

# Appropriate research methods for postgraduate research: a Public Administration case study

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## Abstract

This article is based on a fundamental assumption, this being that the production of high-quality postgraduate research depends on the proper application of appropriate research methods. A second assumption is that the postgraduate researcher, in attempting to draw up a sound research design and apply appropriate research methods, requires sound guidance and supervision. The hypothesis for this article is, consequently, that the choice of appropriate research methods strongly relates to the topic and purpose of the research and the unit of observation. For the purposes of this article, the authors used the subject of Public Administration. An analysis of 54 doctoral theses in Public Administration validates this hypothesis, because the analysis reveals that there is a definite association between, on the one hand, the topic and purpose of the research and the units of observation, and, on the other hand, the research methods used.

**Keywords:** Doctoral theses, postgraduate supervision, Public Administration, research methods

## 1 INTRODUCTION

The South African government regards the outputs of master's and doctoral graduates as extremely important in the goal to increase the country's published research output (South Africa 2001: 61). The National Research Foundation (NRF) has even identified 'the production of large numbers of high quality PhDs' as a key driver

for all its programmes (NRF 2007: 8). In the book *Effective PhD supervision and mentorship*, ‘uncontrolled growth of doctoral student numbers and the corresponding lack of supervision capacity’ are identified as some of the problems that have led to an increasing percentage of non-completion by postgraduate students (Dietz, Jansen and Wadee 2006: 10–11). A fundamental assumption for this article is that the production of high-quality postgraduate research needs the proficient application of appropriate research methods. A second assumption is that a researcher attempting to draw up a sound research design and seeking to properly apply appropriate methods in postgraduate research, needs both guidance and supervision (Dietz et al. 2006: 18, 19 and 27; Mouton 2001: 19). The implication of this is that, depending on the topic and purpose of the research, and the units of observation chosen by the student, postgraduate supervisors need to have knowledge of a variety of research methods. The hypothesis for this article is that the choice of an appropriate research method is strongly related to the topic and purpose of the research, as well as the unit of observation. If this hypothesis proves to be valid, the implication will be that, the wider the choice of research topics and data sources within a specific subject field, the wider the spectrum of research methods that will need to be mastered by researchers. Just as one expects supervisors to provide expert methodological advice, so one also expects them to possess in-depth knowledge of the various research methods available. Using the field of Public Administration as a case study, this article will try to identify the possible methodological challenges facing supervisors.

In doing so, this article will reflect on what generally is expected of a supervisor at the level of postgraduate research, the authors will review the discourse on methodological rigour in, especially, the field of Public Administration, and present empirical data indicating a correlation between the topic and purpose of the research and unit of observation, on the one hand, and the research method used, on the other.

## **2 GENERAL EXPECTATIONS OF POSTGRADUATE RESEARCH SUPERVISION**

Postgraduate supervision, which focuses specifically on teaching research-related competencies, is generally regarded as an integral part of academic teaching (De Gruchy and Holness 2007: 104). A postgraduate supervisor is usually expected to help a candidate select a research topic, manage the research project, ensure that the research is of scientific quality, teach the ‘craft’ of research, act as a role model and, in addition to all this, provide the candidate with intellectual, strategic and emotional support (De Gruchy and Holmes 2007: 104; Mouton 2001: 17–19). Mouton (2001: 18) states that ‘the primary responsibility of the supervisor is to guide’ a candidate in ‘methodological matters, including the development of the

research proposal, formulation of the research problem, choice of the appropriate research design and theoretical framework and, finally, through all the technical stages of the research process'. It therefore seems to be a legitimate expectation that supervisors give specific guidance to postgraduate students in methodological matters such as the development of a research proposal, the formulation of the research problem statement, and the selection of the appropriate research design and research methods (Mouton 2001: 18).

Bearing these expectations in mind, one can also assume that a supervisor will have at least a basic knowledge of each of the variety of methods available for researchers in the relevant subject field.

### **3 DISCOURSE ON METHODOLOGICAL RIGOUR IN (ESPECIALLY) THE FIELD OF PUBLIC ADMINISTRATION**

A survey of the literature on public administration reveals that various scholars have reflected on what is called 'the research issues in Public Administration' (cf. Adams and White 1994: 565–576; Cameron and McLaverty 2008; Clapper 2005; Cleary 1992: 55–61; Hubbell 1992; Khalo 2006; Kraemer and Perry 1989: 9–16; Mabin 2004; McCurdy and Cleary 1984: 49–55; McLaverty 2007; Perry and Kraemer 1986: 215–226; Stallings 1986: 235–240; Wessels 1999a and b, 2004, 2005, 2008; Wessels, Pauw and Thani 2009). One of the issues raised by several authors is that of methodological rigour and quality.

This discourse is highlighted by the following focal points: the choice of research topic, the appropriateness of methods chosen for analysing topics of fundamental interest in a subject field, and the typical categories of research methods used by researchers in Public Administration. As far as the choice of research topic is concerned, Cleary (1992: 61), in response to an argument that 'topics central to the field lend themselves to quality research ... even better than fringe topics', asks why academic institutions and supervisors should not 'ask students to focus on important or even core issues for study'. The possible advantage of such a demarcation of topics seems to be increased methodological rigour and improvement in the quality of the research output. Bearing in mind the appropriateness of methods for analysing topics of fundamental interest in a subject field, Perry and Kraemer (1986: 224) suggest the 'extensive use of meta-analysis', and the improvement of the use of quantitative methodologies (including causal analysis, structural equation models and longitudinal statistical methods). Contrary to this view, McCurdy and Cleary (1984: 54) state that a 'number of researchers are clearly uncertain as to whether our major research tools should be those utilized in the social sciences'. Adams and White (1994: 568–569) are equally sceptical about this preference for so-called

mainstream research (which is based on the philosophical tradition of positivism). The usefulness of mainstream research is not disputed, but its unreflective nature is regarded as a major weakness (Adams and White 1994: 574). Adams and White's view is supported by the observation made by Wamsley (1996: 364), namely that Public Administration is an 'applied interdisciplinary field' without a dominant paradigm or epistemology and method. It seems reasonable to categorise Public Administration as, broadly, a human science discipline (which also includes, for example, the social, management and administrative sciences (Wessels et al. 2009)). In its research endeavours, Public Administration as a human science will probably utilise more than the traditional mainstream research sources and methods, but will also involve a variety of data sources and materials, as well as a diversity of research methods.

The literature review shows that various systems have been used to classify the typical categories of research methods used by researchers in Public Administration. For the purpose of this article, only four systems will be discussed. Perry and Kraemer (1986: 216–220, 1990: 370), for instance, use ten categories, including anthropology, history, description, mathematics, legal brief, empirical analysis and heuristic analogy. Creswell (2003) uses three categories: qualitative, quantitative and mixed methods. Cameron and McLaverty (2008: 8–87) use nearly the same three categories, namely qualitative, quantitative and desktop (instead of mixed methods). Wessels et al. (2009) argue that the three categories of both Creswell (2003), and Cameron and McLaverty (2008: 85–87), do not sufficiently discriminate between the various research methods. Consequently, Wessels et al. (2009: 14–16) propose a classification system which can be regarded as a subdivision of the three categories, and which, in effect, consists of the following ten categories:

- Quantitative1: direct studies of people and their behaviour by means of, inter alia, surveys, interviews, experiments and field experiments (Mouton 2001: 152–153, 155–158; Perry and Kraemer 1990: 370);
- Quantitative2: indirect studies of people and their behaviour by using *statistical* modelling and computer simulation studies, secondary data analysis and simulation (Mouton 2001: 163, 164; Perry and Kraemer 1990: 370);
- Qualitative1: studies of people and their behaviour by means of, inter alia, participant observation studies, case studies and unstructured interviews (Mouton 2001: 148–150; Perry and Kraemer 1990: 370);
- Qualitative2: implementation and outcome evaluation research, programme evaluation and policy analysis (Mouton 2001: 158–160);
- Participatory action research: studies that involve the research subjects themselves as an integral part of the design (Collins 1999; Mouton 2001: 150);

- Historical/narrative studies: reconstruction of the past and the chronology of events, including historical case studies, narrative studies, event history analysis and life history analysis (Craig 1999: 417–435; Dodge, Ospina and Foldy 2005: 289; Mouton 2001: 170–173; cf. Ospina and Dodge 2005: 148; Perry and Kraemer 1990: 370);
- Conceptual analysis: the clarification and elaboration of the different dimensions of meaning – this includes philosophical studies aimed at analysing arguments (Mouton 2001: 175–176; Pauw 1999: 464–473);
- Hermeneutics: including discourse analysis, literature review, ideological critical analysis, deconstructive research and critical reflexivity (Cunliffe and Jun 2005: 230–236; De Beer 1999: 436–463; Mouton 2001: 179–180; Perry and Kraemer 1990: 370);
- Comparison: focusing on the similarities and differences between groups of units of analysis such as individual institutions, countries, public services and individuals (Mouton 2001: 154–155; Perry and Kraemer 1990: 370);
- Content analysis: analysing the content of documents (such as policy documents, annual reports and legislation) for any meanings, pictures, symbols, themes or messages that can be communicated (Mouton 2001: 165).

This article will determine whether all the abovementioned methodological categories are, in fact, core methods in the field of Public Administration.

## **4 CORRELATION BETWEEN RESEARCH METHOD AND VARIABLES SUCH AS RESEARCH TOPIC AND UNIT OF OBSERVATION**

This part of the article relies on empirical data from a study that examines the research methods used in (completed) South African doctoral research in Public Administration during the period 2000 to 2005 (Thani 2009). The data used in this study can be summarised in terms of the research topics, research purpose, units of observation and research methods used in a selection of theses (Thani 2009).

### **4.1 Research topic**

The analysis of 54 theses has shown that the topics of 68.52 per cent of all the theses correspond with only four of the 14 categories (see Table 1): Public Organisational Development and Management (22.22%); Human Resources Management (20.37%); Managing Public Service Delivery (16.67%); and Policy Analysis and Management (9.26%). With reference to Cleary's suggestion (1992: 61) that academic institutions

and supervisors should ask students to focus on important or core issues for their research, these figures show that such a focus exists already – at least informally.

**Table 1:** Topic of thesis

	Frequency	Percent
Public organisational development and management	12	22.22
Human resources management	11	20.37
Managing public service delivery	9	16.67
Policy analysis and management	5	9.26
Inter-governmental relations	4	7.41
Public Administration and Management history, theory, research and learning	3	5.56
Development management	2	3.70
Financial management and procurement	2	3.70
Public management ethics	2	3.70
Information, knowledge, communication and technology management	1	1.85
Disaster studies	1	1.85
Public participation	1	1.85
Other	1	1.85
Other topics (i.e. not Public Administration)	0	0.00
Total	54	100.00

## 4.2 Research purpose

In the process of analysing the selected theses, seven possible categories of research purpose were used: to explore, describe, explain, empower/heal, understand, reflect and develop/improve administrative technology. The data show that only four of these categories were actually used by the researchers (see Table 2): to describe (50%), understand (14.81%), reflect (5.56%) and develop/improve administrative technology (29.63%).

**Table 2:** Purpose of thesis

	Frequency	Percent
Description	27	50.00
Understanding	8	14.81
Reflecting	3	5.56
Developing/improving administrative technology	16	29.63
Total	54	100.00

### 4.3 Units of observation

The analysis of the 54 theses has shown that in the case of 53 per cent of the sample, the unit of observation was classified as individuals (see Table 3). This is a clear indication that Public Administration is a social science discipline. On the other hand, in 40 per cent of the theses, the units of observation were texts, namely official documents (25.93%) and scholarly literature (14.81%). The diverse nature of units of observation reveals why Public Administration cannot be classified as a typical social science with a dominant social science epistemology and method, but should instead be classified as a human science (Wamsley 1996: 364; Wessels et al. 2009). This diversity is expected to be equally reflected in the research methods used in the selected theses.

**Table 3:** Unit of observation in selected theses

	Frequency	Percent
Individuals	29	53.70
Official documents (Acts, policies and yearbooks)	14	25.93
Scholarly literature	8	14.81
Groups and collectives	2	3.70
Computer software packages	1	1.85
Total	54	100.00

### 4.4 Research methods

Of the possible ten categories of research methods used in the code list for this study, only four were used in the theses analysed (see Table 4). These four methodological

categories are: quantitative 1 (38.89%), qualitative 1 (16.67%), qualitative 2 (11.11%) and hermeneutics (33.33%). Quantitative 1 methods, which include surveys, interviews, experiments and field experiments, and qualitative 1 methods, which include participant observation studies, case studies and unstructured interviews, can be classified as mainstream social science research (Adams and White 1994: 568–569). These results also illustrate why it was necessary to refine the category of ‘qualitative’ methods, as used by both Creswell (2003), and Cameron and McLaverty (2008: 85–87): certain qualitative methods (qualitative 1) can be regarded as mainstream social science research, while others (qualitative 2) cannot be viewed as such. The qualitative 2 methods, which include implementation and outcome evaluation research, programme evaluation and policy analysis (Mouton 2001: 158–160) and hermeneutics, all represent different methodological traditions (Cunliffe and Jun 2005: 230–236; De Beer 1999: 436–463; Mouton 2001: 179–180; Perry and Kraemer 1990: 370). This study has shown that doctoral researchers in Public Administration use methods from diverse research traditions. However, although it is possible for researchers to choose from nearly ten different categories of methods, it seems that only four can be regarded as methods typically used by doctoral researchers in South Africa.

**Table 4:** Research methods used by thesis writers

	Frequency	Percent
Quantitative1	21	38.89
Qualitative1	9	16.67
Qualitative2	6	11.11
Hermeneutics	18	33.33
Total	54	100.00

## 4.5 Correlations

This article is based on the hypothesis that the choice of appropriate research methods strongly relates to the topic and purpose of the research, and the unit of observation. In order to determine whether any significant association exists between these variables, the data set was subject to a chi square frequency test. This test confirmed that there is a significant association between the following variables:

- Research topic and research method (probability = 0.0025)
- Research purpose and research method (probability = 0.0001)



- Unit of observation and research method (probability = 0.0001)

A cross-tabulation analysis of the data that compares the two variables, the research topic and the research method with one another, shows that the most commonly used method in research studies on each of the following topics is as follows:

- Public organisational development and management: hermeneutics (41.67%)
- Human resources management: quantitative1 (54.55%)
- Managing public service delivery: quantitative1 (88.89%)
- Policy analysis and management: quantitative1 (40%) and qualitative 2 (40%).

A cross-tabulation analysis of data that compares the research purpose with the research method shows that the most commonly used research method for each of the following research purposes is as follows:

- Descriptive: quantitative1 (70.37%)
- Developing/improving administrative technology: hermeneutics (50%)
- Understanding: hermeneutics (75%)
- Reflecting: hermeneutics (100%).

When one compares the data relating to the variables of the research method with the unit of observation, the results are as follows:

- Individuals: quantitative1 (68.97%)
- Official documents: hermeneutics (71.43%)
- Scholarly literature: hermeneutics (87.50%)
- Groups and collectives: quantitative1 (50%)
- Computer software packages: qualitative2 (100%)

From the above one can conclude that a researcher's choice of a research topic, preference for a specific research purpose, and the capacity to obtain easy access to certain units of observation will, taken together, probably predetermine the choice of research methods. On the other hand, it is also possible to assume that a researcher's preference for a specific research method will predetermine his/her choice of research topic, research purpose and unit of observation.

## 5 CONCLUSION

This article is based on the assumption that high-quality postgraduate research depends on the proper application of appropriate research methods. This assumption is a fundamental point of departure for the hypothesis of this article, namely that the choice of appropriate research methods strongly relates to the topic and purpose of

the research, and the unit of analysis. The subsequent analysis of the sample of 54 doctoral theses in Public Administration has validated this hypothesis, in that the analysis shows that a significant association exists between the topic and purpose of the research and the units of observation, on the one hand, and the research methods used, on the other. It therefore seems that appropriate research methods are indeed utilised for the topic and purpose of the research and the data sources. The fundamental assumption, as formulated in the introduction, is evidently valid for this article.

This analysis of the sample of theses has also validated a statement by Wamsley (1996: 364), namely that Public Administration is an applied interdisciplinary field without a dominant paradigm and method, and that the methods used by researchers in this discipline vary – from the methods used in the hard social sciences to hermeneutical methods. In fact, researchers in Public Administration, much like researchers in various other human sciences, simultaneously use a wide variety of methods, including mainstream social science research methods and hermeneutic methods. This observation poses a major challenge not only to researchers and their supervisors in the field of Public Administration, but also in other interdisciplinary subject fields: How does one choose the most appropriate research method from the wide spectrum of research methods available? The researcher can reasonably expect his/her supervisor to possess in-depth knowledge of all these methods. Since this study focuses on doctoral theses, however, it is fair to say that doctoral candidates should already have demonstrated their ability to apply the methods best suited to their chosen field of study. It is also fair to say that, if a doctoral candidate has the opportunity to specialise in a specific methodological paradigm, it can be expected that the particular supervisor would be knowledgeable and experienced in that specific research method.

One solution to this methodological challenge may be to consider Cleary's suggestion (1992: 61), which is to focus on important or core issues. The implication of doing this is that a postgraduate research proposal will only be approved and accepted if there is a specialist on the selected topic *and* a methodological tradition that the candidate can draw from.

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