RESEARCH METHODS *for* BUSINESS AND SOCIAL SCIENCE STUDENTS

2nd Edition

- John Adams
- Hafiz T. A. Khan
- Robert Raeside

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Preface

We were inspired by many students, colleagues and friends to compile these chapters and to produce a second edition of the book for business and social science students. The first edition was titled *Research Methods for Graduate Business and Social Science Students*; however, feedback has revealed that the book is widely used by both undergraduate and postgraduate students. Therefore, we decided to add more information and change the title to better reflect the wide range of users of the book. Our sincere thanks goes to them. As students of business or social science and students from other disciplines, we hope you will find it extremely useful. We have illustrated as much information as possible, and tried to facilitate ease of understanding. As part of this we have deliberately attempted to 'de-jargonise' the book and to present the material in as practical a manner as possible. In the space available we could not cover every topic but hope that the book will be sufficiently comprehensive. References to additional reading have been given and will hopefully overcome limitations arising from brevity.

Welcome to the subject of Research Methods. This will provide preparation before embarking on your own research, which will probably be a dissertation as part of your degree. Two very fundamental aims of Research Methods are:

1. To enable you to acquire knowledge and skills in the field of research methods
2. To prepare you to undertake research on your own applying the knowledge and skills of research methods on a research topic relevant to your area of study

The book is divided into sixteen chapters. In Chapter 1 the general concepts in relation to research are introduced. Broad research issues and theoretical concepts critical to research and research methods are the subject of Chapter 2. The importance of research ethics is also outlined in this chapter. In Chapter 3 the formulation of research along with the research process is discussed. Then in Chapter 4, we move onto an aspect of research that is often not treated with the importance it deserves but is fundamental to good research and to the synthesis and creation of knowledge—literature analysis and critical reading. In Chapter 5 an aspect of research is presented in terms of research design, that is, *how* to plan a research project and *how* to affect its implementation. This is, in many ways, the most important part of undertaking a research project. In Chapter 6 the concentration is on primary data collection for both qualitative and

quantitative research. A detailed discussion on secondary sources of information is contained in Chapter 7. More detail on surveys is the subject of Chapter 8 and an indication of the important parts of design, questionnaires and data management is presented. The interview is also an important part of survey research and this is discussed in Chapter 9.

Chapters 10 and 11 deal with a number of research techniques covering both qualitative and quantitative research methods and how these methods are practically used to understand the real world. In this part you will find that the distinction between these two, in practice, is often fuzzy and real-world research often requires inputs from both approaches.

An overview of both elementary and advanced statistical analyses is given in Chapters 12 and 13 in order to give an understanding of statistical methods and their applications. For many students these chapters may be omitted; although we are strong advocates of quantitative approaches, we realise that not all share our passion and in many cases these methods may not be appropriate in a short student research project. The need for and procedure of assessing reliability and validity of research work and considering its generalisability are the subject of Chapter 14; this is an important chapter and should be given careful study. General advice on the conduct of research, including some guidelines on research writing and the structure of a dissertation, is given in the last two chapters. We also provide four appendices that may help you in the presentation of your dissertation and a fifth appendix on multiple-choice questions that give you a guide to your own understanding of the material in the book. You should also consult the world wide web for material on research methods and for specific examples of research work on topics which are of particular interest to the study of research. In addition, if time allows, you should visit the local university library to consult academic journals relevant to your programme of study, which will provide many ideas for research topics and a 'feel' for how research needs to be reported in an academic style. Even a couple of visits would be very worthwhile and time well spent.

We trust the reader will enjoy studying research methods, and that this book will provide you with the preparation, knowledge and skills, which will prove invaluable as you move along the pathway of research.

Good luck with your study of Research Methods!

John Adams
Hafiz T. A. Khan
Robert Raeside

Acknowledgements

This is the second edition of this book and the primary reason we have decided to produce a second edition is the very positive feedback we have received from students and teachers all around the world. We have taken on board many of these comments and added material, provided further explanation for existing material and included more examples and new datasets. We are very grateful to all the students and teachers who have suggested these ideas. We also wish to thank Dr Jesus Canduela for providing some very useful and important ideas for Chapter 10. We are also very grateful to Ms Nevine Essam, a student in her final year, for providing an excellent example of a research proposal, which is presented in Chapter 15. We are very grateful to Sachin Sharma at SAGE Publications for pushing us to finally produce this second edition of the book.

CHAPTER 1

Introduction to Research

1.1 INTRODUCTION

This book primarily aims to provide a clear discussion about the research methods employed in various disciplines related to our daily life problems. There is no absolute method that may be assigned in order to explore a particular research problem. Therefore, researchers may use different methodologies for investigating similar types of problems around the world. It does not, however, depend only on the cost and time involved, but also on the surrounding circumstances such as the availability of tools, mainly modern computer facilities, access to literature and publications and above all, dissemination of knowledge. The book has therefore been designed to illustrate research tools in a simple manner in a number of chapters, including formulating research, research design, data analysis and writing up the research results.

1.2 WHAT IS RESEARCH?

This appears to be a very simple question, but in fact it can depend on who is asked the question and it often depends on the subject of analysis. Research is a diligent search, studious inquiry or investigation or experimentation aimed at the discovery of new facts and findings; or broadly, it may relate to any subject of inquiry with regard to collection of information, interpretation of facts, revision of existing theories or laws in the light of new facts or practical ideas. More complex research would be required to investigate the causes of human fertility decline in Europe, or what could be the future labour force migration patterns in Europe.

Relatively simple research is merely aimed at acquiring the most basic type of information—but it is still research in a very real sense because it requires an individual to first identify the problem, then understand the problem, then know *where* to go for the information, then know *who* to ask for the information and also to know *what* questions to ask. If you think about it, failure to go through *any* of these basic steps will result in the research 'problem' remaining a research problem—and the individual concerned is very likely to miss his or her bus to work! Clearly not doing research properly has consequences!

A more academic approach to the question of 'what is research?' results in a more complex answer. Fundamentally, research is undertaken in order to enhance our knowledge of what we already know, to extend our knowledge about aspects of the world of which we know either very little or nothing at all and to enable us to better understand the world we live in. We can define a number of types of research studies that are aimed at achieving different knowledge outcomes:

- Descriptive research
- Explanatory research
- Predictive research

Descriptive research is aimed at simply describing phenomena and is not particularly concerned with understanding why behaviour is the way it is. This type of research is very useful for setting out baselines or 'templates' of how we think the world is. It is often the starting point of a research project into phenomena (known as an *exploratory* study) of which we know very little. For example, it aims to describe social systems, relationships between events, providing background information about the issue in question as well as stimulating explanations.

Explanatory research is deeper in the sense that it will describe phenomena and attempt to explain why behaviour is the way it is. In other words, it enables us to understand the very nature of what we are actually looking at. This type of research aims at explaining social relations or events, advancing knowledge about the structure, process and nature of social events, linking factors and elements of issues into general statements and building, testing or revising a theory.

Predictive research takes research one step further and is an attempt not only to explain behaviour but also to predict future behaviour given a change in any of the explanatory variables relevant to a particular phenomenon. If we can understand physical or human phenomenon then we will be in a much better position to predict its future path and possibly even to change it. This type of research is very important to governments in the design and application of policy.

In practice, most research work will include aspects of all three research 'types', although the third one is often the most difficult and problematic.

1.3 WHY IS RESEARCH CONDUCTED?

Research is conducted for a number of reasons, which in turn depend on the objectives of any particular 'research problem'. Of course, there are particular reasons for undertaking research at various levels to discover something new. As discussed earlier, it may be to find out something we do not already know or to enhance our understanding of phenomena that we already know something about. In the business arena, however, research tends to be undertaken in order to achieve one or more of the following objectives:

- To gain a competitive advantage
- To test new products and services
- To solve a management/organisational problem
- To provide information, which may help to avoid future business problems
- To forecast future sales
- To better understand shifts in consumer attitudes and tastes
- To enhance profitability
- To reduce operational costs
- To enable the management to prioritise strategic options for the future

One could go on and on with this list and we are sure that you can add to it. The main point, however, is that research (in whatever business or public sector organisation) is always undertaken for a clear purpose—to strengthen an organisation's ability to meet the demands of the future.

1.4 WHO DOES RESEARCH?

A very wide array of organisations and individuals do research. These range from the rather obvious such as market research companies through to the smallest government departments which need to know the impact of their work on the community. The following is just a small sample of the type of organisations/individuals who conduct research:

- Government departments
- Private companies
- Research companies
- Consultancy companies
- Academics

- Voluntary organisations
- Advertising agencies
- Market research companies
- And of course you, students!

The types of research each of the above undertake (descriptive, explanatory and predictive) will totally depend on the nature of the research 'problem' they are confronted with.

1.5 HOW IS RESEARCH CONDUCTED?

This is fundamentally related to the nature of the identified research 'problem'. For example, if the 'problem' is of a purely physical nature, it may be appropriate to undertake controlled laboratory experiments. This is the situation where the researcher can actually control the research environment to a significant degree. However, if the 'problem' is one relating to, for example, animal or human behaviour, it is much more difficult to control the research environment. In this case, it may be necessary (or even unavoidable) to conduct the research in a quasi-experimental fashion—that is, the researcher is able to control only a few aspects of the research environment such as the time of day to undertake observations or the sample from which to derive a generalised conclusion of the determinants of behaviour in a particular setting.

1.6 BUSINESS AND SOCIAL SCIENCE RESEARCH METHODS

There are several types of research and each type of research is associated with some sort of scientific tools and these will be discussed briefly later in this chapter. There is a common question to us: *Are business research methods different from others?* Business research deals with business phenomena such as price of commodity, supply of commodity, forecasting sales for a particular item, knowledge about market behaviour and marketing strategies to achieve a goal. And researchers can apply tools according to the essence of the inquiry. On the other hand, social and behavioural sciences deal with people who live in society, their culture and daily life. Social scientists thus follow a particular research strategy and apply the appropriate tools in order to fulfil the objectives of their study.

CHAPTER 2

Research Methodology

2.1 INTRODUCTION

This chapter will introduce the importance of research methodology in ensuring that research results can be generalised and if not then why not. It will then deal with approaches to social and business research and justify the importance of scientific approaches in research. A brief introduction to research ethics is provided at the end of the chapter.

2.2 RESEARCH METHOD VERSUS RESEARCH METHODOLOGY

The first thing to get absolutely clear about is that research method and research methodology are not the same thing! A research method is a way of conducting and implementing research. Research methodology is the science and philosophy behind all research. It goes into the heart of how we know what we know and allows us to understand the very strict constraints placed upon our concept of what knowledge actually is. Moreover, it allows us to understand the different ways in which knowledge can be created. This is especially important since if we know how knowledge and 'answers' to research questions can be created, then we are also in a position to understand what might be wrong with it. The concepts that underpin the subject of 'methodology' also enable us to be critical and analytical in the face of 'knowledge' being presented as 'fact'. Why should we accept the results of any research work at face value? We should not! The whole purpose of research is to extend and deepen our knowledge of the world, but if we are uncritical of how such knowledge was or is created, then we can never be in a position to improve its value to society.

2.3 APPROACHES TO BUSINESS AND SOCIAL RESEARCH

Researchers usually handle numerous problems and apply research methods to obtain the best guess answers to their questions. They may use a single study or a combination of two designs. The investigator has to decide about the types and combinations of research forms that best serve the goals of the study. Broadly speaking, there are two main domains of research frequently observed in the literature, which are Quantitative research and Qualitative research. The diverse practices and uses of today's research practices are listed in the following paragraphs.

Quantitative Research

This refers to the type of research that is based on the methodological principles of positivism and neo-positivism, and adheres to the standards of a strict research design developed prior to the actual research. It is applied for quantitative measurement and hence statistical analysis is used. Quantitative research is used in almost every sphere of life, such as in clinical, biological, epidemiological, sociological and business research.

Qualitative Research

This type of research uses a number of methodological approaches based on diverse theoretical principles (Phenomenology, Hermeneutics and Social Interactionism). It employs methods of data collection and analysis that are non-quantitative, aims towards the exploration of social relations and describes reality as experienced by the respondents. Qualitative research methods have long been used in the field of social sciences. For instance, these are the principal methods employed by anthropologists to study the customs and behaviours of people from other cultures, and are also used in such diverse areas as sociology, psychology, education, history and cultural studies. These methods have much to offer in studying the health and well-being of people and their daily lives in business and home.

Pure (Theoretical) Research

Pure research is usually used to develop new knowledge that advances our understanding of the real world. It evaluates concepts and theories and thus attempts to expand the limits of existing knowledge. It may also help in rejecting or supporting existing theories about the real world. In every sector of higher education there are some basic theories; a

researcher's contribution in extending or improving any of these theories may be considered pure research (also known as theoretical research). Such research is very expensive and is usually carried out in government-funded projects by university research facilities or specific government laboratories. There is no obvious commercial value to the discoveries that result from pure research.

Applied Research

Applied research is conducted when a decision must be made about a specific real-life problem. The principal aim of scientists conducting applied research is to improve human conditions, although the results can have commercial value. It is directly related to social and policy issues. Examples of applied research include an investigation to improve agricultural crop production or a study on the development and commercialisation of technology with the potential to reduce carbon dioxide emissions. Types of applied research include action research (also known at times as evaluative research) and policy research.

Action research is a type of applied research. It is "the application of fact finding to practical problem solving in a social situation with a view to improving the quality of action within it, involving the collaboration and co-operation of researchers, practitioners and laymen" (Burns 1990: 252). It is actively involved in planning and introducing changes in policy, and researchers use their research expertise to monitor and possibly to evaluate its effects. It is also sometimes called evaluative research.

Policy research is ultimately concerned with the knowledge of action; its long-term aim is in line with the famous dictum that "it is more important to change the world than to understand it". This broad objective means that policy research encompasses a far more diverse variety of research, including theoretical research in many cases, but also descriptive research, which maps out the landscape of a topic, issue or problem, as well as reviews of how an existing policy is working. It can extend, in some cases, into formal evaluation research.

Longitudinal Studies

Longitudinal research involves the study of a sample (or cohort) on more than one occasion. In other words, longitudinal studies cover a long period of time, at times several decades, and follow the sample a repeated number of times. The longitudinal study is unique in its ability to answer questions about causes and consequences, and hence provides a basis for substantiated explanatory theory. It is commonly used in many disciplines. For example, in psychology, longitudinal studies are often used to study developmental trends across the life span; in public health, they are used to uncover

predictors of certain diseases. Longitudinal studies include panel studies and cohort studies. A longitudinal study that involves collecting data from the same sample of individuals or households over time (usually regular intervals) is called a panel study. Panel studies take as their basis a nationally representative sample of the group of interest, which may be individuals, households, establishments, organisations or any other social unit. Longitudinal panel studies are conducted by educational organisations as well as by government institutions to study national income and expenditure. Panel members may be contacted by telephone, in a personal interview or by a mailed questionnaire.

Cohort studies sample a cohort in a selected time period and study them at intervals through time. A cohort is a group of individuals who experience the same event or share the same characteristics, namely, marriage cohort (individuals who got married during the same year or years), birth cohort (individuals born in the same year or years) and so on. In public health, such studies help us understand the causes of diseases and improve the overall health of individuals. Take for example, the UK-based Bradford birth cohort study that investigates why some children fall ill while others do not. It tracks the lives of more than 10,000 babies born in Bradford over three years from birth, through childhood, until they become adults.

Theory versus Empirical Study

Sound evidence is superior to argument based on false evidence, limited evidence or no evidence. Evidence has to be collected from the social world around us, and this requires that empirical research be conducted. 'Empirical', in this context, simply means 'based on evidence from the real world' in contrast to 'theoretical', which refers to ideas that are abstract or purely analytical. Theories must be tested against the real world. "Theory, in fact, is the building which is made from the hard-won bricks of the research studies" (Mann 1985). How can we collect sound evidence about the social world that can be used to increase our understanding of that world?

The purpose of science concerns the expansion of knowledge and the discovery of truth. Theory building is the means by which pure researchers expect to achieve the goal. It represents the real world and the events are supposed to be the reality. On the other hand, empirical study means the level of knowledge reflecting that which is verifiable by experience or observation.

A theory is a set of systematically interrelated concepts, definitions and propositions that are advanced to explain and predict phenomena (facts). A key element in our definition is the term 'proposition', which is linked with the term 'concept'. Concepts are an abstraction of the real world to allow us to more easily understand (by simplifying) the true nature of objects and events. Propositions are statements concerned with the relationships among concepts. A proposition explains the logical linkage among concepts by asserting a universal connection between them.

A hypothesis is a proposition that is empirically testable. It is an empirical statement concerned with the relationship among variables.

How Are Theories Generated?

Theory generation may occur at any level of the abstract conceptual level or at the empirical level. Theories may be developed with deductive reasoning by moving from a general statement to a specific assertion. Deductive reasoning is the logical process of deriving a conclusion from a known premise or something known to be true. At the empirical level, theory may be developed with inductive reasoning. Inductive reasoning is the logical process of establishing a general proposition on the basis of observation of particular facts.

2.4 JUSTIFYING THE SCIENTIFIC METHOD

The discussion that follows will help the reader in understanding some of these fundamental issues, which will always continue to surround all types of research. We proceed by considering the following:

- Styles of reasoning
- Common fallacies
- Useful quotations

Styles of Reasoning

In any type of research there are basically only two 'styles' of reasoning, that is, two methods of scientific enquiry: Inductivism and Deductivism. The inductivist method is strongly associated with the Scottish philosopher John Stuart Mill (1843) and the deductivist method developed in the early 20th century with Poincaré (1902) and later with Karl Popper (1934). The two styles of reasoning are presented below for comparison.

Induction

To draw general conclusions from a finite number of predictions implied by these laws J.S. Mill (1843). The method relies on empirical verification and was very popular in the 19th century.