

**THE RESEARCH METHODS OF COMPLETED SOUTH AFRICAN
DOCTORAL RESEARCH OUTPUT IN PUBLIC ADMINISTRATION FROM
2000 TO 2005**

by

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I declare that **THE RESEARCH METHODS OF COMPLETED SOUTH AFRICAN DOCTORAL RESEARCH OUTPUT IN PUBLIC ADMINISTRATION FROM 2000 TO 2005** is my work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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ABSTRACT

This dissertation examines the research methods that were used by doctoral students in Public Administration from the period 2000 to 2005. In order to identify the research methods used, it first looked at the purpose of doctoral research in Public Administration. It further identified ten research methods that can be used by doctoral students in Public Administration. When presenting the findings on the purposes of research it was found that 50% of the theses were descriptive and 30% were aimed at developing or improving administrative technology. Three categories were mainly used as units of analyses, namely interventions, organisations and institutions and social actions and events. The units of observations included individuals, official documents and scholarly literature. Of the ten research methods, only four were mostly used; Quantitative¹, Hermeneutics, Qualitative¹ and Qualitative². This dissertation also identified that a significant association either exists or do not exist between the chosen variables.

Key terms

Research methods, theses and Public Administration.

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CHAPTER 1

GENERAL INTRODUCTION

1.1 Introduction

Scholars and practitioners in Public Administration assume that research on doctoral level should contribute to scholarly knowledge and insight on the practice of Public Administration (Wright, Manigault & Black 2004, Forrester 1996, Rodgers & Rodgers 1999, Baltodano 1997, Brower, Abolafia & Carr 2000, Gill & Meier 2000, Wessels 2004, Lowery & Evans 2004, Brewer, Douglas, Facer & O'Toole 1999, Felbinger, Holzer & White 1999, Cleary 2000, Houston & Delevan 1990, Adams & White 1994, Callahan 2001, Green & Powell 2005 and Bailey 1992). Therefore it is crucial to ask the question whether completed South African doctoral research indeed makes a contribution to scholarly knowledge and insight. As a first step in answering this question, it would be necessary to first consider the research methods that doctoral students have used up to now. This chapter, thus, sets out the design of such a study.

An overview is provided to serve as the frame of reference for the research. This includes the rationale and background information that will assist in addressing the problem in content. The research plan is provided which states clearly how the research will be structured, what the problem statement is and what the aims of the study, and research objectives are. The delineation of the study is provided, as well as the research methods and reference technique used. Finally, the contents of further chapters are briefly summarised, before concluding with a summary of the information contained in this chapter.

1.2 Background and rationale

The Collins English Dictionary (1979) defines *research* as a “systematic investigation to establish facts or principles or to collect information on a subject”. Wessels (2004:168) states that scientific research is viewed as a social practice or process which involves researchers belonging to various organisations, groups or institutions. Research has an important role in a practitioner-oriented field such as Public Administration by serving not only to guide needed theory development but also to influence the practices and even the decisions of managers and policy makers (Wright et al 2004:747). The traditional view of doctoral research is that it is supposed to ensure continued knowledge development to be disseminated through research publications and teaching (Felbinger et al 1999:459). Doctoral students in Public Administration are assumed to be engaged in research in order to accumulate new knowledge about the practice of public administration or the subject Public Administration.

Most of the articles evaluating the quality of research, including doctoral research in Public Administration, as well as the ones included in the preceding paragraph focus on research done by scholars in the United States of America (Wright 2004, Forrester 1996, Rodgers 1999, Baltodano 1997, Brower et al 2000, Gill 2000, Lowery & Evans 2004, Brewer et al 1999, Felbinger et al 1999, Cleary 2000, Houston & Delevan 1990, Adams & White 1994, Callahan 2001, Bailey 1992, Box 1992, Ospina & Dodge 2005, Bell 1994, Forrester 1996, Waugh et al 1994).

The titles of the articles on doctorate and dissertation research in Public Administration as identified by Wessels (2007) indicate that the researchers focused on issues such as:

- the advancement of the knowledge base of Public Administration (McCurdy & Cleary 1984:50; White 1986:227; Cleary 1992:55)
- attention to the core problems in the field of Public Administration (Stallings 1986:235)

- the rigorous application of the most suitable methods (Bailey et al 1992:47, White 1994:565–566)
- the development of productive scholars (Brewer et al 1999:373)
- the quality of dissertation research (Felbinger et al 1999:459, Cleary 2000:446).

Kraemer and Perry (1989) believe that this field should broaden the frontiers of knowledge to identify important research questions and the appropriate methods to answer them. A worrying phenomenon is that there seems to be a lack of congruence between academic research and practice in the field of Public Administration (Bolton & Stolicis 2003:626). Bolton and Stolicis (2003: 630) further assume that the overall contribution of doctoral research to knowledge and theory development has been minimal. Gill and Meier (2000:157) suggest that “this field of Public Administration needs to invest heavily in developing its own methodological paths and recommend the use of time series”.

Practitioners as well as some scholars in the field of Public Administration believe that research in the field is distinguished by its poor quality (Adams & White 1994:448, Atkinson & Bekker 2004:445, Khalo 2006:557; Gill & Meier 2000:157). In response to this criticism Lowery and Evans (2004:307) suggest that training methods in PhD and master’s programmes should be expanded and enhanced to include a broader range of research strategies, methods and tools. Doctoral research can be improved through training and skills development. It cannot be concluded that doctoral research in this field is distinguished by its poor quality because that will be a generalisation.

There have been ongoing debates concerning the quality of research in Public Administration locally and internationally. It has been argued that Public Administration had not channelled its research efforts, lacked a research methodology and was far from the creation of an environment in which empirical theories could be developed and tested (Houston & Delevan 1990:674). Lowery and Evans (2004:314) suggest that “theoretical

frameworks that are of particular relevance to the academic discipline of Public Administration and other practice-related fields should be applied”.

Some of the United States of America participants in the field have criticised the quality of research and cumulative knowledge generated within Public Administration (these participants include: Houston & Delevan 1990, McCurdy & Cleary 1984; Perry & Kraemer 1986; Stallings & Ferris 1988; White 1986, Gill & Meier 2000; Forrester 1996; Lowery & Evans 2004; White & Adams 1996) while others have argued for alternative methods to reimburse for unsatisfying natural sciences models of inquiry (for example Daneke 1990; Schmidt 1993; Yanow 1999).

Adam and White (1994:564) argue that there are obvious flaws in Public Administration. To further their argument they identified the following flaws in the field: the selected samples are too small to draw reasonable conclusions, the use of inappropriate samples, the use of inappropriate research design, errors in logic and serious misapplication of some theory to the research problem (Adams & White 1994:565). Gill and Meier (2000:157) state that “authors in Public Administration scholarship need to avoid the deeply flawed and clearly damaging social science paradigm for theory confirmation: the null hypothesis significance test”. Babbie (2005:486) defines a null hypothesis as a “connection with hypothesis testing and tests of statistical significance that suggests there is no relationship among the variables under study. You may conclude that the variables are related after having statistically rejected the null hypothesis”.

Other academics believe that the use of qualitative methods in the field reveals substantial weaknesses and quantitative methods can be applied as an alternative (Adams & White 1994; Orosz 1998; Brower et al 2000).

Researchers are pressured to diverge from case studies as a research methodology and to utilise the positivist social science methodologies thought to be associated with so-called mature disciplines (Bailey 1992:47). If researchers are associated with the so-called mature disciplines, the theorists

in the field believe that it will be possible to avoid the obvious flaws in Public Administration.

Various South African scholars have done research on research in Public Administration in South Africa (Atkinson & Bekker 2004; Brynard 2005; Brynard & Brynard 1986; Cameron & McLaverty 2008; Khalo 2006; Kuye 2005; Lues 2007, 2009; Wessels 1999a, 1999b, 2004, 2005, 2008; Wessels, Pauw & Thani 2009). Not one of these researches has focused specifically on South African doctoral research. The research by Brynard and Brynard (1986), for example, gave an overview of current and completed research in Public Administration. Recent research includes an article by Lues (2009) on a strategy-based approach towards optimising research output in the master's dissertation in Public Administration. She argues that master's dissertations are sources for research publications. Cameron and McLaverty's (2008) research includes an analysis of the two main South African Public Administration journals, *Journal of Public Administration* and *Administration Publica*. Their evaluation ranges from 1994 to 2006. The article by Wessels, Pauw and Thani (2009) proposes a taxonomy for the analysis of research designs in Public Administration. Their article proposes an empirical method for identifying core research methods of South African Public Administration. They identified ten research methods that scholars in the field can utilise.

Wessels (2005) wrote an article on a South African perspective on the challenges of knowledge production by researchers in Public Administration. His article tried to establish whether published Public Administration research findings indeed address the core knowledge needs of government by solving those problems that cannot be solved by competent public officials (Wessels 2005:1499). In another article he gives an overview of trends in South African Public Administration master's and doctoral research (Wessels 2008). The research methods used by the researchers were not included in his study. As research methods are generally regarded as a strong indicator of the quality of research, it is of paramount importance to review the research methods used in South African doctoral research.

As one expects of doctoral research to make a contribution to scholarly and in some cases to practical knowledge, and as research methods can be regarded as instrumental to good quality research culminating in true and valid knowledge (Brower et al 2000:368), it is important to review the research methods that were applied by the researchers of completed South African doctoral research.

1.3 Statement of the problem

In consideration of the background provided above, the problem to be addressed by this study will therefore be the following question: **What research methods have been used in completed South African doctoral research in Public Administration in the period 2000 to 2005?**

1.4 Research questions

In order to answer the above question, the following questions need to be solved first:

- What is the purpose of doctoral research in Public Administration?
- How does one categorise the research methods for research in Public Administration?

1.5 Research objective

In order to solve the research problem, the research objective of this study is to describe the research methods used in completed South African doctoral research output. There are different views about the purpose of doctoral research in Public Administration. In order to reach informed conclusions, it is therefore important to discuss what is meant by research in Public Administration and doctoral research. Therefore, the first aim of this study will be to:

- describe the purpose of doctoral research in Public Administration.

Various interventions have been initiated in South Africa to increase the number of doctoral graduates. Doctoral students are expected to be equipped with or to develop appropriate research competence to answer the research questions posed to them (Alpert & Kamins 2004). Being a human science (Wessels, Pauw & Thani 2009:12), Public Administration research designs vary from empirical to non-empirical. Empirical designs include the application of methods associated with quantitative, qualitative, participatory and historical studies while non-empirical designs include the application of philosophy (concepts in contexts) and hermeneutics (ideology critical and deconstructive research) as methods. The second aim of this study will therefore be to:

- categorise the research methods for Public Administration research.

After the previous two aims have been met, the research methods that were applied by doctoral students will be identified. This part of the study will answer the main research question, as its aim will be to:

- review the research methods that were used by doctoral students and to determine which one is dominant.

1.6 Delineation of the study

In the planning of this study, the following aspects have been considered:

1.6.1 Geographic dimension

This study, being of an empirical nature, is confined to the geographic context of South Africa. The primary focus is thus completed South African doctoral research in Public Administration. Since there is a shortage of literature on this topic in South Africa, USA sources are used as a primary source for the review of scholarship.

1.6.2 Time dimension

The period for this study is viewed as a framework that contains the study within a specific scope focusing on answering the research questions and meeting the requirements to complete the study within a reasonable period of time. The period of the study covers the period 2000 to 2005, specifically on completed South African doctoral research in Public Administration. The reason for not including 2006 is because the information of 2006 is not fully captured in the database used for the purpose of this research.

1.6.3 The unit of analysis and unit of observation of this dissertation

The unit of analysis for this dissertation is completed South African theses in Public Administration. For the purpose of this study the unit of observation (Babbie & Mouton 2001:174) will be the first chapter, methodology chapter and the last chapters of the 75 completed doctoral theses from 2000 to 2005. It should be noted as well that the researcher will also scan through the whole document of each thesis.

1.6.4 The point of focus

This study focuses on the research methods of completed South African doctoral research output during the period 2000 to 2005. The application of research methods will be contextualised by other aspects of the profile of the unit of analysis, namely institution and type of doctoral degree.

1.6.5 Applicable method of this study

For the purpose of this study a comprehensive review of scholarship and other documentary sources will be done of:

- relevant published books
- published and unpublished dissertations and theses
- articles from academic journals

- accredited internet sources
- completed dissertations and theses
- unpublished articles (work in progress)
- email conversations
- government documents for example the Higher Education Qualifications Framework
- Nexus database (to collect abstracts of the theses)

Considering the literature that will be reviewed by this study, it is important to discuss a research method that will be applied in this dissertation. McLaverty (2007:62) describes the content analysis method as based upon the idea of reducing information in a text to a series of variables that can then be examined for correlations. Mouton (2005:165) views content analysis as those studies that analyse the content of texts or documents (such as letters, speeches, and annual reports). Content is, according to Mouton (2005:165), words, meanings, pictures, symbols, themes or any message that can be communicated. Leedy and Ormrod (2001:155) point out that content analysis is a detailed and systematic examination of the contents of a particular body of material for the purpose of identifying patterns, themes or biases. Marshall and Rossman (2006:108) argue that this approach (content analysis) often use documents. The raw material of content analysis may be any form of communication, usually written materials (textbooks, novels, newspapers, email messages) and other forms of communication may be music, pictures and political speeches.

Historically a content analysis method was viewed as an objective and neutral way of obtaining a quantitative description of the content of various forms of communication (Marshall & Rossman 2006:108, McNabb 2002:24, McLaverty 2007:63). Babbie (2005:328) defines content analysis as a study of recorded human communications. Among the forms suitable for study are books, magazines, Web pages, poems, newspapers, songs, paintings, speeches, letters, email messages, bulletin board postings on the internet, laws and constitutions. Miller and Whicker (1999:68) define content analysis as a

dynamic technique for making inferences about the content of recorded text. Such content can include units such as documents or forms of recorded text (word, theme, story and so on). They further argue that objectivity should be considered in content analysis. The requirement of objectivity in content analysis stipulates that each step in the information analysis process must be carried out on the basis of explicitly formulated rules and procedures. Druckman (2005:257) argues that content analysis refers to any technique for making inferences by objectively and systematically identifying specified characteristics of messages. Druckman further states that it is a flexible approach to analysis that can be applied to a wide variety of written or oral communications, allowing the analysts to compare the content of communication across a variety of settings.

In consideration of the above definitions it can be deduced that the content analysis method consists of the following elements:

- It reduces information into variables (Bernard 1995).
- It analyses the content of texts to a series of variables (Mouton 2005).
- It uses documents (Marshall & Rossman 2006).
- It is a study of recorded human communications (Babbie 2005; 2001).
- It makes inferences (Miller and Whicker 1999 and Druckman 2005).
- It is detailed and systematic (Leedy & Ormrod 2001).

The researcher will be analysing texts (the theses) and coding will also be applied. Rules and procedures will be established in order to remain as objective as possible. It is important to note that this method is not purely qualitative or quantitative. McNabb (2002:24) states that content analysis acts as a combination of the two approaches (qualitative and quantitative) which are simultaneously used to translate the data findings. In this research both approaches will be used when applying the content analysis research method.

Marshall and Rossman (2006:108) point out the following strengths of content analysis:

- It can be conducted without disturbing the setting in any way.
- The researcher determines where the emphasis lies after the data have been gathered.
- The procedure is relatively clear to the reader.
- Information can therefore be checked, as can the care with which the analysis has been applied.

Apart from the strengths of content analysis, it is also interesting to consider the main weaknesses of this method. The main weakness of content analysis is the span of inferential reasoning. The analysis of the content of written materials or film entails the interpretation by the researcher (Marshall & Rossman 2006:108). Henning, Van Rensburg and Smit (2004:102) state that a content analysis method may also lead to superficial and naively realistic findings because it captures what is presumed to be the real world (through the eyes of the research participants) in a straight forward, direct and formulaic way. The data are not interrogated. In order to avoid such bias in this study, care will be taken and logic in interpreting the data will be applied.

1.7 Problems encountered in the application of the research study

A major problem that was encountered during the study was collecting the relevant documentation for the statistical analysis. The interlibrary loans service was poor and consumed so much time that it also delayed the completion of the study. At first the library indicated that their theses were not available in any national sources but in a second attempt some of the theses were found. Another obstacle was that the majority of South African universities do not provide the theses online. It was evident that it was impossible to get all the theses. Leedy and Ormrod (2001:210) argue that a researcher can use results obtained from the sample to make generalisations about the entire population only if the sample is truly representative of the population. Ruane (2005:105) takes a similar stance by arguing that representative samples allow the researcher to take the information obtained from the small sample and generalise it back to the entire population. For this

study, the sample is indeed representative because it is trustworthy since it will provide information about the entire population.

1.8 Sequence of chapters

After the completion of the research, the collected material was integrated and coordinated. The information was divided into five chapters.

Chapter **1** provides a general introduction to the entire study. It includes the background and rationale of the study (in order to provide context), the motivation, the statement of the problem, the research questions and therefore by implication the aims. It also covers the specific terminology used in the text and the method of investigation was explained which will be elaborated on in chapter 3.

Chapter **2** provides a reflection on the purpose of doctoral research in Public Administration.

Chapter **3** categorises the research methods for research in Public Administration. Public Administration researchers have a variety of methods to choose from including participatory action research, historical studies/narrative, conceptual analysis and hermeneutics.

The research methods used in completed South African doctoral research is discussed in chapter **4**. This is the chapter that answers the main research question. The variables used in this chapter include the following: unit of analysis, unit of observation, research method, type of doctorate, design, chapter and topic.

Chapter **5** concludes with a summary, conclusions and recommendations for further research.

1.9 Summary of the chapter

This chapter aimed to provide the backdrop against which the research was conducted on which this dissertation is based. It sketched the background and rationale of the study. The reasons for undertaking the research were supplied in the form of the motivation, the problem statement and the research questions. It also outlined the aims as well as the method used when undertaking this research. An explanation of the method of investigation for the study was also given.

CHAPTER 2

THE PURPOSE OF DOCTORAL RESEARCH IN PUBLIC ADMINISTRATION

2.1 Introduction

This chapter is aimed at exploring the purpose of doctoral research in Public Administration. The chapter is started by providing a definition of research and discusses research in Public Administration in terms of its importance, characteristics and research issues. Furthermore, it discusses doctoral research in the context of its contribution to the discipline in relation with the Higher Education Qualifications Framework of 2007 and the National Research Foundation. The chapter concludes by introducing the relevance of appropriate research methods in Public Administration for doctoral studies. This chapter starts by defining research.

2.2 Definition of research

Before outlining the purpose of doctoral research in detail, it is important to highlight some definitions of research as shared by scholars across all disciplines. In their standard work on social research, Babbie and Mouton (2001:xxi) define social research as a “systematic observation of social life for the purpose of finding and understanding patterns in what is observed”. They also consider research as a way of obtaining scientific knowledge. Scientific knowledge is viewed by them as collective knowledge, the product of rigorous, methodical and systematic inquiry (Babbie & Mouton 2001:16). This kind of knowledge is driven by the search for the truth. The search for the truth implies a search for the most valid or best approximation of the world. Furthermore, Mouton (1996:4) regards research as the search for the truth, as a problem-solving social activity, as the production of knowledge and as project management. Leedy and Ormrod (2001:4) define research as a systematic process of collecting and analysing information (data) in order to increase our understanding of a phenomenon.

Henning et al (2004:31) argue that traditionally, research has been conceived as the creation of true, objective knowledge, following a scientific method. Research is, according to Swain and Duke (2001:126), any gathering of information with the objective of presenting it to others. The range and kinds of information vary greatly (opinions, perspectives, behaviour and concepts). In a recent master's dissertation on Public Administration research in South Africa, McLaverty (2007:20) defines research "as a means through which people can solve problems in an attempt to extend the boundaries of knowledge". One can also regard research as the interpretation of data to reach valid conclusions. McLaverty also argued that research can be either basic or applied. The definition provided by Bless and Higgson-Smith (1995:12; 2000:11) focuses on both parts, namely the process of translation into practice of the relationship between facts and theory and the goal of acquiring knowledge. Gerber and Alberts (1984) define research as an attempt to systematically gather information which can be usefully employed in making decisions.

McNabb (2002:3) defines research as gathering, processing and interpreting data and then communicating the results in a report that describes what was discovered from the research. Brynard and Hanekom (1997:1) argue that research "is closely related to the search for knowledge and the understanding of societal phenomena". This definition by Brynard and Hanekom can be considered as a definition of social research but not of research in general. Khalo (2006:560) refers to research as a systematic method of work, in a planned way and researchers must select and use a suitable method (type) which will make the problem they want to investigate accessible to them. O'Sullivan and Rassel (1995:2) argue that research involves the study of observable information, so without observable information no research takes place. This definition by O'Sullivan and Rassel is questionable as research can take place without observable information. Non-empirical research designs, for example, do not require observable information since it involves more thinking and scrutinising (read in this regard section 3.3.2 of this dissertation).

Wessels (1999a:363) states that the concept “research” refers to a process (search, enquiry, endeavour, scientific study, critical investigation) and the goal (discovery of new facts and principles). In consideration of the characteristics provided by Wessels, researchers in Public Administration might consider applying a similar mindset. Mouton and Marais (1990:156) define research as a collaborative activity by means of which a given phenomenon in reality is studied in an objective manner, with a view to establishing a valid understanding of that phenomenon. Within the context of Public Administration, Waldo (Bailey 1992:49) defines research as, “a study and an activity and both are intended to maximize the realisation of goals”. Waldo’s definition is more relevant to this study because a certain goal has to be achieved, which is to identify the research methods that were used by doctoral students in Public Administration from the period 2000 to 2005.

When analysing the above definitions, it can be assumed that research consists of the following elements:

- finding and understanding of patterns in what is observed (Babbie & Mouton 2001:xxi)
- creation of true and objective knowledge (Henning et al 2004:31).
- gathering of information (Swain & Duke 2001:126, Gerber & Alberts 1984, McNabb 2002:3).
- acquiring knowledge (Bless & Higson-Smith 1995; 2000)
- understanding a phenomenon (Mouton & Marais 1990:156; Brynard & Hanekom 1997:1)
- a process and a goal (Wessels 1999a:363)
- systematic method (Khalo 2006:560; Leedy & Ormrod 2001:4)

In this dissertation, research refers to a systematic method of gathering and analysing information with the objective of sharing and expanding ideas in a specific field such as Public Administration. Research thus has two components, namely critical investigation and knowledge development. Research includes theory analysis and development. It is not merely

reproducing what other authors have researched but it's a scientific way of improving theory and practical knowledge in a specific field.

2.3 Research issues in Public Administration

What are the main research issues in Public Administration? Wessels (1999a:365) defines research in Public Administration as an attempt to contribute to valid scientific statements about public administration, which means it contributes to the body of knowledge of the subject. Mouton (2006:138) calls it the "epistemic imperative" of research. When elaborating on the epistemic imperative Mouton (2006:138) emphasises that this word is derived from *episteme*, which is a Greek word for truthful knowledge. He further acknowledges that it is not possible to produce scientific results that are infallible and absolutely true but researchers are motivated to constantly strive for the most truthful and the most valid results.

There are various research issues that concern Public Administration scholars in the United States of America as well as in South Africa. Within the context of the United States of America, White (1994:xiv) poses the following questions:

- Why is there so little mainstream social science research being done in the field?
- Is the field too varied to develop a cumulative body of knowledge? If so, should there not at least be enclaves of cumulative knowledge?
- Are there methodological standards of mainstream social science appropriate for research in the field?
- Are the truly important questions in the field approachable only from alternative methodological frameworks?
- Is theory really unrelated to practice?
- Is there something inherently different about knowledge acquisition and use in an applied, professional field?
- Is the type of knowledge that practitioners use different from scientific knowledge or even common sense?

- Why is the methodological rigor of doctoral research questionable?
- Why are many of the topics of doctoral research relatively unimportant to knowledge and theory development in the field?
- Why do some few recipients of doctoral degrees go on to publish anything at all in scholarly or even in professional journals?

The last three questions referring to doctoral research are of specific importance for this research. White (1994:xv) strongly believes that these questions remain unresolved issues that must be consciously addressed and debated. Within the South African context, Wessels (2005:1499) discusses the challenges of knowledge production by researchers in South African Public Administration in relation to the above questions. Although his article does not specifically focus on doctoral research, it covers knowledge and research in general and Public Administration research more specifically. In his arguments, Wessels (2005:1501) refers to a statement by Pauw (1996:66) that not all research activities and results can be regarded as science. Pauw (1996:66) argues that something can have the characteristics which are expected of scientific work, that is to be rational, systematic and objective but still not be part of science. Wessels continues to argue that the applied nature of Public Administration leads to valid concerns that researchers in Public Administration may be not busy with activities of science and that they may not be contributing to scientific knowledge (Wessels 2005:1502). When referring to the scientific and non-scientific converses of research, Wessels (1999:363) calls it the two faces of research.

Among the core issues in South African Public Administration research, Wessels (2005:1506) argues that the low percentage of articles focusing on Public Administration as a subject, theory and methodology is an indication of a possible bias towards practice or application and a possible theory-less empiricism. With the aforementioned deductions by Wessels and Pauw in mind, Cameron and McLaverty (2008:58) argue that “the emphasis on skills and problem-solving has led to the virtual disappearance of Public Administration theory at local conferences”. They further argue that where

empirical research is conducted or undertaken it often focuses on the problem of professional practice rather than developing or testing theoretical propositions (Cameron & McLaverty 2008:58). They also state that there has been a lack of a knowledge based approach to the discipline in both the apartheid and democratic South Africa.

In line with the issues identified by White (1986), Wright et al (2004:747) recognise the need for theoretical and pragmatic understanding. They agree with each other that Public Administration is obliged to advance theoretical and pragmatic understanding of the governmental institutions and processes. They further acknowledge that such understanding requires the generation of new knowledge through research. Scholars need to consider data and methodology that is most helpful in answering the field's questions (Wright et al 2004:748).

With regard to the questions posed by White et al, Box (1992:66) states that theory is often found to be unrelated to practice. This occurs because theory is written as language that serves as a code of communication for academics; this code is not easily accessible to non-academics. Academics are able to understand the various theories in the field because these theories are written and communicated in their "academic content" unlike the practitioners who only consider their inner bliss (intuition). In agreement with Box (1992), Du Toit (2005:53) also argues that scientific language is not used in everyday life, neither do people converse in a strictly methodological way. Kuye (2005:527) makes a similar point by asserting that academics are constantly complaining that the practitioner community ignores their best scholarly efforts. He argues that academics use complex and indecipherable disciplinary jargon, so this might be one of the reasons that cause practitioners to ignore their publications (Kuye 2005:528). Simply put, academics use a language that practitioners do not understand.

From the issues identified above the most important research issues in Public Administration focus on the following:

- knowledge production (Wessels 2005; Cameron & McLaverty 2008)

- the need for theoretical and pragmatic understanding of phenomena (White 1986; Wright et al 2004).
- practitioners ignoring scholarly efforts as academics use complex and indecipherable disciplinary jargon (Kuye 2005)

With the above-mentioned research issues in mind, it is perhaps appropriate to ask the following: What is considered as research output in South African higher institutions? This question will be answered in the following section.

2.4 Research output in institutions of higher education in South Africa

The previous section has shown that doctoral research is regarded by scholars as an important part of the diverse research activities of Public Administration scholars. However, it is not recognised as a “research output” (Department of Education 2003:4). This policy states that the research output of a university comprises of original research papers, research letters and review articles which appear in approved journals, as well as books for the specialist and patents that comply with the DoE criteria (Department of Education 2003:5).

In the document *Policy and Procedures for measurement of research output of public higher institutions* the Department of Education (2003:3) states that the main purpose of this policy is to encourage research productivity by rewarding quality output at public higher education institutions. Although doctoral research and doctoral theses are not regarded by this policy as research output, they serve as the foundation for any of the dissemination vehicles which are regarded as research output. The rewards provided for by the policy can serve as a reminder to supervisors in various universities because more journal articles can be published by doctoral students at their level of study. The rewards can also be considered as one way of recognising the importance of doctoral research and the students will be able to develop additional skills on their field of specialisation.

The assumption is then that there is a strong correlation between a sound doctoral programme and high research output. The argument is thus that good doctoral research will lead to increased research output as defined in the previous paragraph. In their study on institutional requirements for academic research in Public Administration, Kraemer and Perry (1989:10) found that the top ranked schools have a research-oriented PhD programme and organised research units.

In Australia, institutional grants are allocated using a performance based funding model with research outputs being a key performance measurement (Hobson, Jones & Deane 2005:358). What is experienced in Australia also applies to South Africa as the National Research Foundation (NRF) also uses the performance based funding model (NRF 2007a:15). Their Institutional Research Development Programme (IRDP) encourages institutions to participate in research, but it further acknowledges that only institutions with potential and a track record of contributing to the delivery of PhD students as a driver will be eligible to participate in this programme (NRF 2007a:16). This also exerts pressure to the members of the staff in the various institutions as they are expected to complete their doctoral studies within the prescribed time frame.

When considering doctoral programmes, Kraemer and Perry (1989:12) suggest that it might be necessary to go outside Public Administration to other social science disciplines if quality researchers are not produced in Public Administration schools. Going outside the field can assist doctoral students to master the various research methods that exist in the social sciences.

It can be concluded that doctoral research then can serve as a sound basis for research output such as research papers, research letters, review articles in accredited journals and books. In consideration of these various outputs Public Administration researchers can have a variety of sources where they can publish their research. The Department of Education also reward quality output. As said above, the IRDP emphasises the point that only institutions with potential and a track record of contributing to the delivery of PhD

students as a driver can participate in their programmes. The crucial question remains, what is doctoral research? In answering this question, an overview of doctoral research is provided.

2.5 Doctoral research

The Public Administration debate on doctoral programmes started as far back as the 1980s when Stallings published an article with the title “Doctoral programs in Public Administration: an outsiders’ perspective” in the *Public Administration Review* (Stallings 1986:235–240). White (1986) simultaneously focused on doctoral research as a source of new knowledge in the field. Later, Perry and Kraemer (1989:9) argued that institutions need high quality staff members. With regard to doctoral research, Cleary (1992:5561) was concerned with the quality of doctoral dissertation research in Public Administration within the United States. In 1994, Adams and White concentrated on the quality of doctoral research by comparing the methods and quality of doctoral research in Public Administration with cognate fields. When conducting doctoral research, Cleary (2000:454) realised that the field has made further improvements in the use of doctoral dissertation as a research tool to educate students while contributing to knowledge in the field.

Why do students pursue doctoral studies? The National Union of Students in Europe (ESIB) (2006:1) asserts that there are two desired outcomes for doctoral studies: (a) that students should demonstrate a systematic understanding of a field of study and mastery skills and methods or research associated with that field and (b) that students are expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society. In a practitioner-oriented field like Public Administration, doctoral research is encouraged by higher education institutions and the government (ESBI 2006:2). Funding organisations in South Africa and the rest of the world also encourage this kind of qualification (NRF 2007a:5) as illustrated by the National Research Foundation’s (NRF) focus on increasing the number of PhDs in South Africa. The NRF’s IRDP aims at addressing the current challenges faced by South

African institutions on higher learning in research (NRF 2007a). On the basis of national policies, the NRF (2007a:6) believes that the Higher Education (HE) system faces two main challenges: (a) the redressing of past inequalities and building a far more representative research community able to deliver on both national and continental needs and (b) the keeping up with emerging global development and the support of excellent research by Higher Education Institutions (HEIs).

Other challenges identified by the NRF, are the following: lack of articulation between various elements of the research system, stark race and gender imbalances, skewed distribution of research capacity, efficiency of the current HE system (in 2004, of the 528 undergraduates enrolled at South African universities, only one student exited the HE sector with a doctoral degree) and the qualifications of staff. In 2003, of the 15 000 staff in the HE sector an estimated 70% did not have doctoral qualifications. The lack of the doctoral qualifications affects the quality of post-graduate student training as well as research outputs. Some other challenges identified by the NRF include the lack of research critical mass, turf phenomenon, appropriate funding for the National System of Innovation (NSI), human resources and declining research and development in the private sector (NRF 2007a:7).

In consideration of the challenges mentioned above, the IRDP programme assists doctoral students, academics and researchers in the generation of knowledge in the various institutions and closing the gaps between theory and research by encouraging pragmatic knowledge. The NRF has developed other programmes such as the Thuthuka Programme which provides funding to black and young researchers and women within the research and generation of knowledge (NRF 2007b). The Thuthuka Programme indeed fulfils the dreams of emerging researchers, including doctoral students, by providing funding for their research projects.

The Institutional Research Development Programme considers doctoral research as a key driver in responding to the challenges facing the South African System of Innovation (NSI). One of the medium to long term objectives

of the IRDP is to increase the quantity and quality of PhDs and other research output such as journal articles, books, and technological innovations from supported niche areas (NRF 2007a:7).

In order to solve the challenges faced by the country in the knowledge innovation sector, the NRF (2007a:8) considers the production of large numbers of high quality PhDs as important as PhDs are required to provide the bedrock for an innovative and entrepreneurial knowledge society. According to the NRF (2007a:9) the current throughput rate per annum of doctoral studies is 13% which is 1,052 out of 8,379 students. The NRF projects that the medium to long term objectives per annum should be increased to a 23% completion rate of doctoral studies. Gower and Pretorius (2007:6) provide some statistics that South Africa is reported to account for nearly 23 doctoral graduates per million population as an annual average, whereas countries such as Brazil produces 160 and Australia produces 270 doctorates per million. It should be noted that these statistics apply to overall doctoral degrees in South Africa and not only Public Administration.

What are the non-traditional purposes of doctoral research? Just to recap on the traditional purposes of doctoral research the following can be stated. Felbinger et al (1999:459) argue that the traditional view of doctoral research is that it is supposed to ensure continued knowledge development to be disseminated through research publications and teaching. Green and Powell (2005:49) mention the following reasons for pursuing a doctoral degree:

- training for an academic career
- training for a research career in academia
- training for research in the economy at large
- curiosity-driven work in its own right and for its own sake
- high level training within a professional context

Felbinger et al (1999:460) state that the majority of doctoral students pursue the degree for non-traditional purposes which are:

- to enhance one's professional practice in administrative or policy settings

- to inflate one's ego
- to gain a promotion or be retained in a position
- to enhance the likelihood of getting consulting grants or contracts
- because it may be advantageous to say, very loosely, that one is a candidate for or is pursuing the doctoral degree, even lacking sufficient motivation to ever complete the degree

Felbinger et al (1999:460) emphasise that doctoral programs should prepare students to undertake significant research in the subsequent careers, whether in government, academic life or other settings rather than access to a career setting. A doctoral degree should be considered as a research degree and that should be inculcated in students, by so doing students will recognise the need of engaging themselves in research even when they have successfully completed their doctoral studies. Kraemer and Perry (1989:12) realise that some of the PhDs are teaching degrees and provide weak preparation for research. They conclude that this might be caused by poor training in administrative theory and research methodology. They recommend that research faculties are essential to assist the doctoral students, such as including students in their research.

The crucial question remains, namely what is the purpose of a doctoral degree? Green and Powell (2005:6) assert that in the United Kingdom, the Framework of Higher Education Qualifications impacts on the field of doctoral study by defining that the title "doctor" should only be used for qualifications that meet the full expectations of the qualification at the doctoral level, that the titles of PhD and DPhil should only be used where assessment is solely by final dissertation or published work and that, where doctoral programmes contain substantial taught elements, the title of the discipline should normally be included in the title. In South Africa, the Higher Education Qualifications Framework 2007 encourages the traditional purpose of doctoral programs. Ospina and Dodge (2005:409) also believe in the traditional purpose of doctoral research. They suggest that this purpose can serve as a promising mechanism for making a connection between academics and practitioners.

Rodgers and Rodgers (1999:475) state that some of the scholars who evaluated the quality of research in Public Administration, came to a conclusion that the majority of PhD and DPA students never pursue academic careers that place a heavy emphasis on publishing. This confirms the point by Felbinger et al (1999:460), that the majority of doctoral students pursue this kind of qualification for non-traditional purposes. Brynard (2005:364) also mention that the rates of postgraduate research students in Public Administration seem to be relatively low, the drop-out rates are high and the quality of postgraduate research is poor. These rates are higher at doctoral level compared to honours and master's levels and some of the doctoral students never complete their studies. Other students register as a boost to their ego, to be recognised as postgraduate students who are pursuing their doctoral degrees and to maintain a "show-off" attitude among their peers.

The Department of Education (2007:28) states, "A doctoral degree requires a candidate to undertake research at the most advanced levels culminating in the production, defence and acceptance of a thesis". Research skills can be mastered by practice which involves ongoing research and publishing. These skills can be developed by doctoral students who are dedicated in their research work (Department of Education 2007:29).

The Department of Education (2007:28), further states that the candidate is required to demonstrate high-level research capability and make a significant and original academic contribution at the frontiers of a discipline or field. It stipulates that the work of a doctoral candidate should be of quality to satisfy peer review and merit publication.

The Department of Education (2007:29) further asserts that doctoral students should be able to supervise and evaluate the research of others in the area of specialisation. McCurdy and Cleary (1984:50) found questionable results during their study. Their study of 142 doctoral dissertations in public administration suggests that "educational programs are not generating scholars with sufficient research standards". If they lack knowledge as regards

the research standards, it will be difficult for them to supervise and evaluate the research of others.

2.6 The relevance of appropriate research methods

It is clear from the research issues discussed in section 2.3 that the methods applied by doctoral researchers can be regarded as crucial to doctoral research in Public Administration. That is perhaps why research methodology is offered by various institutions of higher education to their senior students as a module on either senior undergraduate or postgraduate level.

Mouton (1996:36) uses the term “research methods” to refer to a “means required to execute a certain *stage* in the research process” and consequently provides the following classification of research methods in the social sciences:

- methods of definition: theoretical and operational definitions
- sampling methods: probability and non-probability methods
- measurement methods: scales, questionnaires and observation schedules
- data-collection methods: participant observation, interviewing, unobtrusive measurement and systematic observation
- data-analysis methods: statistical methods, mathematical methods and quantitative methods

In Public Administration and other disciplines most researchers focus on quantitative as well as qualitative approaches. What are quantitative approaches? Mouton and Marais (1990:155) draw a distinction by arguing that quantitative approaches are more highly formalised as well as more explicitly controlled with a range that is more exactly defined and is relatively close to the physical sciences while qualitative approaches are those approaches in which the procedures are not as strictly formalised, while the scope is more likely to be undefined and a more philosophical mode of operation is adopted.

Babbie (2005:24) draws various distinctions between qualitative and quantitative research. He argues that a distinction of the two methods is essentially a distinction between numerical and non-numerical data. Quantification makes our observations more explicit. It also makes aggregating and summarising data easier. A quantitative answer is easily attained, for example a researcher asks how old each of your dates has been and calculates an average. Qualitative data are richer in meaning and detail than are quantified data. A qualitative approach seems more aligned with idiographic explanations, while nomothetic explanations are more easily achieved through quantification. O'Sullivan and Rassel (1995:2) are interested in the quantitative research methods because they state that their text stresses numerical or quantitative information. Both of the qualitative and quantitative methods are used by public administrator's researchers as well as students. A consensus has not yet been reached as to which methods are more applicable to public administrators.

Wessels (1999b:409) poses the following questions regarding which paradigms are best for Public Administration research:

- Is it possible for any researcher in Public Administration to be sufficiently equipped in the methods and techniques of all the research paradigms in the social sciences?
- Is it necessary for all researchers in Public Administration to be sufficiently equipped in the methods and techniques of all the research paradigms in the social sciences?
- Can proficiency in some of the methods and skills perhaps be regarded as necessary for any researcher in Public Administration, while the others are just regarded as optional?
- If so, which paradigms, methods and techniques will be regarded as necessary and which will be neglected?

One can consider these questions posed above as stimulating research in the field. The worrying factor is that these questions seem to be neglected. Wessels (1999:410) proposes that it is necessary for researchers in Public

Administration to be collectively equipped in all the various social science methods. The following scholars in the United States of America have different views from Wessels.

Gill and Meier (2000:157) state that a serious upgrading of methodological skills is needed. In consideration of their argument, doctoral students can be encouraged to master stipulated research methods in Public Administration and that can be inculcated at honours level. DeLorenzo (2000:139) however argues that adopting methods from fields with differing theoretical frameworks can be problematic because there can be a higher possibility that researchers can misapply the method. Brower et al (2000:363) similarly state that scholars who advocate alternatives to the quantitative tradition acknowledge that the field's use of qualitative methods reveal substantial weaknesses and some of them misapply those methods. This can be true about their context but it can be a different situation in South Africa.

2.7 Summary and conclusion

As the aim of this chapter is to reflect on the purpose of doctoral research in Public Administration, it starts with introducing the various debates on Public Administration research. For the purpose of this dissertation, research is viewed as a systematic method of acquiring knowledge in the field. The chapter shows that the purpose of doctoral research is to train doctoral students to do research at a higher level. This chapter also reviews the various debates and issues in Public Administration research, of which concerns about methodological rigor in Public Administration research are perhaps the most important for this dissertation. The reason why this research focuses on doctoral theses is due to the perceived importance of doctoral qualifications. As doctoral qualifications are encouraged by inter alia the National Research Foundation, and as the proficient application of appropriate research methods is regarded as essential for high quality doctoral research, it makes sense that clarity should exist on the core research methods that are used in a particular subject. By knowing which are the core research methods, students can be provided with the necessary competence in the application of

those methods. Being competent in the appropriate methods, doctoral students will be able to conduct research independently and will also be able to supervise other students after obtaining the doctoral qualification themselves.

CHAPTER 3

THE CLASSIFICATION OF RESEARCH METHODS IN PUBLIC ADMINISTRATION

3.1 Introduction

Doctoral students are expected to be in command of research competence which includes mastering the research methods applicable to Public Administration. In fact, they need to select and apply appropriate scientific methods to answer their research questions (Alpert & Kamins 2004). McNabb (2002:5) defines a scientific method as a way of “approaching a research problem without any preconceived answers and it requires avoiding any hint of subjective bias”. There are various research methods available to researchers in Public Administration. These methods can be classified in two broad design categories, namely empirical and non-empirical designs. The empirical design includes studies using quantitative, qualitative, participatory and historical methods while the non-empirical design includes conceptual analysis and hermeneutics (ideology critical and deconstructive research) (Wessels et al 2009:7–16).

As indicated in chapter 1, the main purpose of this dissertation is to describe the research methods used in completed South African doctoral theses in Public Administration. The research method is therefore the most important variable for this study. The purpose of this chapter is to identify the various research methods available to Public Administration researchers and to develop a taxonomy for the empirical analysis of doctoral theses (see chapter 4). In the process of doing so, the methods used by other scholars who evaluated doctoral research will also be considered. As a point of departure for this chapter, a definition of research methods follows.

3.2 Definition of research methods

Before discussing the various research methods available to researchers in Public Administration, it is important to review the definitions of the concepts “research methods” and “research methodology” as defined by various scholars. Before discussing research methods, it is necessary to first discuss the various definitions that scholars use to define research methodology. Mouton (2001:56) asserts that methodology focuses on the research process and the kind of tools and procedures to be used. Brynard and Hanekom (1995:28) define research methodology as the process of research and the decisions which the researcher has to undertake to execute the research project. McLaverty (2007:21) notes that research methodology refers to the steps involved in a given approach, for example the various qualitative and quantitative approaches, such as case studies or statistical analyses. McLaverty’s definition of research methodology is questionable because this is not precise definition of research methodology. Research methodology can also be considered as a science of applying the various research methods. Elliss (1992:202) argues that methodology refers to the decisions made by researchers about sampling, data collection and analysis. This definition is more comprehensive because before applying the various research methods which include sampling techniques, methods of data collection (including interviewing and questionnaires as techniques), a researcher needs to make some decisions about the sampling and analysis. McNabb (2002:5) posits that research methodology refers to the steps in a given approach.

In a seminal work on social research, Mouton (1996:36) purports that research methods refer to the means required to execute a certain stage in the research process. Perry and Kraemer (1990:347) argue that a method is not solely or a matter of technique but it is a way of thinking. They argue that a method exists to guide the conduct of research and is reflected in research. I can define research methods as the tools that are used in Public Administration to reach informed conclusions based on the research objectives. Wessels (1999: 363–365) defines scientific research as probably a conditioned human activity to acquire new and valid scientific knowledge

about a specific field of study. Some scholars (Druckman 2005; Miller & Whicker 1999; O'Sullivan & Rassel 1995; Bless & Higson-Smith 1995) write extensively on the various methods in the social sciences but they do not provide a precise definition of research methods.

In making a deduction from the above discussion it is possible to conclude that the definition of research methods consists of the following:

- a way of thinking (Perry and Kraemer 1990)
- steps involved in a given approach (McLaverty 2007, McNabb 2002)
- the means required to execute a certain stage in the research process (Mouton 1996)
- a process of research decisions (Brynard & Hanekom 1995)

In this study, research methods refer to the scientific tools that are used to execute research in order to reach valid conclusions. Those tools consist of methods used for empirical and non-empirical designs, including quantitative and qualitative methods. By doing that, this study avoids the bias of concentrating only on qualitative or quantitative methods. Furthermore, it confirms the view that Public Administration is a human science applying a wide variety of available research methods. These methods will be discussed in the next section.

3.3 Research methods in Public Administration

Several researchers assume that the main research methods in Public Administration can be classified as qualitative and quantitative methods (O'Sullivan & Rassel 1995). McLaverty and Cameron (2008) added an additional category to the above two, namely desktop. It is possible to argue that their classification of research methods maybe inappropriate as a basis for improving the proficiency of researchers in typical Public Administration research methods, as these three categories are too broad and need refinement (Wessels et al 2009:7–16). For example some researches are not qualitative or quantitative but are of a philosophical or conceptual nature.

There is reasonable doubt to classify them as desktop articles because they create and develop theory in the field of Public Administration.

Research methods in Public Administration can be classified broadly into two design categories, namely empirical and non-empirical designs. The empirical design category includes quantitative, qualitative, participatory and historical studies while the non-empirical design category includes conceptual studies and hermeneutics including discourse analysis (Wessels et al 2009:7–19). When distinguishing these two designs, Mouton (2001:144) defines methods used for empirical designs as those methods that contain secondary data analysis, modelling and simulation studies, historical studies, content analysis and textual studies while non-empirical designs consist of methods such as conceptual studies, philosophical analyses, theory and model building. Mouton (2001:144) further explains that the empirical designs can be regarded as “the world of experience” and the non-empirical as “the world of ideas”.

3.3.1 Empirical designs

As discussed in the preceding paragraph, empirical studies are regarded as studies of the world of experience. For the purpose of this research they apply quantitative, qualitative, participatory, comparison, content analysis and historical methods.

3.3.1.1 Quantitative methods

Numerous authors have published books on quantitative research methods (cf Mouton 2001, McNabb 2002, Babbie & Mouton 2001, Babbie 2001, Babbie 2005, Druckman 2005, Leedy & Ormrod 2001, Miller & Whicker 1999, Mouton & Marais 1990, Wright et al 1999). Most of their definitions correspond with the definition by O'Sullivan and Rassel (1995) that quantitative research as a general term, refers to research in which values of variables are characterised by numbers or symbols. Many variables for a large number of cases are measured. Data are measured and analysed with statistical techniques.

Quantitative methods can be divided into two categories namely; (a) studying human beings and behaviour directly by means of, inter alia, surveys and interviews (cf Mouton 2001:152–153, 155–158) and (b) studying human beings and their behaviour indirectly by means of computer simulation studies, secondary data analysis and statistical modelling (Mouton 2001:163–164; Wessels et al 2009:7–19). Quantitative methods, thus, rely largely on the application of statistical techniques.

3.3.1.2 Qualitative methods

Qualitative research can be considered as a broad approach to the study of social phenomena. Mason (2005:1) posits that through qualitative research we can explore a wide array of dimensions of the social world, including the texture and weave of everyday life, the understandings, experiences and imaginings of our social participants, the ways that social processes, institutions, discourses or relationships work and the significance of the meanings that they generate. Qualitative methods, like quantitative methods, can be divided into two categories namely (a) the study of human beings and their behaviour by means of, inter alia, field studies, case studies, interviews and direct observation (Mouton 2001:148–150), and (b) the study of products of human behaviour. The latter category includes implementation and outcome evaluation research (Mouton 2001:158–160), programme evaluation and policy analysis (Wessels et al 2009:15). O’Sullivan and Rassel (1995) argue that qualitative research involves detailed, verbal descriptions of characteristics, cases and settings. It also involves fewer cases investigated in more depth than quantitative research. It is at this stage necessary to identify the characteristics of qualitative research.

Qualitative methods are characterised by the following features (Marshall & Rossman 2006:3; Mason 2005:7):

- It is applied in the natural world.
- It uses multiple methods that are interactive and humanistic.
- It focuses on context.

- It is emergent rather than tightly prefigured.
- It is fundamentally interpretive.
- It is conducted systematically and rigorously.
- It is accountable for its quality and its claims.
- It is strategically conducted, yet flexible and contextual.
- It involves critical self-scrutiny by the researcher, or active reflexivity.
- It produces explanations or arguments rather than claims to offer mere descriptions.
- It produces explanations or arguments which are generalisable in some way, or have demonstrable wider resonance.
- It is not seen as a unified body of philosophy and practice, whose methods can simply be combined without any problem.
- It is conducted as a moral practice, with regard to political context.

3.3.1.3 Participatory action research

Babbie (2005:309) acknowledges that participatory action research began in Third World research development, but it spread quickly to Europe and Northern America. According to Mouton (2001:150) participatory research can be defined as studies that involve the subjects of research (research participants) as an integral part of the design. Babbie (2005:309) defines participatory action research as an approach to social research in which the people being studied are given control over the purpose and procedures of the research. Marshall and Rossman (2006:7) argue that participatory research is full of collaboration between researcher and participants in posing the questions to be pursued and in gathering data to respond to them. When considering the two views on participatory research it is possible for one to assume that it entails a cycle of research, reflection and action. When identifying the two characteristics that distinguish participatory research, Bless and Higgson-Smith (1995:55) point out the following: the relationship between the people involved in the research (the researcher and the researched), and the use of research as a tool for action and increasing human knowledge. More action is involved in this kind of research. The subjects who are affected

by the research are responsible for the design (Bless & Higgson-Smith 1995:55).

3.3.1.4 Historical or narrative

Mouton (2005:170) states that historical studies attempt to reconstruct the past and the chronology of events. Elliss (1994:10) defines narrative as a discourse with a clear sequential order that connects events in a meaningful way for a definite audience and thus offer insights about the world and/or people's experiences. It can simply be put that a narrative organises a sequence of events into a whole. The features of a narrative are chronological, meaningful and inherently social (Elliss 1995:12). The events can be socially constructed. Henning et al (2004:122) argue that narrative analysis searches for the way participants make sense of their lives by representing them in a story form. Narrators interpret the past in stories. Craig (1999:421) asserts "that narrative as a method requires that the researcher (storyteller?) makes a story out of a simple succession of events, that is, engages in emplotment through establishing the beginning, middle and the end of things". Henning et al (2004:123) consider the following questions important in narrative inquiry:

- In what kind of a story does a narrator place herself and those whom she narrates?
- How is this story a part of a larger societal narrative?
- What discourses are evident in the story?
- How are the coherence and cohesion of the story maintained?
- Why is the teller sharing this story?
- What are the story archetypes in this story, especially the protagonist and the antagonist?
- How is the story plotted and how is conflict presented?
- Are there epiphanies in the story?
- What is significant about the beginning and the end of the story?

Henning et al (2004:123) argues that the historical or narrative is more subjective because the writer narrates what happens in his/her daily experiences. Feelings and perceptions overrule the writer. Even when selecting the historical events, the narrator is more subjective (Henning et al 2004:123). Craig (1999:434–435) argues that the narrative method interprets signs, rules and norms, asks and answers questions and tells a story in language and with modes.

3.3.1.5 Comparison

Mouton (2001:154) argues that comparative studies focus on the “similarities and (especially) differences between groups of units of analysis. Such ‘objects’ can include individual organisations, cultures, countries, societies, institutions and individuals”. Scholars can also use this method to compare different theoretical viewpoints (Mouton 2001:154).

3.3.1.6 Content analysis

For an in-depth discussion of content analysis refer to chapter 1, section 1.6.6 “Applicable method for this study”. It is interesting to see how various scholars discuss this kind of research method.

3.3.2 Non-empirical analysis

As they are discussed in the preceding paragraphs, non-empirical designs are regarded as designs for studying the “world of ideas”. More reasoning and critical thinking are involved in these kinds of designs. They include methods such as conceptual analysis and hermeneutics.

3.3.2.1 Conceptual analysis

This category includes philosophical methods used for the analysis of the meaning of words or concepts as well as the analysing of arguments in favour of or against a particular position (Mouton 2001:175–176; Pauw 1999:464–

473). Pauw (1999:465) argues that philosophical thinking is thinking about the efficiency and effectiveness of concepts in contexts. He further argues that it is about the way we order ideas in our minds and judge the usefulness of the concepts and intellectual patterns we use. In this context, concepts are regarded as tools of thinking and contexts as the environments/frameworks in which they operate. According to Mouton (2005:178) philosophical studies are sometimes of a normative or value-laden nature. Philosophical analyses can also be classified as those studies that develop substantive points of view about the meaning of life (metaphysics), morally acceptable behaviour (ethics) and coherent and consistent forms of reasoning (logic).

3.3.2.2 Hermeneutics

According to Mouton (2005:167) hermeneutics are those studies that analyse texts (religious or literary) in order to understand the meaning of such texts. The strengths of this method are according to Mouton (2001:168) that this method “shed[s] light on the meaning of the text” and “on historical periods, cultural trends and socio-political events”. De Beer (1999:445–446) gives the following examples of important questions about the text which are posed by the application of the hermeneutics:

- What is the meaning of the text?
- How is the intention of the author related to this meaning?
- Is an objective understanding of the text possible?
- What are the limitations of this understanding and to what can they be ascribed?
- Can the text be related to other texts on the theme?
- Are there cultural and historical dimensions in the text which are foreign to the reader, and can they be overcome?

Its main sources of error as identified by Mouton (2005:168) are: interpretive bias (selectivity and bias in interpreting texts), quality of text sources, authenticity of documents (debates on authorship), lack of contextual information and intentionalist fallacy.

Since the methods that may be present in Public Administration are discussed, it is of interest to review the methods that were used by other Public Administration scholars to analyse research in Public Administration. Reviewing the methods that were applied will assist the researcher of this dissertation to develop an improved instrument for identifying the research methods that were used by doctoral students.

3.4 Variables used by international scholars

Although various researchers have analysed research in Public Administration (see section 1.2 of this dissertation), the work of McCurdy and Cleary (1984) and Cleary (1992; 2000) stand out as standard-setting work in this field. McCurdy and Cleary (1984) used the following criteria when examining 142 abstracts of dissertations (in South African context the dissertations refer to theses) published in 1980 and 1981:

- Purpose: Could the purpose of the dissertation be inferred from its title or from statements of abstracts?
- Validity: Could validity be inferred from statements about research design, sampling techniques, sample size, experimental or quasi-experimental methods or statistical controls?
- Theory testing: Could theory testing be inferred from statements about testing existing theories or developing theoretical frameworks from literature reviews or field research?
- Hypothesis testing: Was there any mention of hypotheses, hypothesis testing, or even model development or testing?
- Causality: Was there any discussion of causal relationships of any key words (eg correlations, independent and dependent variables, multivariate analysis) that might suggest a search for casual relationships?

A survey of abstracts of 165 doctoral dissertations in the field of public administration was used by Cleary when examining the 1990 dissertations. Cleary (1992) used the following variables:

- Research purpose: Did the dissertation set out to conduct basic research?
- Methodological validity: Did the dissertation have a rigorous research design?
- Theory testing: Did the dissertation test an existing theory?
- Causation: Did the dissertation conclude with a causal statement?
- Important topic: Was the topic of the dissertation an important one in the field of public administration, as reflected by the amount of attention given the topic in current leading public administration textbooks?
- Cutting edge: Did the dissertation involve the development of new questions or the creation of new experience?

Cleary used the same method in 2000 to examine 168 public administration doctoral dissertations. Since the methods that were used by United States of America scholars to evaluate the theses have been explored, it is relevant to discuss an applicable research method for this research. These methods were valuable for their evaluation but it is important to identify a workable method for this study. Cleary's variables provide an idea on how to undertake an investigation of such studies. The variables used in this dissertation are discussed as follows (Cleary 2000).

3.5. Explanation of the variables used

Variables were chosen in such a manner that each thesis will fall in one category especially on the research methods that were used by doctoral students. The other variable, which is the research methods, was discussed on the previous section. It is necessary to note that quantitative and qualitative methods are entered twice because they differ. The following section provides a justification for that. Table 3.1 that clarifies how these variables are coded follows.

Table 3.1: Variables and their codes

Unit of analysis	Unit of observation	Research method	Research topic
Individuals (1)	Individuals (1)	Quantitative1 (1)	Policy Analysis and Management (1)
Groups and collectives (2)	Groups and collectives (2)	Quantitative2 (2)	Development Management (2)
Organisations and Instit. (3)	Scholarly literature (3)	Qualitative1 (3)	Public Organisational Development and Management (3)
Social actions and events (4)	Official documents (4)	Qualitative2 (4)	Managing Public Service Delivery (4)
Interventions (5)	Secondary data and statistics (5)	Participatory research (5)	Human Resources Management (5)
Social artefacts and cultural objects (6)	Computer software packages (6)	Historical studies (6)	Information, knowledge, Communication, and Technology Development (6)
Constructs (7)	Other texts (7)	Philosophy (7)	Public Management Ethics (7)
Comparative (8)		Hermeneutics (8)	Public Administration and Management History, Theory and Research (8)
Content analysis (9)			Disaster studies (9)
			Inter-governmental relations (10)

		Financial management and procurement (11)
		Public Participation (12)
		Other (13)
		Not Public Administration (NPA) (14)

3.5.1 Research method as a methodological indicator

Although this variable has already been discussed (see section 3.3), it is also important to justify why the qualitative and quantitative methods are being categorised twice. These two methods are broad, so there is a need to narrow them down to be manageable and simple especially when using them as a possible indicator. According to the classification for the purpose of this research, quantitative research (see also section 3.3.1.1) can be studying human beings and behaviour (surveys and interviews). This first category of quantitative research takes place when the researcher studies human beings directly and there is interaction between the researcher and the researched. The second classification is studying products of human beings (secondary data and statistics).

There is less interaction between the researcher and the researched; the researcher only studies the products of the human beings not the human beings themselves (for example the researcher can obtain company statistics and other secondary material). Qualitative research can as well be classified into two divisions (see also section 3.3.1.2): studying human beings and their behaviour (field studies, interviews and direct observation). In this first category, the researcher observes and notes what is observed and curiosity is aroused, that's when field studies and interviews take place. The second

classification is studying the products of human behaviour such as texts, programme evaluation and policy analysis. The second classification of the qualitative method is more critical because researchers analyse existing policies and in some instances even question them.

3.5.2 Unit of analysis

To start with, McNabb (2002:293) mentions that the concept “unit of analysis” refers to narrowing relevant data allowing the researcher to focus the study on topics identified in the research objectives. This research relies on the definition of the standard works on social science research that the unit of analysis refers to “the WHAT of your study: what object, phenomenon, entity, process or event you are interested in investigating” (Babbie & Mouton 2001:84). In another standard work on social science research, Babbie (2001:95) defines the unit of analysis as those things people examine in order to create summary descriptions of all such units and to explain the differences among them. In this study, the unit of analysis refers to what the doctoral students are analysing. Babbie (2001:95–96) provides four categories of unit of analysis which are individuals, groups, organisations and social artefacts. Mouton (1996:48–50) provides seven categories which are: individuals, collectives, organisations (formal and informal), institutions, social events and actions, cultural objects and interventions. Mouton’s classification is more comprehensive; therefore it is selected and adapted for this analysis. The category “constructs” has been added to the six categories of Mouton to make provision for those research using constructs such as concepts, theories and models as units of analysis. A detailed discussion of the various categories of units of analysis follows.

3.5.2.1 Individuals

The category individuals refers to human beings as they are the main objects in social science research. When classifying this category Mouton (1996:48) states that this category can include various categories such as adolescents, the aged, students, constituents, politicians, academics, factory workers or the

general public. Mouton further states that these categories are socially constructed and not natural. For example, when a researcher wants to find out about the perceptions of young people about the abortion policy, the unit of analysis in this case will be individuals, and specifically it will be teenage girls. This category of individuals is socially constructed because it depends on the community as to who are considered as teenage girls or youth. Babbie (2001:95) argues that individuals may be characterised in terms of their social groupings. When providing examples of such groupings, Babbie provided the following: college students, gays and lesbians, auto workers, voters, single parents and churchgoers.

3.5.2.2 Groups and collectives

This refers to groupings or collectives of people who are members of larger geographical, political or cultural entities (Mouton 1996:48). Collectives include entities such as nations, cities, towns, communities and tribes. Since South Africa is diverse, an example of groups and collectives can include, Swatis, Zulus, Ndebeles, Sothos and on the other groupings. Groups can also be categorised into rural and urban communities.

3.5.2.3 Organisations and institutions

Mouton (1996:48) defines an organisation as any social unit that coordinates the activities of its members. He classified groups into two settings, which are formal and informal. Mouton goes on to state that formal organisations include banks, insurance companies, police departments, and government bureaus. Informal groups include clubs, lodges, public service groups and groups serving special causes. Non-governmental organisations can be classified under informal groups because they serve a special cause such as alleviating poverty.

3.5.2.4 Social actions and events

Mouton (1996:49) classifies social actions as follows:

- face to face interaction in small groups or social situations
- collective or group action in which individuals participate in more or less conscious collaboration to achieve their goals and perhaps also the collective goals of the group
- patterned social action in which individuals act in more or less unconscious collaboration with others to achieve individual goals (traffic and speech patterns are examples of patterned social action)
- political or structured action, which is more or less consciously aimed at maintaining or transforming the patterns and structures of a culture and society (Mouton 1996:50)

3.5.2.5 Interventions

The category interventions refer to programmes such as education, health care and management training. Interventions also refer to policies such as affirmative action and performance appraisal and systems such as information systems (Mouton 1996:50). Examples of interventions can be the Employment Equity Act, the Batho Pele White Paper, the Transformation of Public Service Act and other acts and policies that allow access to public goods and services. It can also include companies' or institutions' policies and legal documents. The term "intervention" is diverse in a sense that it does not only refer to policies and acts but it can also include strategies that are implemented in order to improve public service delivery or improve operational measures in an institution or organisation.

3.5.2.6 Social artefacts and cultural objects

The category social artefacts refers to all products or outcomes of human behaviour for example, cultural and symbolic objects such as paintings, literary texts, sculptures and books (Mouton 1996:50). Examples of this can

include drawings by political activists. A researcher can be interested in one of the paintings and analyse it.

3.5.2.7 Constructs

The category constructs refers to concepts in contexts. It's more focused on analysing concepts and it's a philosophical method. Although Mouton did not include this category, it is important to add it. Construct refers to the theoretical creations based on observations but which cannot be observed directly or indirectly (Babbie & Mouton 2001:16).

3.5.3 Unit of observation (data source) as a methodological indicator

Babbie (2001:95) does not provide a precise definition of the unit of observation. He argues that the units of analysis are usually also the units of observation. However, Babbie and Mouton (2001:174) define a unit of observation as a unit of data collection and an element or aggregation of elements from which information is collected. In this category, the researcher looks at what was used as a source of information. Sources of information vary depending on the nature of the study. Information can be obtained from books, journals, encyclopaedias, acts, policies, interviews, surveys, questionnaires, individuals and groups. It is important to note that some of the units of observation are the same as the unit of analysis. The additional unit of observation are scholarly literature, official documents, secondary data and statistics and computer software packages.

3.5.3.1 Individuals

Individuals refer to human beings as social objects. A researcher can interview individuals to understand their perceptions on conditions of employment in an organisation. To understand as to why the failing rate is so high, a researcher can interview students.

3.5.3.2 Groups and collectives

This category refers to groupings and collectives of people. In order to understand the delivery of services in different communities in Mpumalanga, a researcher can target rural areas and urban areas to draw comparisons. Groups and collectives can also include the observation of groups of people within organisations and institutions, for instance focus groups.

3.5.3.3 Scholarly literature

This category includes accredited scholarly material such as books, journal articles, encyclopaedias, dictionaries, work in progress by other scholars, published and unpublished theses and dissertations.

3.5.3.4 Official documents

This category consists of legal documents such as acts, policies and year books.

3.5.3.5 Secondary data and statistics

Secondary data and statistics refer to scholarly literature and statistics that are available in various government departments and in some other entities such as Statistics South Africa.

3.5.3.6 Computer software packages

In this category the unit of observation is not the various policies but it is the software packages that are thought to be useful in organisations in order to improve service delivery.

3.5.3.7 Other texts

This category consists of information that is not scholarly or official. Other texts include speeches, newspapers, reports and blogs.

3.5.4 Research topic

Some authors in Public Administration have paid attention to research topics and the categorisation of research topics (Perry & Kraemer 1986:217, Cleary 1992:58, Cleary 2000:449, Wessels 2004:174, Wessels 2005:1505, Cameron & McLaverty 2008:79–83, Wessels 2008:109–111) as research topic reflect the distribution of research in the subject field (Perry & Kraemer 1986:217). The following chapter will indicate if there is a relationship between the research topic and the research methods. For the purpose of this research, the fourteen categories of topics used by Wessels (2008:109) have been selected and are discussed below. I chose Wessels's classification because it is more comprehensive since it covers all the topics that the doctoral students have researched.

3.5.4.1 Policy Analysis and Management (POL)

Theses that focused on interventions and programme evaluations were classified under POL. This category also includes research on policy development, policy implementation and policy evaluation.

3.5.4.2 Development Management (DEV)

This category focuses primarily on development and the management (planning, organising, controlling and leadership) of development.

3.5.4.3 Public Organisational Development and Management (ODM)

This category specifically looks at organisations and the development strategies that are undertaken by a department to improve its operations.

3.5.4.4 Managing Public Service Delivery (PSD)

Theses focusing on issues regarding the management or administration of public service delivery, poor service delivery and the improvement of service delivery are classified under this category.

3.5.4.5 Human Resources Management (HRM)

This category includes all research on topics related to human resources management in the widest sense of the word, personnel management, industrial relations, recruitment, payroll and benefits and compensations.

3.5.4.6 Financial Management and Procurement (FMP)

This category is used for research focusing on budgeting, auditing, supply chain management and municipal finance.

3.5.4.7 Information, Knowledge, Communication and Technology Management (ICT)

This category is used to classify topics that deal with managing information, information dissemination, knowledge production and technology advancement, for example e-governance.

3.5.4.8 Public Management Ethics (ETH)

This category includes topics on codes of conduct, corruption, maladministration, mismanagement of government resources, nepotism and the various bodies that help to combat corruption.

3.5.4.9 Public Administration and Management History, Theory, Research and Learning (HTR)

Theses that are more on the conceptual and philosophical level and that focus on topics related to Public Administration theory, history, research methodology, teaching and learning are classified under this category.

3.5.4.10 Disaster Studies (DIS)

Topics on disaster management in its widest sense, vulnerability and risk assessment are classified under this category.

3.5.4.11 Inter-governmental Relations (IGR)

This category includes research on topics dealing with relationships between the three spheres of government.

3.5.4.12 Public Participation (PP)

The category Public Participation includes research on issues such as public involvement and community development.

3.5.4.13 Not Public Administration (NPA)

Topics which can not be categorised in any of the above-mentioned categories and seem to lack Public Administration theory and background are classified under this category. They can also be referred to as miscellaneous topics. This category also includes topics that seem to be related to the

various sub disciplines of Public Administration, but have been researched by researchers from other disciplines such as human resource management and industrial relations.

3.6 Summary and conclusion

The definitions of research methods as shared by various scholars were discussed in this chapter. For the purpose of this dissertation “research methods” has been defined as the tools that are used in Public Administration to reach informed conclusions based on the research objectives. This chapter has also reviewed the various methods that are used by scholars in Public Administration. These methods have been classified into two research design categories, namely empirical and non-empirical designs. The empirical designs include methods such as quantitative, qualitative, participatory and historical studies. The non-empirical designs include methods such as philosophy (concepts in contexts) and hermeneutic (ideology critical and deconstructive research).

This chapter also considered the methods that were used by other scholars who evaluated doctoral research. It has been decided to apply the method “content analysis” for analysing the material for this dissertation. This method is not purely qualitative or quantitative but it comprises both methods. The descriptive variables that will be used to analyse the completed theses include research methods, units of analysis and units of observation. In this chapter it is expected that there is a correlation between research topics, research methods, unit of analysis and unit of observation. This probable correlation will be investigated and discussed in chapter 4.

CHAPTER 4

THE RESEARCH METHODS USED IN PUBLIC ADMINISTRATION DOCTORAL THESES FROM THE PERIOD 2000 TO 2005: DISCUSSION OF DATA

4.1 Introduction

Chapter 3 provided a classification of research methods in Public Administration. This classification is to be utilised for describing the research methods employed in Public Administration doctoral theses from the period 2000 to 2005. The main purpose of this chapter is thus to present the empirical data obtained from examining the Public Administration doctoral theses completed in South Africa during the period 2000 to 2005. This data will be analysed to answer the main research question that was raised in chapter 1 of this study, namely “What research methods were used in completed South African doctoral research in Public Administration in the period 2000 to 2005?”

In order to get a holistic picture of the doctoral research and the applied methods, this chapter will present the data in separate categories, starting with a description of the research topics for doctoral research in Public Administration, the purposes, units of analysis, and units of observation in doctoral research. This chapter further investigates the possible existence of significant correlations between the various variables, namely research topic and research method, units of observation and research methods, purpose and units of analysis, purpose and units of observation and purpose and research methods.

4.2 Research topics for doctoral research in Public Administration

Wessels’s (2005) taxonomy of classifying research topics in Public Administration has been adopted for the purpose of this dissertation (refer to chapter 3). Although the classification system provides for a possible fourteen

categories of topics, the data show that mainly four categories are used in 67% of the theses analysed for this research (see table 4.1). These four are Public Organisational Development and Management (21,22%), Public Human Resources Management (20,37%), Managing Public Service Delivery (16,67%) and Policy Analysis and Management (9,26%). The worrying factor is that some legitimate Public Administration topics (see McCurdy & Cleary 1984; Baily 1992; Cleary 1992, 2000; Adams & White 1994; Perry & Kraemer 1986; Wessels 2004) such as Public Administration and Management, History, Theory, Research and Learning are neglected as only 5,56% of the theses are on topics in this category. The reluctance of researchers to build and develop theory may contribute to the regression of the subject field (McCurdy & Cleary 1984:50). There is also a low percentage of theses on Public Administration Ethics and Financial Management and Procurement.

Table 4.1: Research topics

Topic of thesis	Frequency	%
Public Organisational Development and Management (ODM)	12	22,22
Human Resources Management (HRM)	11	20,37
Managing Public Service Delivery (PSD)	9	16,67
Policy Analysis and Management (POL)	5	9,26
Inter-governmental Relations (IGR)	4	7,41
Public Administration and Management History, Theory, Research and Learning (HTR)	3	5,56
Public Management Ethics (ETH)	2	3,70
Financial Management and Procurement (FMP)	2	3,70
Development Management (DEV)	2	3,70
Information, Knowledge, Communication and Technology Management (ICT)	1	1,85
Disaster Studies (DIS)	1	1,85
Public Participation (PP)	1	1,85
Other (Oth)	1	1,85
Total	54	100,00

4.3 Purposes of research

In chapter 3 no less than seven possible purposes have been identified for research in Public Administration. It was difficult to identify the purpose of each thesis because the researchers were not clear about it. They will sometimes provide about three purposes in one thesis. In most instances, after reading through the entire first chapter, I had to decide what the main research purpose is. This study shows that only four purposes for research were found in the selected doctoral theses, namely description (50%), followed by developing/improving administrative technology (29,63%), understanding (14,81%) and reflecting (5,56%). The absence of explanatory research indicates a lack of research determining causal relationships between variables – research McCurdy and Cleary (1984:50) regard as important to advance the knowledge base of the field of Public Administration

Table 4.2: Purposes of research

Purpose of research	Freq	%
Description	27	50,00
Developing/improving administrative technology	16	29,63
Understanding	8	14,81
Reflecting	3	5,56
Total	54	100,00

4.4 Units of analysis used in doctoral research

Not all of the theses analysed were clear about the units of analysis (the WHAT) of the various research projects. This researcher, therefore sometimes had to interpret the title, problem statement or purpose statement of the specific thesis in order to identify and categorise the unit of analysis. Although the code list makes provision for seven possible categories of units of analysis, six categories have been identified in the survey of which mainly three categories were commonly used (see table 4.3). The first one was interventions with 37,04% followed by organisations and institutions (33,33%)

and the last one was social actions and events (eg public participation – 12,96%). Groups, collectives, constructs and individuals are clearly not typical or popular units of analysis in Public Administration doctoral theses. In fact, this research illustrates that Public Administration is most probably not a typical social science as individual people are not the most typical unit of analysis as Babbie and Mouton (2001:648) observe about the social sciences. Bearing in mind that the variables “unit of analysis” and “unit of observation” share some categories (such as individuals, and groups and collectives), it might be noteworthy to compare this distribution of units of analysis with the distribution of units of observation (see section 4.8).

Table 4.3: Units of analysis

Unit of analysis	Freq	%
Interventions	20	37,04
Organisations & institutions	18	33,33
Social actions and events (eg public participation)	7	12,96
Groups & collectives	4	7,41
Constructs	4	7,41
Individuals	1	1,85
Total	54	100,00

4.5 Units of observation in doctoral research

The unit of observation refers to the data source (refer to chapter 3) of the dissertation. Although the code list makes provision for up to eight possible categories of data sources, only five of those categories were found in this sample. Of the five categories, three have shown to be the most popular, namely individuals (53,70%), followed by official documents (25,93%), and scholarly literature (14,81%). This implies that more than 40% of all the data sources used by Public Administration doctoral studies are documents while 60% are human beings and their behaviour. These results meet an earlier expectation by Wessels et al (2009:12) that Public Administration as a human science utilises a variety of data sources and material in its research

endeavours. The popularity of individuals as units of observation is in sharp contrast with the lack of popularity of this category in the variable unit of analysis (see section 4.4). The possible explanation of this will be discussed later in this dissertation (see section 4.8.2.3).

Table 4.4: Units of observation

Unit of observation	Freq	%
Individuals	29	53,70
Official documents (Acts, policies and yearbooks)	14	25,93
Scholarly literature	8	14,81
Groups & collectives	2	3,70
Computer software packages	1	1,85
Total	54	100,00

4.6 Research designs in doctoral research

Only two research designs were used in the code list, namely empirical and non-empirical (Mouton 2001:144). The survey shows that the design of forty-five (83,33%) theses were empirical (world of experience) – the overwhelming majority. Only a small number (17%) of theses was on the conceptual level and used non-empirical designs.

Table 4.5: Research designs

	Freq	%
Empirical (World of experience)	45	83,33
Non-empirical (World of ideas)	9	16,67
Total	54	100,00

4.7 Research methods in doctoral research

Ten possible research methods were identified for Public Administration (Wessels et al 2009:13–14; refer also to section 3.5.1). This study found that mainly four of those methods were used by doctoral students, namely Quantitative1, Hermeneutics, Qualitative1 and Qualitative2. The Quantitative1 was mostly used (38,89%) followed by Hermeneutics (33,33%). This data imply that in about 39% of the theses, the researchers used surveys, interviews, experiments and field experiments. Although the method Hermeneutics was applied in 33,33% of the theses, one can expect that this method was mainly applied in an empirical design as table 4.5 above shows that only 16,67% of the total number of theses used a non-empirical design. Only 11% of the research methods are based on implementation and outcome evaluation research for example programme evaluation and policy analysis. These results seems to validate the hypothesis set by Wessels et al (2009:16) that not all of the methodological categories included in the code list can be regarded as core Public Administration methods.

Table 4.6: Research methods

	Freq	%
Quantitative1	21	38,89
Hermeneutics	18	33,33
Qualitative1	9	16,67
Qualitative2	6	11,11
Total	54	100,00

4.8 Correlation between the various variables

This section provides an in-depth analysis of the main results presented in the first part of this chapter. For the sake of theory development it is necessary to

identify the relationships, if any, between the various variables. The data have been tested for the followings relationships:

- Topic and unit of analysis
- Topic and unit of observation
- Purpose and unit of observation
- Unit of analysis and unit of observation
- Research topic and research method
- Unit of observation and research method
- Research purpose and research method
- Unit of analysis and research method

In order to determine whether there is any relationship between the various variables, a chi-square frequency test was used (see Babbie & Mouton 2001:481). Garson (2009:Online) defines a chi-square method as a statistic test used to test the hypothesis of no association of columns and rows in tabular format. A chi-square probability of 0,05 or less is interpreted by social scientists as justification for rejecting the null hypothesis that the row variable is unrelated (that is, only randomly related) to the column variable (Garson 2009; Babbie & Mouton 2001:485). The results of the chi-square frequency test are presented in two categories, namely variables that correlate and variables that do not correlate.

4.8.1 The variables that correlate

Of the eight possible relationships that were tested, five possible relationships have shown to correlate with each other. The chi-square frequency test has shown that in most cases the cells have expected counts less than five which makes this test not valid to claim conclusive associations for individual indicators of variables.

4.8.1.1 Research topic and research method

In chapter 3 it was claimed that chapter 4 will determine if there is a relationship between the research topic and the research methods. Cameron and McLaverty (2008:78) argue that a research topic is a largely descriptive variable and tells one little about research methodology as such. The chi-square test shows that the relationship between research topic and research method is significant at the level of 0,05.

The implication of the chi-square test (table 4.7) for this research is that certain research methods are more frequently used by researchers on specific topics than other topics. A larger sample will be necessary to make conclusive findings on relationships between specific research topics and specific research methods.

An analysis of the cross tabulations of research topics and research methods for this specific sample (table 4.8) however shows that although 38,89% of the total sample of theses have used the Quantitative¹ method (surveys). This method is the preferred choice of researchers doing research on Policy Analysis and Management (40% – equally shared with Qualitative²), Managing Public Service Delivery (88,89%), Human Resource Management (54,55%), Financial Management and Procurement (50% – equally shared with Qualitative¹), and Public Participation (100%). Table 4.8 also shows that the Qualitative¹ (field studies) were only used in 11,11% of the theses. However, it is the preferred method for researchers doing research on Development Management (100%), and Financial Management and Procurement (50% – equally shared with Quantitative¹). The Qualitative² method (programme evaluation), overall used by 11,11% of the total sample, has shown to be preferred mainly by researchers doing research on Policy Analysis and Management (40% – equally shared by Quantitative¹) and Information, Knowledge, Communication and Technology Management (100%). Hermeneutics as method has been used in 33,33% of the total sample of theses. However, it was the preferred method of researchers doing research on topics in the categories Public Organisational Development and

Management (41,67%), Public Management Ethics (100%), Disaster Studies (100%), Public Administration and Management History, Theory and Research (66.67%), Intergovernmental Relations (100%), and the unspecified "Other" (100%).

Table 4.7: Topic and research method (Frequency = 54)

Topic of thesis	Research method employed				Total (%)
	Quantitative1 (%)	Qualitative1 (%)	Qualitative2 (%)	Hermeneutics (%)	
Policy Analysis and Management (POL)	3,70 40,00 9,52	0,00 0,00 0,00	3,70 40,00 33,33	1,85 20,00 5,56	9,26
Development Management (DEV)	0,00 0,00 0,00	3,70 100,00 22,22	0,00 0,00 0,00	0,00 0,00 0,00	3,70
Public Organisational Development and Management (ODM)	3,70 16,67 9,52	3,70 16,67 22,22	5,56 25,00 50,00	9,26 41,67 27,78	22,22
Managing Public Service Delivery (PSD)	14,81 88,89 38,10	0,00 0,00 0,00	0,00 0,00 0,00	1,85 11,11 5,56	16,67
Human Resources Management (HRM)	11,11 54,55 28,57	7,41 36,36 44,44	0,00 0,00 0,00	1,85 9,09 5,56	20,37
Financial Management and Procurement (FMP)	1,85 50,00 4,76	1,85 50,00 11,11	0,00 0,00 0,00	0,00 0,00 0,00	3,70
Information, Knowledge, Communication and Technology Management (ICT)	0,00 0,00 0,00	0,00 0,00 0,00	1,85 100,00 16,67	0,00 0,00 0,00	1,85
Public Management Ethics (ETH)	0,00 0,00 0,00	0,00 0,00 0,00	0,00 0,00 0,00	3,70 100,00 11,11	3,70
Public Administration and Management History, Theory, Research and Learning (HTR)	1,85 33,33 4,76	0,00 0,00 0,00	0,00 0,00 0,00	3,70 66,67 11,11	5,56
Disaster Studies (DIS)	0,00 0,00 0,00	0,00 0,00 0,00	0,00 0,00 0,00	1,85 100,00 5,56	1,85
Inter-governmental Relations (IGR)	0,00 0,00 0,00	0,00 0,00 0,00	0,00 0,00 0,00	7,41 100,00 22,22	7,41
Public Participation (PP)	1,85 100,00 4,76	0,00 0,00 0,00	0,00 0,00 0,00	0,00 0,00 0,00	1,85
Other (Oth)	0,00 0,00 0,00	0,00 0,00 0,00	0,00 0,00 0,00	1,85 100,00 5,56	1,85
Not Public Administration (NPA)	0,00 0,00 0,00	0,00 0,00 0,00	0,00 0,00 0,00	0,00 0,00 0,00	0,00
Total	38,89	16,67	11,11	33,33	100,00

4.8.1.2 Unit of observation and research method

There seems to be a significant association that exists between the unit of observation and the research method as the chi-square probability of no relation between the variables is smaller than 0,05. The chi-square test shows that there is a strong (99,9%) relationship between the unit of observation and the research method.

The unit of observation determines which research method to be used. Table 4.8 below shows that in 53,70% of the theses, individuals were used as a unit of observation. The researchers who have selected individuals as their unit of observation, applied Quantitative1 (68,97%) and Qualitative1 (31,03%) as research methods – most probably because both these methods study human beings and their behaviour directly, either by means of surveys and interviews or through field studies, case studies, interviews and direct observation (cf Mouton 2001:144–150, 152–153, 155–158).

The category “official documents” as unit of observation is the second most used data source (25,93% of all the sources – table 4.8). Table 4.8 also indicates that the most popular research methods to study official documents are Hermeneutics (71,43%) and Qualitative2 (28,57%). Hermeneutics involves reading, as it is based on analysing texts (Mouton 2005:167), while the method Qualitative2 also entails reading, analysing and evaluating policies and programmes – all products of human behaviour. This includes implementation and outcome evaluation research (Mouton 2005:158–160). It makes sense that the researchers who used official documents applied research methods categorised as Hermeneutics (71,43%) and Qualitative2 (28,57%), as both these methods include the reading and interpreting of texts.

Scholarly literature is the third most popular (14,81%) unit of observation used in doctoral theses. The researchers who used scholarly literature preferred to apply Hermeneutics (87,50%) and Qualitative2 (12,50%) as research methods. Groups and collectives were used in 3,70% of the theses, and were analysed by means of Quantitative1 (50%) and Hermeneutics 50% methods.

Computer software packages have been analysed in 1,85% of the theses by means of only the Qualitative2 research method.

Table 4.8 Unit of observation and research method (Frequency = 54)

Research method employed	Unit of observation					Total (%)
	Individuals (%)	Groups & collectives (%)	Scholarly literature (%)	Official documents (Acts, policies and yearbooks) (%)	Computer software packages (%)	
Quantitative1	37,04	1,85	0,00	0,00	0,00	38,89
	95,24	4,76	0,00	0,00	0,00	
	68,97	50,00	0,00	0,00	0,00	
Qualitative1	16,67	0,00	0,00	0,00	0,00	16,67
	100,00	0,00	0,00	0,00	0,00	
	31,03	0,00	0,00	0,00	0,00	
Qualitative2	0,00	0,00	1,85	7,41	1,85	11,11
	0,00	0,00	16,67	66,67	16,67	
	0,00	0,00	12,50	28,57	100,00	
Hermeneutics	0,00	1,85	12,96	18,52	0,00	33,33
	0,00	5,56	38,89	55,56	0,00	
	0,00	50,00	87,50	71,43	0,00	
Total	53,70	3,70	14,81	25,93	1,85	100,00

Table 4.8 confirms that there is a strong relationship between the unit of observation and the research method. Since the variable “research method” is considered important, it also of best interest to determine if there is a relationship between the research method and the purpose.

4.8.1.3 Research purpose and research method

There is a significant association between research purpose and research method as the chi-square test indicates a probability of 99,9% that there is a relationship between the research method and the purpose.

Considering the chi-square results, it is possible to conclude that the purpose of the study determines which research method to be used. The data show that the purpose in 50% of the theses was to describe (see table 4.9). In these particular theses the most commonly used methods “to describe” are Quantitative1 (70,37%) followed by Qualitative1 (25,93%) and Hermeneutics (3,70%). The above results show that studies with a descriptive purpose will primarily use Quantitative1 methods. In most instances they describe their findings based on their observation on individuals (unit of observation). By using the hermeneutical method (reading texts) to describe, it is possible for a researcher to describe an event or the interests or orientation of people (Mouton 2005:167).

The purpose “developing or improving administrative technology” is the second most popular purpose and has been used in 29,63% of the theses as a purpose. The method used most commonly for this purpose is Hermeneutics (50%) followed by Qualitative2 (25%). Both these methods are primarily reading methods making a study of scholarly literature or official documents (see table 4.9).

Understanding was the purpose of 14,81% of the theses (table 4.9). The method most commonly used in theses with this purpose, is Hermeneutics (75%) followed by Qualitative2 (25%). The purpose “reflecting”, directed 5,56% of the theses, and as expected, used only the method Hermeneutics (100%).

Table 4.9 Research purpose and research method (Frequency = 54)

Research method employed	Purpose of thesis				Total (%)
Frequency Percent Row % Col %	Description (%)	Understanding (%)	Reflecting (%)	Developing/improving administrative technology (%)	
Quantitative1	35,19	0,00	0,00	3,70	38,89
	90,48	0,00	0,00	9,52	
	70,37	0,00	0,00	12,50	
Qualitative1	12,96	0,00	0,00	3,70	16,67
	77,78	0,00	0,00	22,22	
	25,93	0,00	0,00	12,50	
Qualitative2	0,00	3,70	0,00	7,41	11,11
	0,00	33,33	0,00	66,67	
	0,00	25,00	,00	25,00	
Hermeneutics	1,85	11,11	5,56	14,81	33,33
	5,56	33,33	16,67	44,44	
	3,70	75,00	100,00	50,00	
Total	50,00	14,81	5,56	29,63	100,00

4.8.1.4 Research topic and unit of observation

The chi-square test on the data confirms that there is a significant relationship between the research topic and the unit of observation. The topic that one chooses seems to determine which data source (unit of observation) is to be analysed. The logical procedure is that a researcher first decides on the topic before determining the unit of observation.

The data (table 4.10) show that researchers who select a research topic in the category Policy Analysis and Management (POL), will most probably observe official documents (60 %) and individuals (40%). It does make sense because topics in the category POL entail the analysing of policies – therefore official documents are the main data source.

The data also show that researchers who select a research topic in the category Development Management (DEV) will most probably observe individuals (100%) only. The utilisation of units of observation are more evenly spread in theses studying topics in the category Public Organisational Development and Management (ODM) as 33,33% of researchers preferred to observe individuals, another 33,33% preferred scholarly literature, 25% official documents and 8,33% groups and collectives. In the theses where the topics fall in the category Managing Public Service Delivery (PSD), the overwhelming majority (77,78%) of the researchers focused on individuals. A relatively small percentage of the theses used mainly scholarly literature (11,11%) and groups and collectives (11,11%) as units of observation. Theses with topics in the category Human Resources Management (HRM) observed mainly individuals (90,91 %), while official documents (9,09%) are used to a limited extent. All the theses with topics in the category Financial Management and Procurement (FMP) observed mainly individuals – an unexpected result for a subfield supposed to make a study of financial policy, procedures and systems. Theses in the category Information, Knowledge, Communication and Technology Management (ICT) observed mainly computer software packages (100%). Where the topics of theses fall within the category Public Management Ethics (ETH), one can expect the researcher to use either scholarly literature (50%) or official documents (50%) as main data source.

An unexpected result is that not one of the theses falling in the category Public Administration and Management History, Theory and Research and Learning (HTR & L) used mainly scholarly literature. Most of the theses in this category (66,67%) observed official documents and while the rest (33,33%) used individuals as data source. A revisit of these specific theses, has shown that they are all aimed at either developing or evaluating a curriculum, for example: “The teaching of Public Management at Technikons with specific reference to Technikon Southern Africa”, “A distance education management model for the polytechnic of Namibia” and “An investigation into the theory and practice of Public Management in public schools of the Empangeni

Region". The researchers used mainly official documents that are designed by the education departments as units of observation.

Theses in the category Disaster Studies (DIS) observed mainly (100%) scholarly literature, while those in the category Inter-governmental Relations (IGR) relied primarily (100%) on official documents, and those in the category Public Participation (PP) (3,45%) utilised individuals (100%), while all the "other" used scholarly literature (100%).

Table 4.10 Research topic and unit of observation (Frequency = 54)

Topic of thesis Percent Row % Col %	Unit of observation					Total (%)
	Individuals (%)	Groups & collectives (%)	Scholarly literature (%)	Official documents (Acts, policies and yearbooks (%)	Interventions (software packages) (%)	
POL	3,70	0,00	0,00	5,56	0,00	9,26
	40,00	0,00	0,00	60,00	0,00	
	6,90	0,00	0,00	21,43	0,00	
DEV	3,70	0,00	0,00	0,00	0,00	3,70
	100,00	0,00	0,00	0,00	0,00	
	6,90	0,00	0,00	0,00	0,00	
ODM	7,41	1,85	7,41	5,56	0,00	22,22
	33,33	8,33	33,33	25,00	0,00	
	13,79	50,00	50,00	21,43	0,00	
PSD	12,96	1,85	1,85	0,00	0,00	16,67
	77,78	11,11	11,11	0,00	0,00	
	24,14	50,00	12,50	0,00	0,00	
HRM	18,52	0,00	0,00	1,85	0,00	20,37
	90,91	0,00	0,00	9,09	0,00	
	34,48	0,00	0,00	7,14	0,00	
FMP	3,70	0,00	0,00	0,00	0,00	3,70
	100,00	0,00	0,00	0,00	0,00	
	6,90	0,00	0,00	0,00	0,00	
ICT	0,00	0,00	0,00	0,00	1,85	1,85
	0,00	0,00	0,00	0,00	100,00	
	0,00	0,00	0,00	0,00	100,00	
ETH	0,00	0,00	1,85	1,85	0,00	3,70
	0,00	0,00	50,00	50,00	0,00	
	0,00	0,00	12,50	7,14	0,00	
HTR & L	1,85	0,00	0,00	370	0,00	5,56
	33,33	0,00	0,00	66,67	0,00	
	3,45	0,00	0,00	14,29	0,00	
DIS	0,00	0,00	1,85	0,00	0,00	1,85
	0,00	0,00	100,00	0,00	0,00	
	0,00	0,00	12,50	0,00	0,00	
IGR	0,00	0,00	0,00	7,41	0,00	7,41
	0,00	0,00	0,00	100,00	0,00	
	0,00	0,00	0,00	28,57	0,00	
PP	1,85	0,00	0,00	0,00	0,00	1,85
	100,00	0,00	0,00	0,00	0,00	
	3,45	0,00	0,00	0,00	0,00	
Oth	0,00	0,00	1,85	0,00	0,00	1,85
	0,00	0,00	100,00	0,00	0,00	
	0,00	0,00	12,50	0,00	0,00	
Total	53,70	3,70	14,81	25,93	1,85	100,00

4.8.1.5 Research purpose and unit of observation

The results of the chi-square test on the data (table 4.11) show that a significant association exists between research purpose and unit of observation. The implication is that the research purpose of a doctoral research project can influence the researcher's choice of the most applicable data sources for the project. An analysis of the data in table 4.11 illustrates this relationship. It shows that mainly four purposes have been used in the doctoral theses analysed for this research, namely description, understanding, reflecting and developing/improving administrative technology. The table also shows that each research purpose has its own profile of units of observation. Theses with a descriptive purpose, for example, tend to utilise primarily individuals (92,59%) as unit of observation. Theses with an understanding purpose tend to utilise only texts in the form of official documents (62,50%) and scholarly literature (37,50%). The purpose "reflecting" utilise the same units of observation than understanding, with just an opposite order of preference, namely scholarly literature (66,67%) and official documents (33,33%).

Developing or improving administrative technology as a purpose utilises all five categories of units of observation. The most commonly used category of units of observation in theses with this purpose, is official documents (43,75%). The other units of observation have been utilised in the following order: individuals (25%), scholarly literature (18,75%), groups and collectives (6,25%) and electronic software packages (6,25%).

Table 4.11 Research purpose and unit of observation (Frequency = 54)

Purpose of thesis Percent Row % Col %	Unit of observation					Total (%)
	Individuals (%)	Groups & collectives (%)	Scholarly literature (%)	Official documents (Acts, policies and yearbooks (%)	Interventions (software packages) (%)	
Description	46,30	1,85	0,00	1,85	0,00	50,00
	92,59	3,70	0,00	3,70	0,00	
	86,21	50,00	0,00	7,14	0,00	
Understanding	0,00	0,00	5,56	9,26	0,00	14,81
	0,00	0,00	37,50	62,50	0,00	
	0,00	0,00	37,50	35,71	0,00	
Reflecting	0,00	0,00	3,70	1,85	0,00	5,56
	0,00	0,00	66,67	33,33	0,00	
	0,00	0,00	25,00	7,14	0,00	
Developing/ improving administrative technology	7,41	1,85	5,56	12,96	1,85	29,63
	25,00	6,25	18,75	43,75	6,25	
	13,79	50,00	37,50	50,00	100,00	
Total	53,70	3,70	14,81	25,93	1,85	100,00

4.8.2 Variables that do not correlate

The above section showed that some of the variables do correlate. For the purpose of theory development and further research it is interesting to identify the variables that do not correlate. The following tables show that there is no relationship between the variable unit of analysis and the variables topic, unit of observation and research method.

4.8.2.1 Research topic and unit of analysis

The chi-square test indicates that, contrary to the expectation formulated in the first paragraph of section 4.8 at the level of 0,2778, a significant association between the variables research topic and unit of analysis is absent (table 4.12). The reason is most probably because “a specific unit of analysis such as the Department of the Public Service and Administration can

be studied under various topics, such as Human Resource Management, Public Management Ethics and Public Organisational Development and Management” (Wessels et al 2009:11).

Table 4.12 Research topic and unit of analysis (Frequency = 54)

Topic of thesis	Unit of analysis						Total (%)
	Individuals (%)	Groups & collectives (%)	Organisations & institutions (%)	Social actions and events (eg public participation) (%)	Interventions (%)	Constructs (%)	
POL	0,00	0,00	1,85	0,00	5,56	1,85	9,26
	0,00	0,00	20,00	0,00	60,00	20,00	
	0,00	0,00	5,56	0,00	15,00	25,00	
DEV	0,00	0,00	0,00	1,85	1,85	0,00	3,70
	0,00	0,00	0,00	50,00	50,00	0,00	
	0,00	0,00	0,00	14,29	5,00	0,00	
ODM	0,00	0,00	11,11	1,85	9,26	0,00	22,22
	0,00	0,00	50,00	8,33	41,67	0,00	
	0,00	0,00	33,33	14,29	25,00	0,00	
PSD	0,00	1,85	9,26	1,85	1,85	1,85	16,67
	0,00	11,11	55,56	11,11	11,11	11,11	
	0,00	25,00	27,78	14,29	5,00	25,00	
HRM	0,00	5,56	7,41	0,00	5,56	1,85	20,37
	0,00	27,27	36,36	0,00	27,27	9,09	
	0,00	75,00	22,22	0,00	15,00	25,00	
FMP	0,00	0,00	1,85	1,85	0,00	0,00	3,70
	0,00	0,00	50,00	50,00	0,00	0,00	
	0,00	0,00	5,56	14,29	0,00	0,00	
ICT	0,00	0,00	0,00	0,00	1,85	0,00	1,85
	0,00	0,00	0,00	0,00	100,00	0,00	
	0,00	0,00	0,00	0,00	5,00	0,00	
ETH	0,00	0,00	0,00	0,00	1,85	1,85	3,70
	0,00	0,00	0,00	0,00	50,00	50,00	
	0,00	0,00	0,00	0,00	5,00	25,00	
HTR (Learning)	1,85	0,00	0,00	0,00	3,70	0,00	5,56
	33,33	0,00	0,00	0,00	66,67	0,00	
	100,00	0,00	0,00	0,00	10,00	0,00	
DIS	0,00	0,00	0,00	0,00	1,85	0,00	1,85
	0,00	0,00	0,00	0,00	100,00	0,00	
	0,00	0,00	0,00	0,00	5,00	0,00	
IGR	0,00	0,00	1,85	3,70	1,85	0,00	7,41
	0,00	0,00	25,00	50,00	25,00	0,00	
	0,00	0,00	5,56	28,57	5,00	0,00	
PP	0,00	0,00	0,00	1,85	0,00	0,00	1,85
	0,00	0,00	0,00	100,00	0,00	0,00	
	0,00	0,00	0,00	14,29	0,00	0,00	
Oth	0,00	0,00	0,00	0,00	1,85	0,00	1,85
	0,00	0,00	0,00	0,00	100,00	0,00	
	0,00	0,00	0,00	0,00	5,00	0,00	
Total	1,85	7,41	33,33	12,96	37,04	7,41	100,00

4.8.2.2 Unit of analysis and research method

As McNabb (2002:293) regards the unit of analysis as "narrowing of the relevant data" and allowing the researcher "to focus the study on topics identified in the research objectives" it was expected that there is a significant relationship between the variables unit of analysis and research method. The unit of analysis was also included as a variable in the methodology for the study of Public Administration research methodology by Wessels et al (2009:10) because they expect the "what" of a study to determine the research material or data sources chosen to do the study. However, at the level of 0,1900 the chi-square test on the data of this dissertation shows that a significant relationship between the research method and unit of analysis is not present. A possible explanation lies most probably in the difference between a unit of analysis and a unit of observation in Public Administration research. In Public Administration research the unit of analysis may be the Department of Public Service and Administration (an institution). For such a unit of analysis, the unit of observation may be either official documents or individuals, or both. Depending on the researcher's choice of unit of observation, the research method may be either hermeneutical, a Quantitative¹ (survey) method or a Qualitative¹ (field study) method. The data in table 4.13 illustrate this point clearly. As there is such a variety of possible units of observation for each category of unit of analysis, and as units of observation seems to be a predictor of research method, it makes sense that there is not a sufficient correlation between unit of analysis and research method.

Table 4.13 Unit of analysis and research method (Frequency = 54)

Research method employed	Unit of analysis						Total (%)
	Frequency Percent Row % Col %	Individuals (%)	Groups & collectives (%)	Organisations & institutions (%)	Social actions and events (eg public participation) (%)	Interventions (%)	
Quantitative1	1,85	3,70	14,81	7,41	11,11	0,00	38,89
	4,76	9,52	38,10	19,05	28,57	0,00	
	100,00	50,00	44,44	57,14	30,00	0,00	
Qualitative1	0,00	3,70	9,26	1,85	1,85	0,00	16,67
	0,00	22,22	55,56	11,11	11,11	0,00	
	0,00	50,00	27,78	14,29	5,00	0,00	
Qualitative2	0,00	0,00	3,70	0,00	5,56	1,85	11,11
	0,00	0,00	33,33	0,00	50,00	16,67	
	0,00	0,00	11,11	0,00	15,00	25,00	
Hermeneutics	0,00	0,00	5,56	3,70	18,52	5,56	33,33
	0,00	0,00	16,67	11,11	55,56	16,67	
	0,00	0,00	16,67	28,57	50,00	75,00	
Total	1,85	7,41	33,33	12,96	37,04	7,41	100,00

4.8.3.3 Unit of analysis and unit of observation

The data analysis shows that there is no significant relationship between the unit of analysis and the unit of observation. This correlates with the findings in 4.8.3.1 and 4.8.3.2 above and strongly suggests that the variable “unit of analysis” is not a predictor at all in Public Administration research. Although this research does not indicate any relation between unit of analysis and research topic or unit of analysis and unit of observation, Babbie and Mouton (2001:85) suggest the existence of a close relationship between unit of analysis and unit of observation (data sources or material used) in the social sciences. According to them, units of analysis in a study may also be the units of observation (Babbie & Mouton 2001:174). The results of this research (see table 4.14) show that Babbie and Mouton’s observation is not valid for Public Administration. As argued in section 4.8.3.2 above, a single category of unit of analysis may imply the utilisation of a variety of units of observation.

Table 4.14 Unit of analysis and unit of observation (Frequency = 54)

Unit of observation)	Unit of analysis						Total (%)
	Percent Row % Col %	Indivi- duals (%)	Groups & collec- tives (%)	Organisa- tions & institutions (%)	Social actions and events (eg public participation) (%)	Interven- tions (%)	
Individuals	1,85	7,41	24,07	9,26	11,11	0,00	53,70
	345	13,79	44,83	17,24	20,69	0,00	
	100,00	100,00	72,22	71,43	30,00	0,00	
Groups & collectives	0,00	0,00	1,85	0,00	1,85	0,00	3,70
	0,00	0,00	50,00	0,00	50,00	0,00	
	0,00	0,00	5,56	0,00	5,00	0,00	
Scholarly literature	0,00	0,00	0,00	0,00	11,11	3,70	14,81
	0,00	0,00	0,00	0,00	75,00	25,00	
	0,00	0,00	0,00	0,00	30,00	50,00	
Official documents (Acts, policies and yearbooks)	0,00	0,00	7,41	3,70	11,11	3,70	25,93
	0,00	0,00	28,57	14,29	42,86	14,29	
	0,00	0,00	22,22	28,57	30,00	50,00	
Interventions (software packages)	0,00	0,00	0,00	0,00	1,85	0,00	1,85
	0,00	0,00	0,00	0,00	100,00	0,00	
	0,00	0,00	0,00	0,00	5,00	0,00	
Total	1,85	7,41	33,33	12,96	37,04	7,41	100,00

4.9 Summary of the chapter

This chapter presented the empirical data obtained from analysing the Public Administration doctoral theses completed in South Africa during the period 2000 to 2005. This data can be summarised in terms of the following categories: research topics, research purposes, units of analysis, units of observation, research designs, and research methods. It shows that although thirteen categories have been used in the classification of theses, the bulk of the theses (66%) fall in four categories. These categories are as follows:

- Public Organisational Development and Management (ODM) (22,22%)
- Human Resources Management (HRM) (20,37%)
- Managing Public Service Delivery (PSD) (16,67%)
- Policy analysis and Management (POL) (9,26%)

With regard to the research purposes of the doctoral theses, it was difficult to identify the purpose of each thesis because the researchers were not clear on that part. However, the data show that 50% of the theses have a descriptive purpose while nearly 30% aims to develop or improve administrative technology. This chapter has further identified the units of observation that are most commonly used, namely individuals, official documents and scholarly literature. More than 53% of the theses used individuals as units of observation.

Amongst the ten possible research methods included in the code list, only four methods have been used, namely Quantitative1, Hermeneutics, Qualitative1 and Qualitative2. About 39% of the theses used Quantitative1 whereby the students studied human beings and their behaviour through surveys and interviews (refer to section 3.5.1.1). This chapter also shows that significant associations exist respectively between research topic and research methods, research method and unit of observation, research method and purpose, and research topic and unit of observation. The variables whereby a significant association was absent were research topic and unit of analysis, research method and unit of analysis and research method and unit of observation. The main findings and recommendations of this research will be discussed in the next chapter.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Scholars and practitioners seem to be in agreement on the assumption that Public Administration research on the doctoral level has to contribute to scholarly knowledge and insight into the practice of public administration. However, the first chapter of this dissertation has shown that there is an ongoing discourse in the literature on the quality of the research, the value of its contribution, and the appropriateness of the research methodology used. Therefore, this dissertation has assumed that competence in appropriate research methods is necessary for researchers to make the desired contribution. This implies that prospective researchers need to be exposed to training in the application of appropriate research methods. As a wide variety of research methods are available for Public Administration researchers, it is necessary to know what the core research methods in Public Administration are, in order to provide the necessary training. For the purpose of this dissertation, the scope of this dissertation is confined to research methods that have been used in completed doctoral research in Public Administration in a selected period (2000–2005). In order to identify and describe the research methods that had been used in completed doctoral research in Public Administration in the period 2000 to 2005, this dissertation:

- determines the purpose of doctoral research in Public Administration (chapter 2)
- proposes a taxonomy for the analysis of research in Public Administration (chapter 3)

Chapter 4 presents the empirical data on the research methods used in Public Administration doctoral theses in the period from 2000 to 2005. This chapter (chapter 5) will provide a broad summary of the results of this research, make

a few conclusions based on the results and make some recommendations implied by the conclusions.

5.2. The purpose of doctoral research in Public Administration

Before one can discuss the research methods used by doctoral researchers in Public Administration, it is necessary to reflect on the purpose of doctoral research in Public Administration. Consequently chapter 2 embarks on a comprehensive review of scholarship and introduces the various discourses on research in general and Public Administration research specifically. The literature show, *inter alia*, that although the various scholars across disciplinary boundaries may differ in their definition of “research”, all the definitions culminate in a view that research is a systematic method of acquiring knowledge in a specific field. Some scholars do not even use the term “research” but refer to “scientific enquiry”. For the purpose of this dissertation, both these terms are acceptable as they refer to the same process. When analysing the various definitions of research the following elements appeared: “knowledge”, “gathering information”, “understanding a phenomenon”, “a process” and “a goal” and “a systematic method”. The researcher was thus careful verify if all these words refer to the same concept by carefully interpreting them within the context of their application.

Chapter 2 shows that most of the discourses are critical of the quality of research in Public Administration, implying that there is ample room for improvement in the field. Some of the concerns raised by scholars are the lack of research in certain areas, a lack of methodological rigor, unimportant doctoral topics and the limited number of publications by doctoral students, its dubious contribution to the body of knowledge and the lack of scholarship and theory. All these concerns are related to the ability of doctoral researchers to apply appropriate research methods in their research, culminating in high quality research output.

Chapter 2 explicates the link between the number and quality of research output and the number and quality of doctoral research in South African

higher institutions. Although the official definition of research output does not include doctoral theses, it is taken for granted that doctoral theses are important drivers for the production of those items which fall within the definition of research output, namely original papers, research letters and review articles from accredited journals and books. Bearing in mind the pivotal role of doctoral research in increasing research output and knowledge production, South Africa's National Research Foundation is concerned about the limited number of academics who are in possession of doctoral qualifications. Chapter 2 shows that it is expected from doctoral researchers to conduct thorough and independent research at an advanced level. They also need to be able to supervise other students after obtaining their doctoral qualification. Consequently, their ability to select appropriate research methods and skilfully apply them can be regarded as crucial for high quality research output.

5.3 A classification of research methods in Public Administration

As indicated in chapter 3, this dissertation shares the view with McNabb (2002) that Public Administration is a human science. The consequence of this decision is that a wide variety of research methods are by definition available to Public Administration researchers. It also confronts this researcher with various definitions of the concept "research methods", as discussed in chapter 3. For the purpose of this dissertation, research methods are viewed as scientific tools that are used to execute research in order to reach valid conclusions. Chapter 3 consequently provides a taxonomy of research methods available to researchers in Public Administration. These methods are classified into two broad research design categories, namely empirical and non-empirical design. Research with an empirical design includes research methods such as quantitative, qualitative, participatory action, comparative, content analysis and historical studies. Research with a non-empirical design includes research methods such as conceptual analysis and hermeneutics.

Apart from the taxonomy of research methods as referred to in the above paragraph, this chapter also provides taxonomy of the variables for the evaluation of doctoral research in Public Administration, namely unit of analysis, unit of observation and research topic. These variables have been used for analysing the content of the material for this study. This method of analysis is not purely qualitative or quantitative but it comprises both methods. As there is a high possibility of subjective bias when doing content analysis, the researcher believes that the application of these variables contributes to some extent to rationality and accountability in the analysis.

5.4 Findings on the research methods of doctoral students from the period 2000 to 2005

Chapter 4 presents the empirical data obtained from analysing the Public Administration doctoral theses completed in South Africa during the period 2000 to 2005. This data can be summarised in terms of the following variables: research topics, research purposes, units of analysis, units of observation, research designs, and research methods.

Although thirteen categories have been used for the classification of the theses' research topics, the bulk of the theses (66%) falls in four categories, namely:

- Public Organisational Development and Management (ODM) (22,22%)
- Human Resources Management (HRM) (20,37%)
- Managing Public Service Delivery (PSD) (16,67%)
- Policy analysis and Management (POL) (9,26%)

With regard to the research purposes of the doctoral theses, the data show that 50% of the theses have a descriptive purpose while nearly 30% aims to develop or improve administrative technology. Although the code list makes provision for seven possible categories of units of analyses, three categories

of units of analysis were mostly used, namely interventions, organisations and institutions, and social actions and events.

The data also show that, although five different categories of units of observation are used, the most commonly used categories are individuals (53,7%), official documents (25,93%) and scholarly literature (14,81%).

Amongst the ten possible research methods included in the code list, only four methods have been used, namely Quantitative1, Hermeneutics, Qualitative1 and Qualitative2. About 39% of the theses used Quantitative1 whereby the students studied human beings and their behaviour through surveys and interviews (refer to section 3.5.1.1). This chapter also attempts to identify if a significant association exists or does not exist between the variables. A chi-square method was applied to identify that correlation. It is evident that the following variables have a significant association, namely research topic and research methods, research method and unit of observation, research method and purpose, research topic and unit of observation. The variables where a significant association is absent are research topic and unit of analysis, research method and unit of analysis and research method and unit of observation.

5.5 Conclusion

The purpose of this dissertation was to find an answer to the question: What research methods were used in completed South African doctoral research in Public Administration in the period 2000 to 2006? This research comes to the conclusion that mainly four research methods were used in the selected doctoral theses, namely pure quantitative methods (Quantitative1), pure qualitative methods (Qualitative1), Hermeneutics and policy or programme analysis (Qualitative2). This implies that in 56% of the theses typical social science methods were used while in 45% of the theses a variety of reading methods were used. This confirms the view of Wamsley (1996) that Public Administration is not a typical social science but a human science.

Furthermore, the research has shown that there exists a significant association between the selection of research methods, on the one hand, and the research topic which has been selected by a candidate, the purpose of the study and the units of observation for the study. This implies that a selected topic will influence the choice of unit of observation and the choice of research method. The other way seems also to be true, namely that candidates may first select their preferred research method, and then an appropriate topic, unit of observation and purpose. This finding, however, will make it possible to assist candidates who have selected a specific topic, in the formulation of their research purpose, units of observation and research methods.

5.6 Recommendations

Resulting from the conclusion drawn in the study, and relating to the above elements that were explored, the following recommendations are proposed. These recommendations can be summarised into two categories, namely quality of the research and training of researchers in public administration.

- Although this research project has identified the typical methods used by doctoral candidates in Public Administration, it has not measured the quality of the research output. It is therefore recommended that a follow-up study be undertaken to measure the quality of the application of the various research methods in doctoral research in Public Administration.
- As research methods can be regarded as instrumental to good quality research culminating in true and valid knowledge, and as this research has identified the core research methods used by South African doctoral researchers in Public Administration, it is important to adapt the curricula of institutions of higher education in order to provide the necessary training in the application of appropriate research methods to future doctoral researchers.

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ANNEXURES

Annexure 1**CODE LIST FOR EVALUATION OF THESES**

A: PROJECT NUMBER

B: NAME OF RESEARCHER

C: TITLE CODE

D: TITLE

E: LANGUAGE

F: QUALIFICATION

G: QUALIFICATION 2 (CODE)

H: YEAR

I: INSTITUTION

- 1 Stellenbosch University (SU)
- 2 University of the Western Cape (UWC)
- 3 University of KwaZulu Natal (UKZN)
- 4 North-West University (UWN)
- 5 University of Cape Town (UCT)
- 6 University of Pretoria (UP)
- 7 University of South Africa (UNISA)
- 8 University of Limpopo (UL)
- 9 University of the Witwatersrand (WITS)
- 10 Nelson Mandela Metropolitan University (NMMU)
- 11 University of the Free State (UFS)
- 12 Tshwane University of Technology (TUT)
- 13 Cape Technikon (CT)
- 14 University of Johannesburg (UJ)
- 15 Central University of Technology (CUT)
- 16 University of Fort Hare (UFH)
- 17 University of Venda (UV)
- 18 Vista University (VISTA)
- 19 HSRC
- 20 Public service (PS)
- 21 Foreign universities (FOREIGN)
- 22 Vaal University of Technology (VUT)
- 23 IDASA
- 24 CSIR
- 25 Private consultant

J: DEPARTMENT

K: QUALIFICATION

- 1 Doctorate

L: INSTITUTION CODE**M: TOPIC**

1. Policy Analysis and Management (POL)
2. Development Management (DEV)
3. Public Organisational Development and Management (ODM)
4. Managing Public Service Delivery (PSD)
5. Human Resources Management (HRM)
6. Financial Management and Procurement (FMP)
7. Information, Knowledge, Communication and Technology Management (ICT)
8. Public Management Ethics (ETH)
9. Public Administration and Management History, Theory, Research and Learning (HTR)
10. Disaster Studies (DIS)
11. Inter-governmental Relations (IGR)
12. Public Participation (PP)
13. Other (Oth)
14. Not Public Administration (NPA)

N: UNIT OF ANALYSIS

- 1 Individuals
- 2 Groups & Collectives
- 3 Organisations & Institutions
- 4 Social actions and events (e.g. public participation)
- 5 Interventions
- 6 Social artefacts and cultural objects (e.g. codes of conduct)
- 7 Constructs

O: UNIT OF OBSERVATION/ MATERIAL

- 1 Individuals
- 2 Groups & Collectives
- 3 Scholarly literature
- 4 Official documents (Acts, policies and yearbooks)
- 5 Secondary data and statistics
- 6 Computer software packages
- 7 Constructs
- 8 Other texts (speeches, newspapers, reports, blogs...)

P: METHODS

- 1 (Quan1) Quantitative
- 2 (Quan2) Quantitative
- 3 (Qual1) Qualitative
- 4 (Qual2) Qualitative
- 5 (Part) Participatory research
- 6 (Hist) Historical studies / narrative
- 7 (Conc) Conceptual analysis
- 8 (Herm) Hermeneutics
- 9 (Comp) Comparison
- 10 (Cont) Content analysis

Q: TYPE OF THESIS

- 1 Hortative
- 2 Reproducing information
- 3 Research articles

R: PURPOSE

- 1 Exploration
- 2 Description
- 3 Explanation
- 4 Empowering/improving/healing
- 5 Understanding
- 6 Reflecting
- 7 Developing/improving administrative technology

S: DESIGN

- 1 **Empirical** (World of experience)
- 2 **Non-empirical** (World of ideas)

T: CHAPTER

(Information about research methodology)

U: COMMENTS

V: RECORD NUMBER

Annexure 2

NEXUS DATABASE INFORMATION

Project nr	Researcher	Title	Language	Qualification	Qualification year	Institution	Department
958958	Bogopa KSS	Managing sustainable development in the City of Tshwane	English	DAdmin	2005	University of Pretoria	School of Public Management and Administration
958959	Mataboge NS	Management of urban immigration in South Africa	English	DAdmin	2000	University of Pretoria	Dept of Public Administration
958954	Ehlers LI	A validated model of the South African labour relations system	English	DCom	2003	University of Pretoria	Dept of Public Administration
955210	Clapper VA	Organisational culture and transformation : the role of the Department of Public Service and Administration	English	DAdmin	2001	University of South Africa	Dept of Public Administration
14392	Oschman JJ Jacobus J	A framework for the implementation of total quality management in the South African air force	English	DAdmin	2005	University of South Africa	Dept of Public Administration
971099	Masango R	Public participation in policy-making and implementation with specific reference to the Port Elizabeth municipality	English	DAdmin	2001	University of South Africa	Dept of Public Administration
999437	Ngubane MB	An evaluation of the Outcomes-Based Education (OBE) policy in public schools of the Empangeni Region	English	DAdmin	2002	University of Durban-Westville	School of Governance and Public Administration. Disci
995341	Darkey D	Implementation of environmental policies in the Tshwane metropolitan municipality with particular reference to the role of the unemployed women of Mamelodi Township	English	DAdmin	2003	University of Durban-Westville	School of Public Administration and Development Manag
995291	Naicker TS	The implementation of the Department of Education's policy on regulating private higher education	English	DAdmin	2003	University of Durban-Westville	School of Public Administration and Development Manag
995290	Mposula STA	Local economic development : a case study of the International Convention Centre in Durban	English	DAdmin	2003	University of Durban-Westville	School of Public Administration and Development Manag
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