Taxonomies for the analysis of research designs in Public Administration

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ABSTRACT

This article departs from the assumptions that the sustainable future of public administration as the delivery of services needs high quality scholarly research and that high quality of scholarly research is determined by inter alia the proficient application of sound research methods. Consequently, this article reports on the refinement of taxonomies for analysing Public Administration research. It argues that sound research is the result of a valid relationship between research methods, units of analysis and the units of observation. It is furthermore argued that an improvement in the quality of research can only happen if Public Administration researchers are proficient in the core research methods of Public Administration. Therefore, this article proposes a method for empirically identifying the core research methods of South African Public Administration. Ten research methods were identified that Public Administration scholars can utilise.

INTRODUCTION

Frederick C Mosher (1975:3-7) wrote that research is the first step in improved practice. A fundamental assumption for this article is then that the sustainable future of public administration as the delivery of services to people needs high
quality scholarly research. A second assumption is that high quality scholarly research findings are determined by inter alia the proficient application of sound research methods.


McCurdy and Cleary (1984:49) relate the so-called failure to develop a solid research base to the inappropriate systematic training of researchers. Their sentiment that research methods have to be carefully designed to ensure valid findings is shared by Cameron and McLaverty (2008:69-96) in their article based on a comprehensive evaluation of South African Public Administration journals. If they are correct, and we believe that they are, it seems to be necessary to start with a process of systematic training of researchers in the appropriate Public Administration research methods.

A key question focusing this research is: What are the appropriate Public Administration research methods? In a chapter written as far back as 1990 Perr and Kraemer (1990:370) identify ten categories of research methods, while Cresswell (2003) and Cameron and McLaverty (2008:69-96) restrict themselves to only three categories, namely quantitative, qualitative and mixed methods/desktop. This article proposes a refinement of their categorisation for evaluating South African Public Administration articles and theses in order to describe and evaluate the research methods used. We will firstly make a case that Cameron and McLaverty's (2008) classification of research methods, as well as the one by Cresswell (2003), may not discriminate enough between the various methods to serve as foundation for the improvement of the proficiency of researchers in Public Administration research methods. We will contend that the three categories are too broad and need refinement. As it may be argued that these broad categories are preferable because they tend to be mutually exclusive, we will investigate the necessity and possibility of a more refined, but still mutually exclusive classification system. Although it is possible to determine the most appropriate Public Administration research methods by analysing and classifying scholarly articles and theses, the following question may arise: What are the most appropriate research method in a particular case?

This article will secondly argue that there is supposed to be a logical relationship between the unit of analysis, the unit of observation and the research method of a research project. In fact, we will show that the unit of
analysis (e.g. a theoretical construct such as “rationality”) excludes some units of observation of a research project (e.g. individuals and groups and collectives), and that the units of observation (e.g. individuals) exclude some research methods and techniques (e.g. conceptual analysis and hermeneutics) to be applied. For the same price certain units of analyses (e.g. “rationality”) exclude certain research methods (e.g. quantitative studies such as surveys). The application of a research method not logically related to neither the unit of analysis, nor the unit of observation, will give a person reason to question the validity or appropriateness of the research methods and quality of the research.

For the purpose of this article we assume, firstly, that sound research methods are the result of a valid relationship between research methods and the units of observations for which they are applied. Secondly, we assume that a “turnaround in the quality of research” as Cameron and McLaverty (2008:94) suggest, can only happen if Public Administration researchers are proficient in the core research methods of Public Administration. Therefore, this article will propose a method for empirically determining the core research methods of South African Public Administration. In doing so, a few possible indicators for determining the core research methods will be discussed.

**RESEARCH TOPIC AS A POSSIBLE METHODOLOGICAL INDICATOR**

In various previous analyses of Public Administration research attention was given to research topics and a categorisation of research topics (cf Perry and Kraemer 1986:217; Cleary 1992:58; Cleary 2000:449; Wessels 2004:174; Wessels 2005:1505; Cameron and McLaverty 2008:79-83; Wessels 2008:109-111), mainly because “research topic” as a variable focuses on the “distribution of research in the field” (Perry and Kraemer 1986:217). However, the authors of this article have decided to include research topic as a possible methodological indicator as this possibility is currently tested in a study by one of the authors (on which there will be reported fully at a later stage). The inclusion of this research topic is based on the assumption that categories of research topics may relate to specific units of analysis and especially units of observation.

**UNIT OF ANALYSIS AS A POSSIBLE METHODOLOGICAL INDICATOR**

The term “unit of analysis” seems to be not generally used in Public Administration literature. In fact, except for Houston and Delevan (1990:679), not one of the
initial participants in the discourse on Public Administration research use this term (cf Perry and Kraemer 1986; McCurdy and Cleary 1984; Cleary 1992, 2000). However, McNabb (2002:293) uses the term in his book Research methods in Public Administration and non-profit organisations: quantitative and qualitative approaches. What does this concept mean and why is it necessary to include it as an indicator of the appropriateness of research methods?

McNabb (2002:293) refers to the concept “unit of analysis” as “narrowing of the relevant data” allowing the researcher “to focus the study on topics identified in the research objectives”. Focusing on the key topic seems thus the essence of his understanding of this concept. For the purpose of this article we rely on the definition that appear in standard works on social research, namely 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 and Mouton 2001:84) and that it is “the ‘entity’ or ‘phenomenon’ to which one’s conclusions ought to apply” (Mouton 1996:91). We include the unit of analysis as a variable in the methodology for the study of Public Administration research methodology because we expect the “what” of a study to determine the research material or data sources chosen to do the study.

Mouton (1996:48-51), Babbie and Mouton (2001:85-59) and Houston and Delevan (1990:679) identify several categories of units of analysis. As their taxonomies differ from each other, we conflated them by developing our own taxonomy. For the purpose of the analysis of Public Administration research, we have selected the following categories for classifying research in terms of their units of analysis:

- **Individuals**: This category refers to studies of individual human beings in order to know more about their behaviour, orientations or characteristics within a specific historical context (Babbie and Mouton 2001:648; Houston and Delevan 1990:679). Babbie and Mouton (2001:648) observe that individual people are the most typical unit of analysis in social sciences although this is not necessarily true for Public Administration.

- **Groups or collectives**: Houston and Delevan (1990:679) use a category “Group/Organisation”. We followed Mouton’s taxonomy by having two separate categories for groups and organisations. When we considered the category “groups or collectives” we asked ourselves: “How does this category differ from the first one?” To help us with our classification of articles and theses, we used Mouton’s definition of a “grouping” or “collective”, namely “people who are (or define themselves as) members of larger geographical, political or cultural entities”. Examples of entities in this category are nations, developing countries, provinces, cities, towns, communities and tribes (Mouton 1996:48). The emphasis is thus not on the characteristics or behaviour of the individual members, but on the nation, province or town as a distinct entity.
Organisations and institutions: It is noteworthy that in his earlier work, Mouton had two separate categories for “organisations” and “institutions” (Mouton 1996:48) while in the book he co-authored with Babbie these two entities have been conflated in one category (Babbie and Mouton 2001:86). A study of Mouton’s (1996:48-49) discussion of the characteristics of these two entities leads us to the conclusion that the differences between them, do not justify two distinct categories for the purposes of this study. As public administration takes place in and through a variety of public institutions, we regard this category as one of the core units of analysis. Organisations also comprise groups of people but with a more formal structure than our previous category. Examples of units of analysis classified in this category are the South African Defence Force, the Public Service and the Office of the Premier.

Social actions and events: This category differs from the previous categories in the sense that the researcher is not interested in the individual, group or organisation and their actions or behaviour, but more in the actions themselves as phenomena (Babbie and Mouton 2001:87; Mouton 1996:49-50). Consequently, we regard articles and theses focusing on, for example, public participation, intergovernmental relations and disaster management as part of this category.

Interventions: Bearing in mind the policy and regulatory environment within which public administration takes place, this category indicates a core of the research in Public Administration. Babbie and Mouton (2001:88) describe this category as “sets of actions and decisions that are structured in such a way that their successful implementation would lead to clearly identifiable outcomes and benefits”. Articles and theses studying interventions such as legislation, policies, plans, programmes, courses and systems will fall into this category.

Social artefacts of cultural objects: This category is a study of the products of human beings and their behaviour, such as a code of conduct, books and scientific journals and articles in scientific journals. Articles and theses in this category do not only make use of these artefacts or objects as data sources, but can use them as unit of observation.

The categories discussed above are all categories of units of analysis which are part of the so-called World 1 (Babbie and Mouton 2001:84-85). An important category of units of analysis that is not discussed in the books by Babbie and Mouton (2001) and Mouton (1996), but only briefly mentioned, is the category for World 2 objects, such as concepts or notions, scientific theories and models, and scientific methods and techniques (Babbie and Mouton 2001:85). With that in mind, we add a seventh category to the above list, namely the category of “constructs”.

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• Constructs: This category provides for articles and theses having non-empirical units of analysis such as theories, models, concepts and research methods. When we use the concept “construct”, we refer to “theoretical creations based on observations but which cannot be observed directly or indirectly” (Babbie and Mouton 2001:16).

The foregoing discussion shows that units of analysis are categories of entities that are studied by researchers. Our preliminary analysis has not shown any specific correlation between the unit of analysis and the research topic. In fact, 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. Although there is no proven relation between unit of analysis and research topic, Babbie and Mouton (2001:85) identify a close relationship between unit of analysis and unit of observation (data sources or material used). According to them, units of analysis in a study may also be the units of observation (Babbie and Mouton 2001:174).

**UNIT OF OBSERVATION AS A POSSIBLE METHODOLOGICAL INDICATOR**

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”. Not one of the textbooks on research methodology consulted presents a classification of units of observation, separate from the classification of units of analysis. The reason for this is probably because they hold the opinion that the “unit of analysis and unit of observation are often the same – the individual person” (Babbie and Mouton 2001:174). That might be true for typical social science, but as Wamsley (1996:364) observed, Public Administration is an “applied interdisciplinary field” without a dominant paradigm or epistemology and method. Therefore we believe that Public Administration as a subject can broadly be categorised as a human science. This includes the social, management and administrative sciences -- just to mention a few. One can expect from Public Administration as a human science to utilise a variety of data sources and material in its research endeavours. Consequently, we decided to compile a separate classification system for units of observation, consisting of
**Groups and collectives:** The description of this category is the same as it is as a unit of analysis. It also includes the observation of groups of people within organisations and institutions, e.g. focus groups.

**Scholarly literature:** This category includes the use of scholarly articles and books as primary source.

**Official documents:** This category includes all official documents such as Acts, policies, yearbooks and archival files.

**Secondary data and statistics collections:** This category includes data not collected by the researcher him or herself such as statistical yearbooks and textual data.

**Decision support technology:** This category includes inter alia the observation of computer software packages such as electronic decision support software.

**Constructs:** This category includes all the so-called World 2 sources or material which are used in the research process, although they are not directly or indirectly observed in the empirical sense of the word.

**Other texts:** This category has been created to include all texts which cannot be classified as scholarly, official or secondary data sets and includes speeches, newspaper reports and Internet blogs.

The above categories of units of observations can again be divided into three broad categories of data sources, namely human beings and their behaviour (individuals, and groups and collectives), products of human beings and their behaviour (scholarly literature, official documents, other texts, secondary data and statistics and interventions) and constructs. Bearing in mind that the methodology textbooks on traditional social science methods regard the units of analysis and units of observation to be more or less the same, one can expect a strong correlation between the selected units of analysis and units of observation in scholarly articles. Furthermore, we agree with Wamsley (1996:363) that Public Administration is not a “traditional or typical academic discipline of the social science variety”, but an “applied interdisciplinary field”, as he called it (Wamsley 1996:364).

Knowing what the possible categories of data used by Public Administration researchers are, the next step is to reflect on the categories of methods used by Public Administration researchers.

**RESEARCH METHODS AND THEIR LOGICAL CONSISTENCY WITH THE VARIOUS INDICATORS**

It seems to be reasonable to expect from researchers to apply research methods which are regarded as most applicable to the selected unit of analysis and
units of observation. As one can expect, the human sciences apply a variety of research methods. The question is which of these methods will be included in an analytical instrument? Perry and Kraemer (1986:216-220; 1990:370), for example, use ten categories which include the following:

- Recollected experience: anthropology
- Recollected experience: historical
- Recollected experience: descriptive
- Deductive reasoning: mathematical
- Deductive reasoning: logical argument
- Deductive reasoning: legal brief
- Empirical analysis
- Heuristic analogy such as simulation
- Literature review
- Other

It seems thus that their categories consist of one for so-called empirical research and eight for non-empirical research (Perry and Kraemer 1986:220; 1990:370). In his widely used textbook on research methods, Creswell (2003) uses three categories, namely qualitative, quantitative and mixed methods. He uses the category “quantitative methods” to include surveys and experiments (Creswell 2003:153). His category ‘qualitative procedures’ include methods such as direct observation of human beings as well as the reading of documents (Creswell 2003:179-188). The category “mixed methods” seems to refer to mixing quantitative and qualitative data in a single study (Creswell 2003:208). We believe that the categorization of Creswell (2003) is too broad and need refinement.

**Bearing in mind a possible concern about the mutually exclusiveness of categories** (Stallins and Ferris 1988:581), our classification system for research methods in Public Administration can be seen as a logical sub-division of Creswell’s three categories. For our analysis of articles published in three scholarly journals, we have divided, what is known as quantitative research, into two separate categories (representing two distinct methods). We have also split the category “qualitative research” into two sub-categories representing two distinct methodological traditions. We have added participatory action research methods, historical studies and comparison, as separate categories. Part of what Creswell (2003:188) calls “reading of documents”, was divided into two sub-categories, namely conceptual analysis and hermeneutics (including hermeneutics, discourse analysis, literature review, ideological critical analysis, and deconstructive research). We have consequently developed the following classification of research methods:

- **Quantitative 1**: The primary characteristic of methods falling in this category is that they do quantitative studies of people and their behaviour by means
of inter alia surveys, interviews, experiments and field experiments (cf Mouton 2001:152-153, 155-158). This category include Perry and Kraemer’s (1990:370) category “recollected experience: descriptive”.

• **Quantitative 2:** Where the methods in the previous category are used to study people directly in a quantitative way, methods in this category are used to study them indirectly by using (often sophisticated) statistical modelling and computer simulation studies (Mouton 2001:163) or secondary data analysis (Mouton 2001:164). This category include the Perry and Kraemer’s (1990:370) category “heuristic analogy (e.g. simulation)”.

• **Qualitative 1:** This methodological category is characterised by research methods used to study people and their behaviour in a non-quantitative way by means of inter alia participant observation studies (Mouton 2001:148-149), case studies (Mouton 2001:149-150; Perry and Kraemer 1990:370) and unstructured interviews (also Perry and Kraemer’s (1990:370) “recollected experience: anthropology”).

• **Qualitative 2:** Methods in this category include implementation and outcome evaluation research (Mouton 2001:158-160), programme evaluation and policy analysis.

• **Participatory action research:** The main feature of this research method is that these studies involve the subjects of the research as an integral part of the design (Mouton 2001:150).

• **Historical/narrative studies:** Methods in this category attempt to reconstruct the past and the chronology of events and include historical case studies, narrative studies, event history analysis and life history analysis (Mouton 2001:170-173; Craig 1999:417-435; Perry and Kraemer 1990:370). The narrative method as an interpretive approach resonates with the “constructionist epistemology” that suggests that knowledge of the world is socially constructed (Dodge, Osmina and Foldy 2005:289; Cf. Osmina and Dodge 2005:148).

• **Conceptual analysis:** This category includes methods used for the analysis of the meaning of words or concepts through the clarification and elaboration of the different dimensions of meaning and use. It also includes philosophical studies aimed at analysing arguments in favour of or against a particular position (Mouton 2001:175-176; Pauw 1999:464-473).

• **Hermeneutics:** This category includes methods such as hermeneutics, discourse analysis, literature review, ideological critical analysis, deconstructive research and critical reflexivity (Mouton 2001:179-180; De Beer 1999:436-463; Cunliffe and Jun 2005:230-236; Perry and Kraemer 1990:370).

• **Comparison:** Comparative studies focus 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) refer in this regard to ‘cross-sectional, correlational analysis.'
• **Content analysis:** These studies analyse 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).

A hypothesis that will be tested in our analysis of scholarly articles and theses is that not all of the above methodological categories can be regarded as core Public Administration methods.

**CONCLUSION: WHAT’S NEXT?**

Very few scholars will differ from Mosher on the importance of research for improved service delivery. Most scholars will probably agree that high quality of research findings need proficient researchers applying appropriate research methods. This article reports on the development of a methodology for determining which methods are core Public Administration research methods.

In doing so, we have argued that the choice of appropriate research methods are supposed to be the result of a valid relationship with the unit of observation and unit of analysis used in a research project. Our research in progress will apply this rule to the existing corpus of research literature.

Our refined taxonomy of research methods, units of observation and units of analysis will enable us to identify possible discrepancies between the unit of analysis and units of observation of research projects, the unit of analysis and research methods of research projects, as well as between the units of observation of a research project and its research methods. If there are major discrepancies, it will indicate poor research decisions by scholars. If major discrepancies cannot be identified, it will enable us to identify the core research methods for Public Administration. By doing that, it will be possible to focus on developing the appropriate research competence amongst scholars and students.

**NOTES**

1 An anonymous reviewer requested that the authors of this article refrain from engaging with the article by Cameron and McLaverty (2008)

**REFERENCES**


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