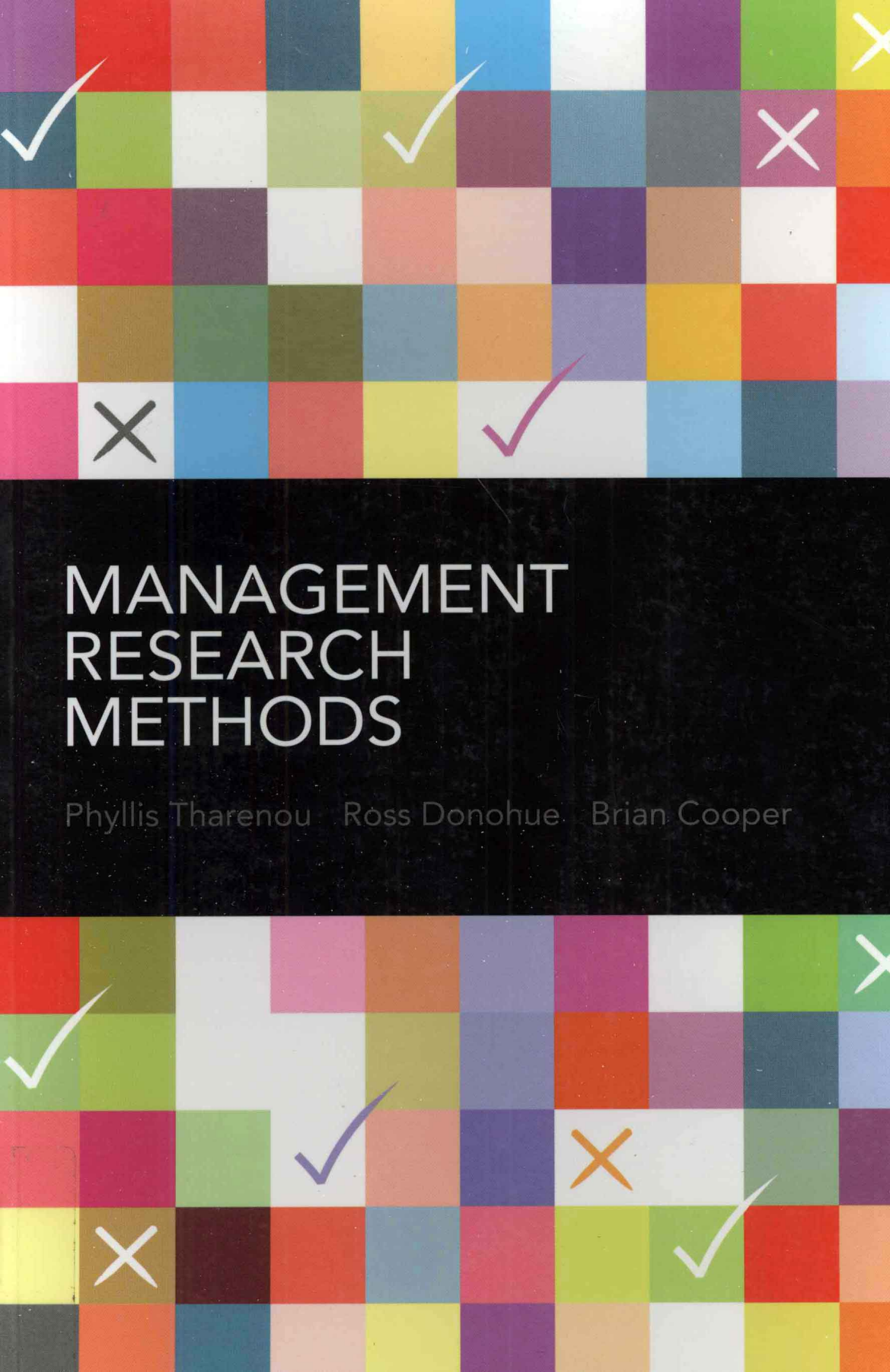

MANAGEMENT RESEARCH METHODS

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Management Research Methods

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Preface

In order to conduct sound research in the discipline of management, it is critical that you develop an awareness of research approaches and techniques. The purpose of this text is to foster your capacity to understand the appropriate method of research to undertake and what outcomes you could reasonably expect from that research. By using this text, you will be encouraged to become critical of the use of different techniques and methods applied in this research field.

Aims and objectives

The aim of this text is to develop your understanding of the research process suitable for the management discipline. Having completed this text, it is expected that you will be able to:

- critically analyse, interpret, and understand basic research designs in the management discipline;
- identify management-related issues for research;
- build the capacity to develop research questions grounded in a theoretical and conceptual framework;
- compare the appropriateness and use of qualitative and quantitative data collection and analysis techniques as a means of investigating and answering research questions in the management discipline;
- outline the process of collecting primary data, and identify, search for, and locate secondary data and knowledge relevant to management research;
- summarise the role and introductory use of computer software packages and facilities in the collection, analysis, and presentation of research findings;
- demonstrate a general understanding of the role of management research in academic, industry, government, and professional and community organisations; and

- develop academic writing skills appropriate to the discipline for reporting on business management research projects.

Text content

Every day, managers are involved in designing projects, jobs, organisational or departmental structures, and ways of matching individual and group needs in organisations. They base their decisions on existing knowledge resulting from what they or others have learnt from applied or pure academic research. In fact, designing questions to solve management problems is such a fundamental skill that we overlook its significance as a major factor contributing to quality management.

Management Research Methods aims to foster in readers an understanding of the basic research processes and a capacity to identify management-related research questions. Readers will learn the manner in which others have designed and conducted research studies to answer management-related questions, the sources of the main existing literature in management-related studies, the procedures involved in collecting primary data, the purposes of techniques for analysing and presenting data, and the necessary structuring and writing skills to generate a research report.

This text therefore provides a basic introduction to research design in management, types of research designs, data collection and measurement techniques, coding data, reliability and validity, qualitative and quantitative methods of analysis, interpreting and discussing results, structuring and writing the research report, and integrating individual research into the overall management literature.

Organisation

This text is organised into six parts. Part 1, *Introduction*, contains Chapter 1, which outlines the research process, discusses foundational issues, defines key terms, and provides readers with an overview of topics discussed more comprehensively in subsequent chapters. Part 2, *Research Designs*, is comprised of chapters examining experimental and quasi-experimental designs (Chapter 2), correlational field study (survey)

designs (Chapter 3), case study research designs (Chapter 4), and action research designs (Chapter 5). Part 3 of the book is focused on *Methods of Data Collection* and includes chapters on asking questions using questionnaires and interviews (Chapter 6) and documentation and observation (Chapter 7). Part 4, *Measurement*, consists of chapters discussing reliability and validity (Chapter 8) and scale development (Chapter 9). Part 5 of the text groups the *Methods of Data Analysis* and contains chapters on quantitative data set-up and initial analysis (Chapter 10), quantitative multivariate analysis (Chapter 11), and content analysis (Chapter 12). *Reporting Research Findings and Ethical Considerations* is the final part and comprises chapters on writing up a qualitative or quantitative project (Chapter 13) and ethical issues and conduct in the practice of research (Chapter 14).

Learning outcomes

The main components involve:

- developing a critical understanding of basic research designs (for example, experimental and quasi-experimental designs, correlational field study designs, case study designs, and action research designs) in order to conduct applied management research;
- developing skills in designing research studies in relation to contemporary management issues, including ethical considerations in design;
- devising or locating techniques to generate or collect primary data, and identifying and locating sources of secondary data;
- developing basic, introductory skills in data collection – for example, interviewing, using questionnaires, observation techniques, and documentation;
- developing skills in the construction of multi-item scales;
- developing an understanding of basic data analysis concepts in relation to answering research questions and testing hypotheses;
- developing skills in writing up an academic research study in formal research report format; and
- having an appreciation of the overall steps in research design and of integration of the individual research skills that comprise effective research designs in management.

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Having completed the text, readers will be able to:

- prepare research questions both from applied and theoretical perspectives for management research;
- conduct computerised literature searches for management research;
- prepare research designs for a range of management research questions;
- design and conduct research in keeping with ethical considerations;
- identify and locate sources for data collection and design questionnaires, interviews, and multi-item scales;
- appreciate the broad purpose and applicability of data analytic techniques for quantitative and qualitative data analysis; and
- develop skills in writing an academic research report.

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Part 1

Introduction

1 The research process

Objectives

At the end of this chapter you will be able to:

- *describe the overall research process;*
- *describe each step in the research process and explain why it is conducted;*
- *develop a research question and hypotheses;*
- *differentiate between research questions and hypotheses;*
- *discriminate between independent and dependent variables and give examples of each;*
- *explain what control, mediator, and moderator variables are;*
- *define 'theory';*
- *explain why you need theory to generate research questions and hypotheses;*
- *describe what an empirical study is;*
- *explain how an empirical study can test the relationship between independent and dependent variables;*
- *summarise the use of empirical studies to write a literature review;*
- *define 'causality';*
- *explain why causality is difficult to establish; and*
- *outline the broad types of research designs used and methods of data collection.*

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Overview of the research process

This chapter presents an overview of the research process, from generating the idea to writing up the research report. The first section covers in detail:

- developing the research question;
- finding the theory;
- how to critique past studies; and
- how to develop hypotheses and consider issues in relation to causality.

The second section of this chapter examines how to design the study, the different kinds of research methods available, the use, type, and design of measures, how to initially manage the data, the broad categories of approaches for analysing the results, and how to write up the results and the overall project. These issues are explained only briefly in this chapter, as they are covered in depth in other chapters to which the reader is directed.

The research process may be thought of according to the following stages:

- Developing the research question.
- Finding the theory or underlying frameworks.
- Finalising the specific research questions or hypotheses.
- Choosing the research design.
- Choosing the method(s) of data collection.

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- Choosing the method(s) of data analysis.
- Interpreting the results against the research questions or hypotheses.
- Reporting the findings.

Developing the research question

The first step in beginning a research project is to decide: *What is the research question?* A research question is a question about the problem to be addressed; it is therefore focused on the content of the topic of interest (i.e., substantive). According to Graziano and Raulin (1993), the research question:

- is a statement about the expected relationship between variables;
- is a question; and
- implies the possibility of an empirical test.

An empirical test is where data are gathered specifically to test the research question. Empirical tests may be conducted on primary data (e.g., data directly gathered by the researcher), or on data obtained from secondary sources (e.g., archival data, company documentation, or company or public records). Whatever the type, the data are analysed expressly for the purpose of answering the question. The research question might begin as: *'What causes people to advance into management?'* This question, however, is too broad, so the researcher might change it to: *'What are the organisational and individual factors that cause people to advance into management?'* This question may still be too broad, and so the researcher may choose to focus on organisational factors and then on one specific organisational factor (e.g., mentors). The refined research question might now be: *'Does mentoring influence managerial career advancement?'* Researchers should aim to end up eventually with as precise and specific a question as possible for their topic. Often the development of a research question requires considerable thought and rumination and while researchers may not end up with the final question at this point, they still need a direction and focus to set them on the right path.

Depending on the focus of the research question, the researcher needs to decide whether the study will be exploratory, descriptive, or hypothesis testing. Sekaran (1992) explained *exploratory studies* as

those where the researcher knows little about the situation, or has no information on how similar research problems have been solved. Therefore, preliminary work needs to be done to comprehend the nature of the problem (e.g., the initial studies on the nature of managerial work where it was not known what managers did each day). *Descriptive studies* are those undertaken to describe the characteristics of variables in a situation. Descriptive studies may be conducted in organisations to learn about and describe the characteristics of particular employees (e.g., those with high levels of absenteeism) or organisations that follow common practices (e.g., those following best practice or implementing total quality management, or TQM). *Hypothesis testing studies* try to explain the nature of certain relationships, or to establish the differences among groups. Hypothesis testing goes beyond describing the relationships in a situation to understanding the relationships among factors (variables) in a situation.

Finding the theory or underlying frameworks

Having developed the initial research question, the researcher's task is then to find out what the literature indicates on the first formulation of the question. The most efficient way to do this is to find three or four major papers on the topic that are recent. (More comprehensive reading and the literature review will follow.) Papers published in the last five years are considered recent. The papers should be written by major scholars in the area and may be reviews of the specific topic or of the broader area, major theoretical pieces, and so on. They are usually journal articles.

Major papers provide researchers with an overview of the broad topic, allow them to see what has previously been done, and present them with reference lists to track down more specific papers of interest. Major papers also indicate what needs to be done next on this topic, provide criticisms of the approaches, and detail the extant studies in the area. Again, researchers should focus particularly on the most recent major papers, as they will provide discussion of the most up-to-date findings and approaches. What researchers should be looking for in these major papers includes terms, conceptual frameworks, criticisms, empirical studies, and ideas for future research.

Terms

The *terms* that are used in the literature on this topic need to be identified (e.g., for the above research question, the relevant terms may be *managerial advancement, career advancement, managerial level, career outcomes,* and *careers*). This knowledge is vital to researchers, as productive computerised searches of electronic databases require the use of the correct search terms. (There are usually several.) Getting the terms right is very important in starting the search, and researchers should ensure that the correct terms are used consistently in their manuscripts so as to reduce confusion and increase precision.

Theories

Researchers also need to ensure that they develop a clear understanding of the *theories/explanations* or *conceptual frameworks* underlying their research area. There are usually theories/models/frameworks that have been used in the literature on this topic, and it is the researcher's task to locate these explanations of the phenomenon which the researcher is interested in investigating. There are often broad approaches and specific theories/explanations. For example, in terms of explanations of managerial career advancement, the broad approaches have been that the phenomenon is explained by a combination of organisational (opportunity structures, selection, and promotion processes), interpersonal (social structures and interpersonal support), and individual factors (personality, human capital, skills, and competencies). However, there are several specific theories linked to each of these approaches. If the emphasis of the study was organisational opportunity structures through promotion ladders, then the researcher would look at the theory of internal labour markets. If the researcher were to look at interpersonal factors, he or she would look at theories of social capital. If the emphasis were on individual accomplishments through education, work experience, and training, the researcher would look at human capital theory. If the emphasis was placed on personality, he or she might use gender-role theory and examine the impact of masculinity/instrumentality on advancement.

A theory offers a satisfactory rationale of the 'why' question and testable explanations for relationships. A testable theoretical explanation of a phenomenon is one that can be disproved (falsified). According to Jackson (1988), a theory has three key elements:

- a set of concepts, or a conceptual scheme;
- a set of propositions, each stating a relationship between some of the concepts; and
- some of the propositions must be contingent; that is, they must be amenable to some form of empirical test.

Sekaran (1992) has also provided a very useful account of the properties of a theory for management research. These properties are:

- The variables in a theory considered relevant to the study are clearly identified and labelled for discussion; that is, dependent, independent, moderator, and mediator variables.
- The way in which the two or more variables are related to each other is stated. This is done for the important relationships hypothesised between the variables.
- If the nature and direction of the relationships can be theorised, an indication is still given (e.g., positive or negative).
- A clear explanation is given of why we would expect these relationships to exist.

A schematic diagram of the theoretical framework can be given so that the theoretical relationships can be visualised.

Theories consist of relationships between constructs. Following Edwards and Bagozzi (2000), a construct is a conceptual term for a phenomenon of theoretical interest. Put simply, constructs are theoretical concepts. Most constructs of interest to researchers are conceptualised as variables; that is, they can take on different values or states. Identifying relevant variables is a major task early in any research project. For research purposes, variables may be treated as independent or dependent.

Independent variables are those that are hypothesised to influence others, as they are the presumed cause or determinant or antecedent. In the hypothesis above (page 5), the independent or causal variable is mentor support.

Dependent variables are those that are presumed to be affected by another variable; that is, the effect or outcome. In the above hypothesis, the dependent variable is the number of managerial promotions.

A *moderator variable* is that which influences the strength and/or direction of relationship between the independent and dependent variables. It influences the relationship between the two variables, so that the nature of the relationship between the two variables is different when it varies (see also Sekaran, 1992). Moderator variables are said to have a conditional influence (see Jackson, 1988).

A *mediator variable* is one that transmits the effect of the independent variable to the dependent variable. Mediator variables have an intervening influence, hence they are also called *intervening variables.*

Some variables may cause the relationship between the independent and dependent variables and need to be controlled for that relationship not to be spurious (see Jackson, 1988). These are called *control variables.* 'Spuriousness' means that the relationship between the two variables is really caused by another variable. That variable confounds the relationship and needs to be controlled.

Literature evaluation

The next phase in the research process involves the critique of the previous literature on this topic, as criticisms of earlier studies point the way to new research. The major papers will usually have a section called 'Limitations' (usually outlined at the end of the discussion section of the paper) that leads to future research. Limitations of past research on a topic or of specific studies are usually substantive and methodological.

The *substantive/content-based criticisms* of past research concern the nature of the topic, problem, or theory/explanation. Substantive/content-based criticisms relate to issues such as:

- what has not been done yet and what we still do not know about;
- what we still do not understand, or a further explanation that has not been covered;
- inconsistencies in the prior results;

- failure to consider the context (e.g., situational factors when assessing the impact of individual factors on managerial career advancement);
- the relative importance of several factors; or
- the lack of a theoretical basis for the question/problem, including explaining the process (mediators) or the conditions affecting the relationship (moderators).

The criticisms of how previous studies have been conducted can also be *methodological.* (They usually concern research design, samples, measures, and methods of analysis.) Methodological criticisms may relate to issues such as:

- inadequacy of research designs and approaches used to test the questions, such as the nature of the design (quantitative versus qualitative designs), the types of measures (subjective versus objective measures), or the level at which the test has been done (individual-level versus organisational-level tests);
- the limited types of samples that have been used and lack of generalisability;
- the quality of the measures (unvalidated or unreliable); or
- the types of analyses (descriptive rather than multivariate techniques).

Empirical studies

Empirical studies are those in which data were gathered to assess if the variables were related. Often empirical studies are looking for an explanation of a variable, and therefore there are analyses of data that examine the relationship between an independent variable or several independent variables and one or more dependent variables. It tries to ascertain *if* – or *how* – one variable affects another.

Any empirical studies that have been conducted are valuable. If few studies have been carried out on the topic it may not be worth trying to do a literature review, as researchers need to summarise the results of extant studies to carry out a review. If a large number of studies have been conducted, the literature may have been reviewed quite recently and therefore reviewing it again may not be useful.

Why is it important that a researcher should know how to interpret or how to conduct these empirical research studies? The reason is because they examine the causes of outcomes. For example, knowing

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