed, the research strategy, and sample size.

Due to the nature of this particular study, which focused on leadership practices in the application of quality initiatives within the private higher education sector, the researcher studied the different quality perceptions of a targeted group involved in these institutions. This was to determine; the overall state of leadership practices in the implementation of quality programs; the strengths and weaknesses present in their practices; the differences in leadership practices based on participants gender, nationality, age, educational qualification, job classification and work experience in HEIs and the challenges that face educational leadership during the different stages of quality implementation. As has been previously discussed, the study adopted a mixed method perspective, which combines quantitative and qualitative approaches. To allow better understanding of the research problem, and to collect the required data; the study started with the quantitative approach which involved the use of a questionnaire as the main tool for collecting data; followed by the qualitative approach which utilized interviews. The qualitative data augmented the quantitative data and was used to fill gaps. Together the questionnaire and interviews were used to help the researcher to collect the required information and carry out a comprehensive analysis. Additionally, these two instruments were chosen due to their suitability for a study in an academic environment, as well as meeting budget requirements allocated for the research.

3.6.1 The Questionnaire

Questionnaires are one of the most commonly employed techniques used in social research for collecting data (Lancaster, 2005). A questionnaire refers to "*a list of carefully structured questions, chosen after considerable testing, with a view to eliciting reliable responses from a chosen sample, the aim is to find out what a selected group of participants do, think or feel*" (Aves, 2006, p.43).

Using questionnaires as a research technique provide several advantages. Some of these advantages are; the questionnaire is cheaper and less time-consuming than interviews, it is a relatively simple and rapid method for gathering data, it can be sent through the mail or email and therefore reach respondents in a vast geographic area, it can be distributed to a large number of people, and can be analysed quickly. Also, it can offer real anonymity if the researcher uses unsigned questionnaires (Polansky, 1975). On the other hand, the advantages of questionnaire forms can become disadvantages depending on the situation. A mailed questionnaire, for example, will not likely have a high rate of return. Although there can be a real anonymity, it prevents follow-up and does not allow for comparisons of individual's responses with data gathered from other sources, and it also prevents discovery of why or how the non-responders differ from those who do reply (Polansky, 1975).

Based on the robust nature of the questionnaire as a tool for collecting data, a questionnaire in the form of a survey formed the basis of this study. Another key reason for choosing a survey lies primarily in its widespread acceptance as the most effective instrument in institutions of higher education in Oman to collect data quickly. This view is supported by Polansky (1975) who states that questionnaires can be distributed to a large number of people and analysed quickly. Both of these factors are important for this study because the target population is somewhat large consists of administrators as well as faculty members. The aim of the questionnaire in the present study was to provide an initial overall evaluation of current quality practices of leadership within private HEIs. Therefore, the questionnaire was utilized on account of its efficiency as an instrument to gather information from respondents. The information obtained from this source has provided statistics, which measure employees' views about practices of leadership in the implementation of a quality management system when trying to ensure its success and continuity.

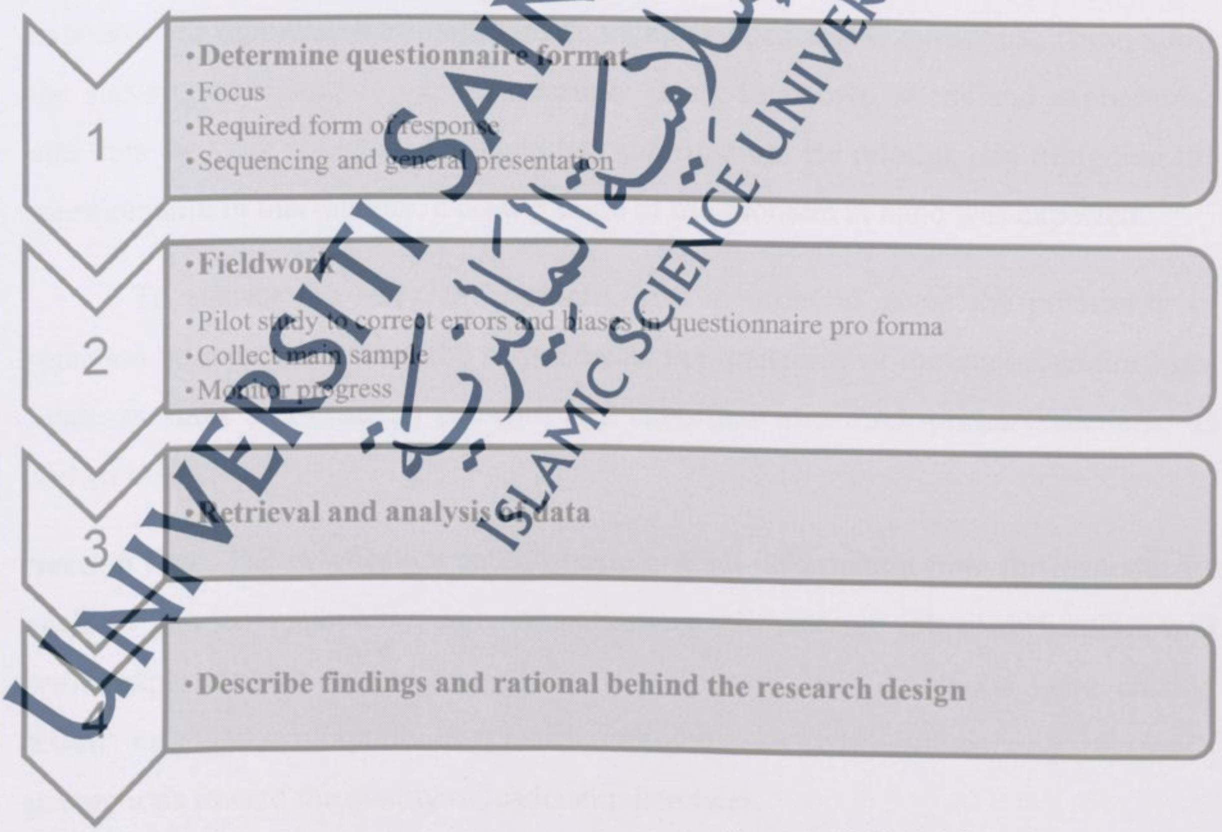
3.6.1.1 Designing the Questionnaire

Forethought in designing a questionnaire is vital in ensuring the effectiveness of the instrument for any investigation. Because it is taken for granted that individuals' compliance in completing questionnaires is voluntary, "*a questionnaire has to help in engaging their interest, encouraging their co-operation, and eliciting answers as close as possible to the truth*" (Cohen et al., 2011, p.250).

Furthermore, to improve completion rates, the questions should be designed so that they are simple and can be answered easily. It is important to use direct, specific, clearly worded questions. Additionally, diversifying the content of the questionnaire has clear benefits, in that it can capture a wide range of different perspectives through requiring respondents to reply in a variety of ways. This diversity also aids the participants in filling in the whole survey, without it feeling like too much of a burden (Gillham, 2000). Furthermore, in order to obtain unambiguous replies, it is important that the theme of the questionnaire be explained in some form of preamble or covering letter. The main purpose of the information sheet is to emphasize the confidential nature of the study, as well as inform the respondents that the information obtained would only be used for the purposes of the study (Oppenheim, 2001; Bradburn et al., 2004).

Gill and Johnson (2010, p.141) recommend a four-stage approach for designing a research questionnaire. This approach was used when developing the questionnaire for this current study. As shown in the figure 3.3 below:

FIGURE 3.3: *A Four-stage Approach for Designing a Research Questionnaire.*



Source: Gill &Johnson 2010, p.141

The main objective of the questionnaire in this study is to delve into the current status of leadership practices during the application of quality management, especially in administrative affairs, at Omani private HEIs. The questionnaire used was designed and tailored equally for both administrative staff and faculty members of private HEIs. The content of the questionnaire was basically derived and adopted from research and studies conducted in this field, most of which are outlined in the literature review. Additionally, several items were designed by the researcher especially for this study.

After conducting a pilot study, which explored the leadership's administrative practices in implanting quality management system within private HEIs, initially, a questionnaire related to TQM principles was designed that included 57 questions in total. Due to the plan of this study, which covered 20 institutions and was carried in a limited time frame, the survey relied heavily on structured questions to elicit the desired information. The questionnaire primarily consisted of closed-ended questions which required respondents to choose a specific response from predetermined answers. One of the most important advantages to this type of question is simplifying data collection and analysis. Additionally, in order to help the respondents to freely express their opinions, the questionnaire includes open-ended questions. These allow the survey participants to answer questions using their own words and expressions, and thus they can potentially provide rich information. By piloting and designing the questionnaire in this manner, a clear picture of the problem at hand was expected.

To answer the research questions, and in order to avoid the possibility of rejection or reluctance from the respondents, the questions of the questionnaire were made as short and clear as possible and classified into three primary sections, as shown below:

Section One: The first section gathers basic general information from the respondents such as gender, nationality, age, educational qualifications, job classification, and work experience in higher educational institutions. These questions were created based on the assumption that such variables directly influence participant's perceptions toward the quality of leadership practices.

Section Two: Specifically, the purpose of the questions in this part is to measure overall state of leadership administrative practices from the employees' point of view. A number of questions were formulated in an attempt to identify the strengths and weaknesses of current practices related to the quality system which were implemented in the private HEIs. Those practices will be measured according to the seven principles of quality management, which are, (1) Senior Leadership, (2) Strategic Planning, (3) Training Programs, (4) Empowerment and Involvement, (5) Reward and Motivation, (6) Teamwork and (7) Continuous Improvement. This section consists of 55 items (after conducting the pilot study).

Section Three: This section includes one open-ended question. This section was intended to capture additional comments and specific information related to the current leadership practices. Section three seeks to obtain from respondents some suggestions to improve leadership practices and enhance quality of administrative services at Omani private HEIs (see Appendix A).

In order to reflect the intensity of respondent opinions, give some degree of choice, and facilitate mathematical interpretation, a five-point Likert scale was adapted. The Likert scale was employed to explore the employees perceptions in relation to quality system implementation and leadership practices, where option "5" represents strongly agree and "1" is strongly disagree.

3.6.1.2 Validity

McNeill and Chapman (2005) define validity as *"the problem of whether the data collected is a true picture of what is being studied"* (p. 9). Validity depends upon the ability of an instrument to measure what is supposed to be measured. In other words, has the researcher done what they set out to do? (Grinnell & Unrau, 2011).

To meet the requirements of validity in this study, several steps, including a wide ranging literature review, were undertaken. Examining studies related to leadership and its importance in TQM formed the basis of this review. These studies offered insights into leadership and its relationship with the success or failure of quality management program implementation processes within industrial or service institutions, particularly in the education sector. These insights include determining and clarifying the questions used in the questionnaire as they were mostly adapted from related studies. Moreover, in order to improve the design of the main survey, a number of questionnaires were sent to experts in the quality and educational field. They were asked to provide feedback about the clarity and comprehension of the questionnaire. These experts examined the questionnaire for deficiencies and made suggestions for modifications. They commented on the readability and meaning of some questions in the questionnaire, and suggested additions, deletions and modifications. Based on this feedback, the questionnaire was modified, which led to the creation of the final form of the study's instrument. As mentioned earlier, to ensure more valid answers, the questionnaire consists of both closed-ended questions and open-ended questions.

3.6.1.3 The Reliability

The aim of the reliability is to minimize errors and biases in a study. According to Chandra & Sharma (1997) the term reliability refers to "*the extent to which a test is internally consistent and the extent to which it yields consistent results on testing and retesting*" (p.198). In other words, a test is reliable if it measures consistently.

Calculating Cronbach's Alpha is the most common method of measuring reliability, which, in an acceptable situation, should be above 0.7. However, if Cronbach's Alpha is found to be below 0.7, it means low internal consistency in the variable or lower reliability (Pallant, 2010). Cronbach's Alpha allows the internal consistency for several items (questions) to be assessed by measuring the degree to which the items belong together or share similarities in their measurement of a particular construct (Sashkin & Sashkin, 2003). In order to ensure the reliability of the study, a pilot study was conducted using an initial questionnaire of the study.

3.6.1.4 The Pilot Study

In any empirical study, in order to ensure avoidance of any mistakes and irrelevant information, and to ensure that the questions will provide the right answers and not mislead, a questionnaire should be trialled and pilot tested before use. The term *pilot study* refers to a "*tentative, small-scale study done to pre-test and modify study design and procedures*" (McBurney & White, 2010, p. 236). When conducting a pilot study, a set of questionnaires is distributed to a small sample of participants before the main data collection phase in order to get preliminary feedback. As a result, the researcher can obtain an estimation of question validity and likely reliability of the collected data and, thus, these questionnaires can be refined until ready for distribution in the field (Gillham, 2000).

According to Oppenheim (2001), a pilot study is conducted for various reasons that include (a) to detect weaknesses in the design of the instrument, (b) determine the feasibility and practicality of the major study, (c) identify problems in the research design, (d) refine the data collection and analysis plan, and (e) test the reliability of the instrument to be used in the major study. Furthermore, the pilot study aims to identify whether the words in each question are correctly understood, that each item measured what it was intended to measure, that the items were interpreted similarly by all participants, and that each item contained a sufficient range of response options (United Nations, 1984).

For the purpose of the present study, as has been pointed out previously, the face validity of the questionnaire was checked by asking experts to comment on the representativeness and suitability of the questions, and to give feedback on whether the questionnaire accomplishes the study objectives. The experts provided excellent feedback, and their comments and input resulted in a reduction of the questionnaire length. Subsequently, in order to achieve high validity and reliability of the revised instrument, a pilot study was conducted during November 2013. The intent of the pre-testing questionnaire was to obtain feedback related to:

- whether the questionnaire includes all relevant measures of the study's objectives,
- the clarity of the questionnaire language,
- any item repetition,
- how long the questionnaire took to complete, and
- the suitability of the measurement tool to the current situation at private HEIs in the Sultanate.

Before conducting the pilot study, ethical approval was obtained from the Islamic Science University (USIM) (see Appendix C). Additionally, since the questionnaire, which was created as a test tool for this study, had not been applied previously in the

Omani content, the MoHE's permission was obtained to conduct the pilot study (see Appendix D). The pilot study made use of 40 individuals, who were administrative and academic employees from different nationalities and backgrounds. The questionnaires were distributed to four private HEIs in Muscat (10 questionnaires were distributed to each institution). This sample was not included later with the participants of the main research. The pilot questionnaire was accompanied by a cover letter that clarified the reason for the questionnaire, requested confidentiality, and promised anonymity. A researcher's contact details were also supplied and a deadline was set orally for returning the completed questionnaire.

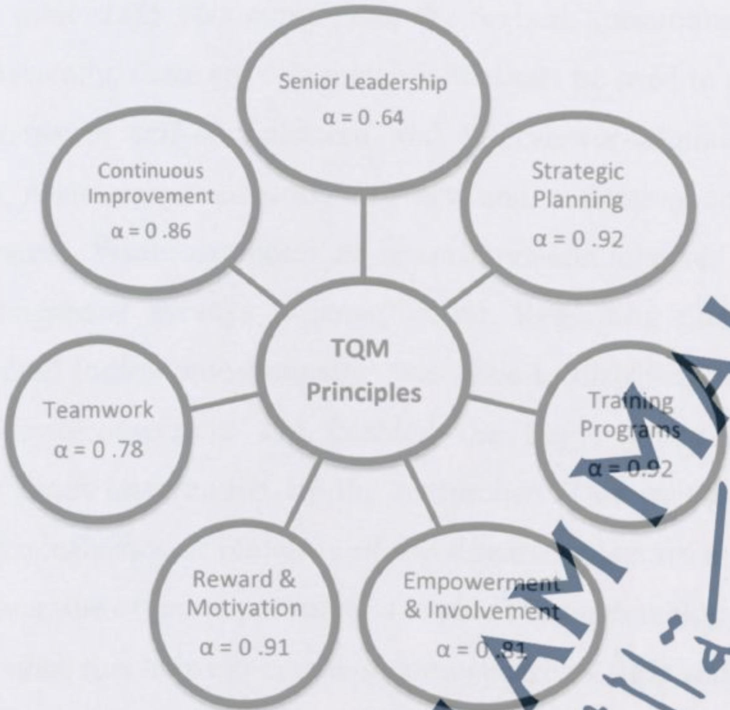
Out of 40 questionnaires, 39 were collected, and one of the 39 was deemed unusable. The collected questionnaires contained feedback related to various questions. Table 3.4 shows the number of questions per princple.

TABLE 3.4: *Number of Questions per Dimension in the Pilot Study*

Principles	Number of Questions per Principle
Senior Leadership	9
Strategic Planning	9
Training Programs	9
Empowerment & Involvement	7
Reward & Motivation	8
Teamwork	7
Continuous Improvement	8
TOTAL	57

As has been previously discussed, a pilot study is often conducted to ensure the reliability of the instrument being used in a study. The pilot questionnaires were checked for reliability by checking the internal consistency of the instrument's items. This process was done using Cronback's Alpha, which was calculated for the pilot study data set. Figure 3.4 shows descriptive statistics and reliabilities for all items in each principle.

FIGURE 3.4: Internal Consistency of TQM Principles (Cronbach's Alpha values)



As seen in figure 3.4 reliabilities for six principles of the instrument ranged from 0.75 to 0.92 indicating high internal consistency. The only principle revealing questionable internal consistency was senior leadership, for which the Cronbach's Alpha value was 0.64. Due to the low internal consistency for this principle, some items were chosen for deletion. Following these deletions the questionnaire was composed of 55 items, and it was estimated from the pilot test that answering the questionnaire took around 10 minutes.

Furthermore, immediately after the pilot questionnaire, in order to ensure higher validity and reliability of the survey instrument, some side talks were held with the targeted respondents. During these talks participants were asked to verbalise what they thought about each question, and specifically whether it was ambiguous or difficult to understand. From these discussions, further statements were found to require revision to make them clearer, and the participant's general impression of the questionnaire was obtained. The pilot study demonstrated that the survey instrument was sufficiently reliable to be used with the entire target population.

3.6.1.5 Questionnaire Distribution

Once the pilot study was completed, the revised questionnaire was used for obtaining data. Basically, there are two methods that can be used to collect data using a survey questionnaire: self-administered and interviewer-administered. The first method includes postal questionnaires, delivery and collection questionnaires and online questionnaires. While examples of interviewer-administered are face to face interviews and telephone surveys (Kumar, 2008). Regarding this study, the self-administered method (online questionnaire) was used to distribute the questionnaires as it was less time-consuming and enabled the target group to complete the questionnaires without intervention by the researcher. This method was chosen to reduce the reactive influence or partiality of the researcher toward a particular idea in the study. Moreover, the effect of partiality is avoided through making the respondents anonymous and, thus, this helps to create an atmosphere of trust and freedom. On the other hand, non-interference by the researcher may cause some concerns, especially in cases where respondents have queries.

Since this study is related to leadership practices and quality management system within private HEIs, the questionnaires were sent electronically to 19 out of 20 private universities and colleges in Muscat Governorate (institutions that agreed to participate in the study). The questionnaires were distributed to employees at management and academic level. The employees were chosen randomly from participating institutions. It was deemed appropriate to have a large number of respondents for the following reasons:

- rejection of some questionnaires;
- incomplete questionnaires; and
- collection of as many opinions regarding the issue under study as possible.

As mentioned earlier, since private HEIs are under the supervision of the Ministry of Higher Education, its permission was sought prior to participant solicitation (see Appendix D). After approval was received, the administrations of these institutions were contacted to inform them about the study, and ask them to identify an appropriate date to send web link of the survey.

In order to put the target group at ease and promote completion, the questionnaires were distributed with a cover letter attached to explain the purpose of the research, and emphasize that the information would be treated with the utmost confidentiality. In accordance with ethical guidelines, the survey guaranteed anonymity and complete confidentiality for its participants. Measures were taken to ensure the protection of respondents' identities. No identifying markers such as codes or identification numbers were placed on the questionnaires, and the participants were not asked to provide their names. All respondents were given assurances of their privacy and anonymity, and had the right to discontinue participation at any stage during the process of conducting the survey. It was also stressed that all the data collected was confidential.

The research instrument was emailed as a link using the Survey Monkey website. The respondents were asked to complete the questionnaires online and answer all closed-ended questions, as well as all open-ended questions by clicking on the supplied link and complete the survey within two weeks.

3.6.1.6 Population and Sample Selection

The research population, according to Sekaran & Bougie (2010), refers to "the *entire group of people, events or things of interest that the researcher wishes to investigate*" (p.262). Because this study's goal was to examine leadership quality practices in administrative affairs within private HEIs, the targeted population with which this study sought to make inferences and generalize findings was administrative and academic staff, as well as leadership at the higher levels of these institutions.

However, since the number of staff at private HEIs is fairly large, a small sample was investigated and the results were extrapolated to the entire sample. Sampling is "*the process of selecting a sufficient number of the right elements from the population, so that a study of the sample and an understanding of its properties or characteristics make it possible for us to generalize such properties or characteristics to the population elements* (Sekaran & Bougie, 2010, p.266). In any research, identifying a representative target sample is a significant step which requires a great deal of effort in order to ensure research reliability and validity. Sampling is a step that enables conclusions to be drawn about a certain population through selecting and examining only a few components from that population (Sekaran & Bougie, 2010). Each individual is selected randomly and entirely by chance at any stage during the sampling process. As a result, every individual in the population has the same chance of being chosen for the sample as any other (Kothari, 2004).

Of course specific situations will determine which particular sampling scheme should be used (Buchanan & Bryman, 2009), for example, the type of organization and the number of employees are among various factors that determine the method of sampling for any research. Understanding the concept of sampling techniques is key to the success of any investigative study, and ensuring all population elements have the same chance to be selected is of the greatest importance when choosing a sample.

In the context of this study, where the population is far too large to observe directly, simple random sampling (also known as chance sampling or probability sampling) is probably the best method available to collect primary data for describing a population influenced by quality practices in an educational institution. This choice was also influenced by the limited time available to undertake this study. Husén and Postlethwaite (1994) suggest that selecting a sample "*not only reduces costs, but may ensure that the data collected are of high quality. When a sample is selected, the results obtained from the sample must be generalized to the population from which the sample was drawn*" (p.5854). In view of this, and taking into account economic constraints, time constraints, and other limitations owing to the nature of this study, a targeted sample was selected in order to answer research questions and achieve research objectives. As mentioned earlier, this study followed a mixed method data collection approach, whereby questionnaires and interviews were conducted concurrently to validate the research results. Additionally, the study focused specifically on private HEIs in Oman that have quality management system in place; public higher educational sector were excluded from the sample. As previously mentioned, the research was conducted with a sample consisting of a number of administration staff and academics in private HEIs in Muscat. The governorate of Muscat is the capital of the Sultanate of Oman. It consists of six Wilayahs (cities or town) and is home to 407,006, 20.8% Omani citizens (NCSI, 20 March 2013). Because of its population density and the presence of various vital services, including education, Muscat has 20 private HEIs (two universities and 18 colleges) out of 27

HEIs, which represent 74% of the total private higher education institutions in the Sultanate of Oman (MoHE, 2013). Based on research plan, the study sample will cover all private universities and colleges in Muscat, which had 1,791 employees (638 administrators and 1,153 faculty members) during the academic year 2010/2011 (HEAC, 22 May 2013).The total target sample for the questionnaire consisted of 700 faculty members and administrative staff belonging to19 institutions that agreed to participate in the survey. The size of this sample is in accordance with the sample table created by Krejcie and Morgan (1970).

3.6.2 The Interview

When faced with a complex topic, the use of a questionnaire may be too clumsy for dealing with it, also, there is a potential problem with complex questions that may need clarification; therefore, the interview would seem to be more appropriate to address such issues. The interview is considered the oldest research technique in the world and has been used extensively in social science research (Kuniavsky, 2003). Unrau and Grinnell (2011) state that the interview is at the core of social work practice; and that it is the most powerful, useful, and commonly used method of gathering information from target groups for research studies. Knight and Ruddock (2009) describe an interview as a conversation between two or more people (the interviewer and the interviewee) where questions are asked by the interviewer to obtain more knowledge about a particular topic. According to Lopez (1975) an interview is "*initiated to achieve one or several objectives, takes place in a particular physical and social setting, and occurs as part of a procedural sequence of events., further, it focuses on the present, past or future, behaviour, beliefs, opinion, attitudes or convictions of the interviewee*" (p. 8). Importantly, interviews enable the researcher to collect both sociological and psychological facts as well as make observations of respondents' attitudes, behaviour and experiences (Bulmer, 1984).

The interview enjoys a number of methodological advantages. One advantage to this method is its appropriateness for complex and sensitive subjects, which are frequently of concern in social work research (Polansky, 1975). Also, through using interviews, a substantial amount of in depth information can be obtained along with an exploration of respondent experiences. In addition it is characterized by a high response rate, while allowing greater flexibility and validity (Adams & Schvaneveldt, 1985; Babbie, 2011). The use of interviews also provides access to learn what a person knows (knowledge or information), thinks (attitudes and beliefs), and feels (values and preferences) about a situation or event. Moreover, the interview is used in testing hypotheses or suggesting new ones; or as an exploratory device for indentifying variables and relationships. The interview also can be used along with other methodology to enhance a study (Cohen et al., 2011). Generally, interviews, by decreasing the number of "don't know" and "no answers", provide a guard against confusion, and if they are well designed, they should achieve a completion rate of at least 80 to 85% (Babbie, 1991).

While there are many advantages to the interview, it does however, have its downsides. According to Unrau and Grinnell (2011) these disadvantages include increased time and expense, inaccessibility of potential interviewees, a loss of anonymity, an interviewer's possible distortion of the interview's content, and an interviewer's potential impact on a respondent's answers. The researcher should realize that not all interviewees will answer honestly, and may even distort their answers in an attempt to make themselves appear something they are not. It should also be noted that interviews can be significantly time-consuming, especially if there is a need to pass through bureaucratic channels or persons (Ackroyd & Hughes, 1992). In this research, however, these negatives have been minimized through carefully preparing the interview schedules (time, length and place of the interview); and setting out the structure and sequencing of specific interview questions followed by additional questions about the main ideas behind the interview. Moreover, the researcher attempted to be objective and neutral as much as possible while conducting the interviews by not revealing any personal views.

Interviews can be categorized into various types, which occupy different roles in research. It is possible to base this classification on the openness of its purpose; its degree of structure; the extent to which they are explanatory or hypothesis-testing and whether they focus on knowledge and cognition or emotion (Cohen et al., 2011). However, most of the interviews that are used in the social sciences include only three classifications: the structured interview, the semi-structured and unstructured interview (Bill Myers & Shaw, 2004). In this study, in order to establish a dynamic and interactive atmosphere, semi-structured interviews were used to facilitate discussion of issues relevant to the research topic. A semi-structured interview means that the interviewer decides on a general structure by choosing which questions will be asked, and ground which will covered in order to gather clarification and deeper explanation from the interviewee. This technique is usually conducted while following a carefully worded schedule, uses pre-determined categories, and contains both open-ended and closed questions (Klenke, 2008). A major problem with this method of interview is the amount of time that is necessary. This stems from the fact that the interviews should be conducted in the same way to make sure that each interviewee understands the question in the same way (Myers & Shaw, 2004). On the other hand, a major strength of semi-structured interviews is that they offer an opportunity for open discovery in that the problems discussed, the questions raised, and the issues explored change from one interview to the next as different aspects of the topic are disclosed. In other words, it is a useful tool for gathering statements about respondents' preferences and views enabling an exploration of their experiences, motivations and reasoning in depth (Klenke, 2008). As a result of the loose structure, interviewer and interviewee have more freedom because open-ended questions and follow up questions allow the respondents to express their feelings comfortably and possibly better (Cargan, 2007).

3.6.2.1 Interview Development

The interviews of this study targeted three objectives: (1) collecting data to answer the research questions - particularly the first and fourth question, (2) validating the data obtained through questionnaires, and (3) gathering information from senior leadership about several different aspects of quality activities in the private higher education sector. In other words, the purpose of interviews is to investigate practices of leadership in regards to TQM principles at private HEIs, particularly to determine the challenges they faced during the process of applying a quality system. Furthermore, in concert with questionnaires, interviews allow perspectives from two different angles on the same phenomenon, which helps in validating the research questions, or findings.

In the current study, the questions in the interview were linked to the questionnaire questions. Moreover, the interview questions were designed only after analysing and examining in detail literature review related leadership and TQM locally and internationally. The following topics were covered during the interviews:

- The current status of leadership practices concerned with improving administrative procedures based on TQM principles; and
- Challenges involved with these practices.

In order to ensure validity or trustworthiness in qualitative methods, a number of the interview questions were sent to experts who are involved in quality and private education in Oman. They were asked to provide feedback about the questions and their suitability in achieving the research objectives. Many suggestions for modifications were obtained through these experts and based upon their observations several of the interview questions were improved. The instrument was then deemed to be finalised and ready for the next step of target sample application.

The participants of these interviews included senior leadership of the private education sector in Muscat. Using the interview is a second tool in this study, 8 - 10 interviews were planned with top academic and administrative leadership who have been working with their institutions for more than three years to ensure their credibility in answering the research questions. The reason for choosing this group for interview was that they are in charge of adapting and applying quality initiatives within private HEIs. This sample includes some of the senior leadership positions of the private universities and colleges all over Muscat Governorate; including the college dean, assistant/deputy dean, head of human resources and the head of quality assurance department among others. These interviews provide the researcher with an invaluable opportunity to examine and understand the phenomenon studied by this research.

3.6.2.2 Implementation of the Instrument

This phase was conducted after completing the first phase which was the development of the interview questions. As indicated earlier, interviews were conducted with a number of administrators and academics who work in private HEIs in upper management. This selection of interviewees was made based on their involvement in the educational institutions in adapting and implementing quality management.

As has been noted previously, the semi-structured method was chosen, whereby a list of questions was prepared. Interviewees were asked five key questions pertaining to leadership practices and the current quality management system. These questions particularly related to research questions 1 and 4. Attached Appendix B includes a list of questions covered during the interviews. Using a conversation flow plan, all interviewees were asked the same questions, but in a different order. Additional questions were asked when it was felt that further questioning could serve the research goals.

Participants were asked if they preferred to be recorded or preferred notes to be taken. However, the tape recorder was preferred during the interviews for two main reasons:

- It is possible to access the recorded information whenever necessary;
- If the interview discussions are not recorded, it can be difficult for the interviewer to focus on the discussions because of a preoccupation with writing and taking notes.

Nevertheless, the interview plan remained flexible, so that the researcher could swap tape recording and taking notes according to the circumstances of the interviews.

The targeted institutions were visited and their administrators met in March 2014 to arrange interview appointments. Each targeted person was interviewed once at his/her place of work during working hours, and each interview took an average time of 30 - 45 minutes. Depending on the interviewees' circumstances, some were postponed and some others were rescheduled for the same day.

In general, most data collection carried out in the course of this study was successful, as respondents were supportive and co-operative. However, during the process, some difficulties were experienced. As the study relates to private universities and colleges in the governorate of Muscat, a great deal of travelling between the selected institutions was necessary to conduct the fieldwork, including personal visits and arranging appointments. Furthermore, some leadership feared the dissemination of sensitive information and research results which could negatively affect the reputation of these private educational institutions. As a result, it was thought that the interviewees might provide partial or biased information which, in turn, could influence the research results.

In an attempt to overcome these difficulties referred to above and to gain easier access to the targeted sample, the researcher sought to obtain an official letter from the MoHE to facilitate the task of unbiased data collection (see Appendix D). Following this, contact was made with the institutions via email and phone calls; in addition, internal contacts (friends and relatives) workings in the targeted institutions were used. Arranging personal visits to these institutions through contacts was an effective strategy in gaining access to sources of data. In order to make the interviewees comfortable and more relaxed, before starting an interview, each participant in the study was provided with a copy of the interview questions. All interviews began with a personal introduction, a general overview of the study, an explanation of the research project objectives, and a description of the importance of this interview for the study. Additionally, and perhaps most importantly, the anonymity of the interviewees was guaranteed: it was stressed that the data would only be used for academic purposes and that confidentiality and anonymity are highly respected. It was felt that the targeted leadership were convinced of the value of the research; that they understood both the benefits to be gained from the interview; and the importance of the research results in the development of higher education in general and private institutions in particular. Because English is an official language in private higher education institutions in Oman, all interviews were conducted in English. At the end of the interviews, any uncertainties were clarified; and interviewees were thanked for their co-operation and assistance.

3.7 Data Analysis Technique

After collecting the primary and secondary data, the inevitable next step is data analysis. Primarily, this phase focuses on translating the questionnaire and the interview findings into useful and reliable information, ensuring that the collected data has achieved the research goals, and answered the research questions. Basically, analysing data for this study is based on linking the qualitative data findings to the quantitative data results to fill the gaps and examine them in light of the research aims. Some of the gaps that required verification are the employee perceptions of leadership practices in the implementation of quality management in terms of the following: The existence of a clear strategy for application, spreading a quality culture, providing adequate training, empowering staff, and overcoming the obstacles they faced or might face during the process of implementing a quality program.

As a first step in analysing the data, the returned questionnaires were examined to determine usability. It was expected that there would be very few unusable questionnaires, as the targeted group were required to complete each question before moving on to the next item in the questionnaire. In order to make sense of the data collected and to enhance the understanding of the phenomenon under question, the researcher analysed the questionnaire data collected by removing any unusable submissions and using the software program SPSS (Statistical Package for the Social Sciences). Statistical analysis using frequencies, percentages were used in order to answer section 1 of the questionnaire (demographic questions). Also, in this study descriptive statistical using mean values and standard deviations were employed to answer study's question 1 and 2. Then, statistical analysis using t-test, ANOVA and post hoc test were used particularly when answering question 3 in order to determine if there is a statistically significant relationship between group means for demographic variables

The questionnaires were examined using statistical data analysis to provide some indication about the present situation regarding the use of quality system within private HEIs in Oman. However, as a first step before embarking on the statistical analysis, the data was entered into the computer and checked for input errors before an analysis was done. As has been pointed out previously, there was no identifying information used when the findings were analysed and discussed. This precaution assured the non-disclosure of the participant's identity. By maintaining the anonymity of the participants, their responses remain confidential and can never be shared with their organization or used for any purpose other than scientific research.

Moreover, in relation to analysis of interviews findings, the researcher will use a thematic analysis method using codes, similar and different themes categories. It is a widely used method of analysis in qualitative research. It is one of a cluster of methods that focus on identifying patterned meaning across a dataset collect the data. Braun and Clarke (2006) define thematic analysis as: is a "*method for identifying, analyzing, and reporting patterns [themes] within data*" (p.79). According to this method, after data is collected, the recorded interviews will be transcribed into text. In order to gain an understanding of phenomena, analysis the data consists of identifying, coding, and categorizing patterns or themes found in the data. The emerged themes will be organized based on similar topics into categories. When analysing data and writing results, in order to guarantee anonymity and confidentiality of the participants, the researcher will not refer to their names instead, the reference will be as interviewee 1,2,3 etc.

After analysing data, an explanation of the results must be attempted. This undertaking will lead to a clearer understanding of the gathered data by linking them to the research questions and examine which ones, if any, were answered. Further clarification is offered in the next chapter.

3.8 Conclusion

This chapter outlined the research design, which serves as a guide for this study. Additionally, the justifications for different research methods and procedures used in the completion of the study were explained. The specific purpose of the study was to identify the practices of leadership working within private HEIs, who, guided by TQM principles, had implemented quality system, especially in administrative affairs. The strength and weakness areas of their practices, as well as the main challenges that faced the application processes are the main factors to be determined. In order to answer the research questions, and meet the research aims and objectives, this study relied on primary and secondary data. To reach a better understanding of the problem and generate more reliable results, the study involved the use of both quantitative and qualitative methods, particularly in-depth, self-administered questionnaires and semi-structured interviews.

To collect the required data from different parties, and gain multiple perspectives, a survey instrument, developed by the researcher, was used in this study. Numerous techniques were used to ensure validity and reliability. A literature review was conducted to determine appropriate items for the survey instrument in each of the seven principles. Face validity was determined from input by experts in quality management and education. Prior to the administration of the final study, a pilot study was conducted in order to determine the reliability of the study. Data from the pilot study were used to assist in the refining of the survey questions, to alert the researcher of any unexpected problems, and determine the data analysis methods to be used for the final survey. Furthermore, for deeper understanding of the phenomenon from varied viewpoints and to collect realistic data, the researcher allowed those chosen for the sample, especially senior leadership, to tell their own story through interviews. The staff employed at private HEIs which were sampled for this study included those in charge of private universities and colleges as well as academics and administrative staff from the Muscat governorate. Data were processed and analysed using the SPSS software package; this was in order to transfer this information into usable data to verify whether the research objectives were met and whether the research questions were answered. The outcomes of these investigations will be discussed in detail in the next chapter.